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DEPARTMENT OF EDUCATION

2019 PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT TECHNICAL REPORT

MATHEMATICS, ENGLISH LANGUAGE ARTS, AND SCIENCE

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GLOSSARY OF COMMON TERMS

The following table contains some terms used in this technical report and their meanings. Some of these terms are used universally in the assessment community, and some of these terms are used commonly by psychometric professionals. A glossary of accommodation terms as applied to the PSSA is provided in Chapter Ten.

Table G-1. Glossary of Terms

Term	Common Definition
Ability	In Rasch scaling, ability is a generic term indicating the level of an individual on the construct measured by an exam. As an example for the PSSA, a student's reading ability is measured by how the student performed on the PSSA Reading test. A student who answered more items correctly has a higher ability than a student who answered fewer items correctly.
Adjacent Agreement	A score/rating difference of one (1) point in value usually assigned by two different raters under the same conditions (e.g., two independent raters give the same scores that differ by one point).
Alternate Forms	Two or more versions of a test that are considered exchangeable, i.e., they are developed using the same test specifications, they measure the same constructs in the same ways, are intended for the same purposes, and they are administered using the same directions. More specific terminology may apply depending on the degree of statistical similarity between the test forms (e.g., parallel forms, equivalent forms, and comparable forms) where parallel forms refers to the situation in which the test forms have the highest degree of similarity to each other.
Average	A measure of central tendency in a score distribution that usually refers to the arithmetic mean of a set of scores. In this case, it is determined by adding all the scores in a distribution and then dividing the obtained value by the total number of scores. Sometimes people use the word average to refer to other measures of central tendency such as the median (the score in the middle of a distribution) or mode (the score value with the greatest frequency).
Bias	In a statistical context, bias refers to any source of systematic error in the measurement of a test score. In discussing test fairness, bias may refer to construct-irrelevant components of test scores that differentially affect the performance of different groups of test takers (e.g., gender, ethnicity, etc.). Attempts are made to reduce bias by conducting item fairness reviews and various differential item functioning (DIF) analyses, detecting potential areas of concern, and either removing or revising the flagged test items prior to the development of the final operational form of the test (see also Differential Item Functioning).
Constructed-Response Item	A constructed-response (CR) item is an item that requires examinees to create their own responses, which can be expressed in various forms (e.g., written essay, created table/graph, formulated calculation, etc.). Such items are frequently scored using more than two score categories, that is, items are polytomously scored (e.g., 0, 1, 2, and 3). This item format is in contrast to when students make a choice from a supplied set of answer options (e.g., multiple-choice (MC) items which are typically dichotomously scored as right = 1 or wrong = 0). It is important to consider whether an item is scored polytomously or dichotomously when interpreting item difficulty and discrimination indices.
Content Validity Evidence	Evidence regarding the extent to which a test provides an appropriate sampling of a content domain of interest (e.g., assessable portions of a state's Grade 6 mathematics curriculum in terms of the knowledge, skills, objectives, and processes sampled).
Core-Linking Item	Items that are utilized during the linking and equating process (see also Linking and Equating). They are a subset of the PSSA operational items and so they 1) are the same on all test forms for any grade/subject-area test and 2) contribute to students' total raw scores and scaled scores.
Criterion- Referenced Interpretation	When a score is interpreted as a measure of a student's performance with respect to an expected level of mastery, educational objective, or standard. The types of resulting score interpretations provide information about what a student knows or can do with respect to a given content area.
Cut Score	A specified point on a score scale such that scores at or above that point are interpreted or acted upon differently from scores below that point (e.g., a score designated as the minimum level of performance needed to pass a competency test). One or more cut scores can be set for a test, which results in differentiating among various proficiency levels. Methods for establishing cut scores vary. For the PSSA, three cut scores are used to place students into one of four performance levels (see also Performance Level Setting).

Term	Common Definition
Decision Consistency	The extent to which classifications based on test scores would match the decisions based on scores from a second, parallel form of the same test. It is often expressed as the proportion of examinees who are classified consistently across the two test administrations.
Differential Item Functioning (DIF)	A statistical property of a test item in which different groups of test takers (who have the same total test score) have different average item scores. In other words, students with the same ability level but different group memberships do not have the same probability of answering the item correctly (see also Bias).
Distractor	An incorrect option in a multiple-choice item.
Equating	The process that results in scores that can be used interchangeably across different test forms and/or test administrations. Equated test scores are considered exchangeable. Consequently, the requirements for equating are strong and somewhat complex (equal construct and precision, equity, and invariance). In practical terms, it is often stated that students should perceive no differences regardless of the test form administered (see also Scale Linking, Pre-equating, and Post-equating).
Equating Block (EB) Items	The PSSA uses multiple test forms for each grade/subject-area test. Each form is composed of operational (OP) items, equating block (EB) items, and field-test (FT) items. EB items are utilized during the linking process (see also Linking). Each test form includes a set of EB items. EB items are not part of any student scores.
Error of Measurement	The amount by which the score actually received (an observed score) differs from a hypothetical true score (see also Standard Error of Measurement).
Evidence-Based Selected-Response (EBSR) Item	A type of item that has two parts and requires the test taker to select a response from a group of possible answer choices in Part One, one of which is the correct answer (or key) to the question posed, and to then select one or two responses from a group of possible answer choices in Part Two, which provide evidence to support the correct answer in Part One.
Exact Agreement	When identical scores/ratings are assigned by two different raters under the same conditions (e.g., two independent raters give a paper the same score).
Field-Test (FT) Items	The PSSA uses multiple test forms for each grade/subject-area test. Each form is comprised of operational (OP) items, equating block (EB) items, and field-test (FT) items. An FT item is a newly developed item that is ready to be tried out to determine its statistical properties (see also *P*-value and Point-Biserial Correlation). Each test form includes a set of FT items. FT items are not part of any student scores.
Frequency	The number of times that a certain value or range of values (score interval) occurs in a distribution of scores.
Frequency Distribution	A tabulation of scores from low to high or high to low showing the number and/or percent of individuals who obtain each score or who fall within each score interval or category.
Infit/Outfit	Statistical indicators of the agreement of the data and the measurement model (see also Outfit/Infit).
Item Difficulty	For the Rasch model, the dichotomous item difficulty represents the point along the latent trait continuum where an examinee has a 0.50 probability of correctly responding. For a polytomous item, the difficulty is the average of the item's step difficulties (see also Step Difficulty).
Key	The correct response option or answer to a test item.
Linking	A generic term referring to a number of processes by which scores from one or more tests are made comparable to some degree. Linking includes several classes of transformations (equating, scale alignment, prediction, etc.). Equating is associated with the strongest degree of comparability (exchangeable scores). Other linkages may be very strong but fail to meet one or more of the strict criteria required of equating (see also Equating). PSSA scores are equated.
Logit	In Rasch scaling, logits are units used to express both examinee ability and item difficulty. When expressing examinee ability, a student who answers more items correctly has a higher logit than a student who answers fewer items correctly. Logits are transformed into Scaled Scores through a linear transformation. When expressing item difficulty, logits are transformed *p*-value (see also *P*-value). The logit difficulty scale is inversely related to *p*-values. A higher logit value would represent a relatively harder item, while a lower logit value would represent a relatively easier item.
Mean	Also referred to as the arithmetic mean of a set of scores, is found by adding all the score values in a distribution and dividing by the total number of scores. For example, the mean of the set {66, 76, 85, 97} is 81. The value of a mean can be influenced by extreme values in a score distribution.

Term	Common Definition
Measure	In Rasch scaling, measure generally refers to a specific estimate of an examinee's ability (often expressed as logits) or an item's difficulty (again, often expressed as logits). As an example for the PSSA, a student's reading measure might be equal to 0.525 logits. Or, a PSSA Reading test item might have logit equal to -0.905.
Median	The middle point or score in a set of rank-ordered observations that divides the distribution into two equal parts such that each part contains 50 percent of the total data set. More simply put, half of the scores are below the median value and half of the scores are above the median value. As an example, the median for the following ranked set of scores {2, 3, 6, 8, 9} is 6.
Multiple-Choice Item	A type of item that requires the test taker to select a response from a group of possible choices, one of which is the correct answer (or key) to the question posed (see also Constructed-Response Item).
N-count	Sometimes designated as *N* or *n*, it is the number of observations (usually individuals or students) in a particular group. Some examples include the number of students tested, the number of students tested from a specific subpopulation (e.g., females), the number of students who attained a specific score, etc. In the follow set {23, 32, 56, 65, 78, 87}, $n = 6$.
Open-Ended Item	A type of constructed-response item found in the mathematics and science assessments that requires examinees to create their own responses, which can be expressed in various forms (e.g., written description, created table/graph, formulated calculation, etc.). Such items are frequently scored using more than two score categories, that is, polytomously (e.g., 0, 1, 2, 3, and 4). This format is in contrast to when students make a choice from a supplied set of answer options (e.g., multiple-choice (MC) items which are typically dichotomously scored as right = 1 or wrong = 0.) When interpreting item difficulty and discrimination indices it is important to consider whether an item is polytomously or dichotomously scored.
Operational Item	The PSSA uses multiple test forms for each grade/subject-area test. Each form is composed of operational (OP) items, equating block (EB) items, and field-test (FT) items. OP items are the same on all forms for any grade/subject-area test. Student total raw scores and scaled scores are based exclusively on the OP items.
Outfit/Infit	Statistical indicators of the agreement of the data and the measurement model. Infit and Outfit are highly correlated, and both are highly correlated with the point-biserial correlation. Underfit can be caused when low-ability students correctly answer difficult items (perhaps by guessing or atypical experience) or high-ability students incorrectly answer easy items (perhaps because of carelessness or gaps in instruction). Any model expects some level of variability, so overfit can occur when nearly all low-ability students miss an item while nearly all high-ability students get the item correct.
Percent Correct	When referring to an individual item, the percent correct is the item's *p*-value expressed as a percent (instead of a proportion). When referring to a total test score, it is the percentage of the total number of points that a student earned. The percent correct score is obtained by dividing the student's raw score by the total number of possible points and multiplying the result by 100. Percent Correct scores are often used in criterion-referenced interpretations and are generally more helpful if the overall difficulty of a test is known. Sometimes Percent Correct scores are incorrectly interpreted as Percentile Ranks.
Percentile	The score or point in a score distribution at or below which a given percentage of scores fall. It should be emphasized that it is a value on the score scale, not the associated percentage (although sometimes in casual usage this misinterpretation is made). For example, if 72 percent of the students score at or below a Scaled Score of 1500 on a given test, then the Scaled Score of 1500 would be considered the 72nd percentile. As another example, the median is the 50th percentile.
Percentile Rank	The percentage of scores in a specified distribution falling at/below a certain point on a score distribution. Percentile Ranks range in value from 1 to 99, and indicate the status or relative standing of an individual within a specified group by indicating the percent of individuals in that group who obtained equal or lower scores. An individual's percentile rank can vary depending on which group is used to determine the ranking. As suggested above, Percentiles and Percentile Rank are sometimes used interchangeably; however, strictly speaking, a percentile is a value on the score scale.
Performance Level Descriptors	Descriptions of an individual's competency in a particular content area, usually defined as ordered categories on a continuum, often labeled from Below Basic to Advanced, that constitute broad ranges for classifying performance. The exact labeling of these categories, and narrative descriptions, may vary from one assessment or testing program to another.

Term	Common Definition
Performance Level Setting	Also referred to as standard setting, a procedure used in the determination of the cut scores for a given assessment that is used to measure students' progress towards certain performance standards. Standard setting methods vary (e.g., modified Angoff, Bookmark Method, etc.), but most use a panel of educators and expert judgments to operationalize the level of achievement students must demonstrate in order to be categorized within each performance level.
Point-Biserial Correlation	In classical test theory this is an item discrimination index. It is the correlation between a dichotomously scored item and a continuous criterion, usually represented by the total test score (or the corrected total test score with the reference item removed). It reflects the extent to which an item differentiates between high-scoring and low-scoring examinees. This discrimination index ranges from –1.00 to +1.00. The higher the discrimination index (the closer to +1.00), the better the item is considered to be performing. For multiple-choice items scored as 0 or 1, it is rare for the value of this index to exceed 0.5.
Post-Equating	Post-equating refers to the method of utilizing data from the current administration for scale linking and equating. Post-equating relies heavily on collecting data from a representative sample, estimating new item parameters, linking the item parameters to the base scale, and estimating student ability based on the linked item parameters. PSSA utilized a post-equated test design prior to 2019, and now conducts post-equating validation based on the pre-equated results (see also Pre-Equating). Post-equating is still conducted for field-test item analyses and updating item parameters after PSSA administrations are complete.
Pre-Equating	Pre-equating refers to the method of utilizing previously estimated and linked item parameters for equating. Because item parameters have already been linked to the base scale, pre-equated solutions are generated prior to the testing window and validated with current data via post-equating. PSSA employed pre-equating beginning in 2019 in order to reduce the reporting window (see also Post-Equating).
P-value	An index indicating an item's difficulty for some specified group (perhaps grade). It is calculated as the proportion (sometimes percent) of students in the group who answer an item correctly. *P*-values range from 0.0 to 1.0 on the proportion scale. Lower values correspond to more difficult items and higher values correspond to easier items. *P*-values are usually provided for multiple-choice items or other items worth one point. For open-ended items or items worth more than one point, difficulty on a *p*-value-like scale can be estimated by dividing the item mean score by the maximum number of points possible for the item (see also Logit).
Raw Score (RS)	An unadjusted score usually determined by tallying the number of questions answered correctly, or by the sum of item scores (i.e., points). (Some rarer situations might include formula-scoring, the amount of time required to perform a task, the number of errors, application of basal/ceiling rules, etc.). Raw scores typically have little or no meaning by themselves and require additional information—like the number of items on the test, the difficulty of the test items, norm-referenced information, or criterion-referenced information.
Reliability	The expected degree to which test scores for a group of examinees are consistent over exchangeable replications of an assessment procedure, and therefore, are considered dependable and repeatable for an individual examinee. A test that produces highly consistent, stable results (i.e., relatively free from random error) is said to be highly reliable. The reliability of a test is typically expressed as a reliability coefficient or by the standard error of measurement derived by that coefficient.
Reliability Coefficient	A statistical index that reflects the degree to which scores are free from random measurement error. Theoretically, it expresses the consistency of test scores as the ratio of true score variance to total score variance (true score variance plus error variance). This statistic is often expressed as correlation coefficient (e.g., correlation between two forms of a test) or with an index that resembles a correlation coefficient (e.g., calculation of a test's internal consistency using Coefficient Alpha). Expressed this way, the reliability coefficient is a unitless index. The higher the value of the index (closer to 1.0), the greater the reliability of the test (see also Standard Error of Measurement).
Scale Linking	The first step in any equating process in which independent item estimates are placed on the same scale of measurement (the logit scale). Scale linking results in item parameters that are on the same scale of measurement. Equating procedures can only be implemented once scale linking is achieved (see also Equating). The data used for scale linking can either be from the current administration (see Post-Equating) or from previous administrations (Pre-Equating).

Term	Common Definition
Scaled Score	A mathematical transformation of a logit score developed through a process called scaling. Scaled scores are most useful when comparing test results over time. Several different methods of scaling exist, but each is intended to provide a continuous and meaningful scaled score across different test forms and test administrations.
Selected-Response Item	See Multiple-Choice Item.
Short-Answer Item	A type of constructed-response item found in the grade 3 ELA assessment that requires the test taker to compose an answer based on a passage or passage set the student has read. Each short-answer (SA) item is scored using an item-specific scoring guideline based on a 0–3 point general scoring guideline. Also referred to as Constructed-Response (CR) or Open-ended (OE) Response items.
Spiraling	A packaging process used when multiple forms of a test exist and it is desired that each form be tested in all classrooms (or other grouping unit (e.g., schools)) participating in the testing process. This process allows for the random distribution of test booklets to students. For example, if a package has four test forms labeled A, B, C, and D, the order of the test booklets in the package would be A, B, C, D, A, B, C, D, A, B, C, D, etc.
Standard Deviation (SD)	A statistic that measures the degree of spread or dispersion of a variable (e.g., set of scores). The standard deviation is a commonly used method of examining a distribution's variability since the standard deviation is expressed in the same units as the data. The value of this statistic is always greater than or equal to zero. If all of the scores in a distribution are identical, the standard deviation is equal to zero. The further the scores are away from each other in value, the greater the standard deviation. This statistic is calculated using the information about the deviations (distances) between each score and the distribution's mean. It is equivalent to the square root of the variance statistic.
Standard Error of Measurement (SEM)	The amount an observed score is expected to fluctuate around the true score. As an example, across replications of a measurement procedure, the true score will not differ by more than plus or minus one standard error from the observed score about 68 percent of the time (assuming normally distributed errors). The SEM is frequently used to obtain an idea of the consistency of a person's score in actual score units or to set a confidence band around a score in terms of the error of measurement. Often a single SEM value is calculated for all test scores. On other occasions, however, the value of the SEM can vary along a score scale. Conditional standard errors of measurement (CSEMs) provide an SEM for each possible scaled score.
Step Difficulty	Step difficulty is a parameter estimate in Master's Partial Credit Model (PCM) that represents the relative difficulty of each score step (e.g., going from a score of 1 to a score of 2). The higher the value of a particular step difficulty, the more difficult a particular step is relative to other score steps (e.g., is it harder to go from a 1 to a 2, or to go from a 2 to a 3).
Strand	On score reports, a strand often refers to a set of items on a test measuring the same contextual area (e.g., Number Sense in Mathematics). Items developed to measure the same reporting category would be used to determine the strand score (sometimes called "subscale" score).
Technical Advisory Committee (TAC)	A group of individuals, most often professionals in the field of testing, who are either appointed or selected to make recommendations for and to guide the technical development of a given testing program.
Text-Dependent Analysis Item	A type of constructed-response item found in the ELA assessment in Grades 4–8 that requires the test-taker to compose an essay based on a passage or passage set that the student has read during the test event. Test-takers must draw on basic writing skills while inferring and synthesizing information from the passage in order to develop the response. The text-dependent analysis (TDA) item is scored on a holistic scoring guideline on a 4-point scale and is weighted for scoring purposes.
Validity	The degree to which accumulated evidence and theory support specific interpretations of test scores entailed by the purposed uses of a test. There are various ways of gathering validity evidence.

PREFACE: AN OVERVIEW OF ASSESSMENTS FROM 2003 TO THE PRESENT

The period from 2003 through 2006 brought significant structural changes to the test blueprint for the Pennsylvania System of School Assessment (PSSA). These changes necessitated extensive test development and field testing activity along with phased-in implementation of the operational assessment. Included in this process was the development and implementation of assessments at additional grade levels.

For mathematics and reading, content changes for Grades 5, 8, and 11 were developed in 2003, field tested in spring 2004, and implemented in spring 2005. The *2005 PSSA Technical Report for Reading and Mathematics* provides a description of test development activities including a review of open-ended tasks and multiple-choice items, field testing, selection of items, statistical analysis of assessment data, reliability, validity, standard setting, and other technical characteristics of the operational 2005 PSSA. Test development for the new grade levels of 4, 6, and 7 began in 2004, with field testing in 2005, and full implementation in 2006. Similarly, the *2006 PSSA Technical Report for Reading and Mathematics: Grades 4, 6, and 7* provides a complete description of test development activities, item review, field testing, statistical analysis, item selection, and technical characteristics of the operational 2006 PSSA for these grade levels. In 2007, the Grade 3 reading and mathematics assessment became DRC's responsibility and is covered in the *2007 PSSA Technical Report for Reading and Mathematics*, along with the remaining grades.

Changes implemented in the writing assessment of spring 2006 were designed to sharpen the focus on what is assessed with respect to Academic Standards 1.4 and 1.5. To support this effort, a shift in grade levels assessed was made, moving from Grades 6 and 9 to Grades 5 and 8, thereby aligning assessment to the end of elementary and middle school years. The writing testing window was changed from fall to February 2006 for Grades 5 and 8, making it consistent with Grade 11. Mode-specific scoring guidelines replaced domain scoring, and the introduction of stimulus-based passages and associated multiple-choice items measuring revising and editing expanded the basis of the conventions score. An account of the development of writing prompts and stimulus-based, multiple-choice items, review processes, field testing and item analysis, standard setting, and other technical characteristics of the operational 2006 PSSA may be found in the *2006 PSSA Technical Report for Writing*.

The introduction of an operational science assessment in 2008 moved closer to reality with a major standalone field test at Grades 4, 8, and 11 in April–May of 2007. A description of the development of science scenarios and related multiple-choice, short answer open-ended, and extended open-ended questions, item review processes, statistical analysis of field test data, and selection of items for the 2008 operational science test may be found in the *2008 PSSA Preliminary Technical Report for Science*. Subsequently, the first operational science assessment took place in the spring of 2008, along with standard setting and reporting of results.

With the exception of some shifting of test windows, the spring assessments of 2009, 2010, 2011, and 2012 were conducted without change in content structure of the PSSA test instruments.

A transition to begin measuring the Pennsylvania Core Standards (PCS) in Mathematics and English Language Arts was initiated with standalone and embedded field test events in 2013 for Grades 3, 4, and 5. The transition continued in 2014 with standalone field tests in Grades 6, 7, and 8 and embedded field tests in Grades 3 through 8. As a part of this transition, starting in spring 2013, the Grade 11 PSSA and the Grade 12 PSSA Retest were dropped in favor of the Keystone Exams in Algebra I, Biology, and Literature. The 2015 administration of the PSSA marked the completion of the transition to the PCS in Mathematics and English Language Arts. Mathematics and ELA were administered in separate testing windows as separate test and answer booklets (in contrast to the combined Mathematics and Reading test and answer booklets used previously) and students in all grades participated in both the Writing and Reading portions of the ELA assessment.

In 2017 and 2018 the PSSA test designs underwent a reevaluation. In an effort to reduce testing time in the classroom the Mathematics, English Language Arts, and Science tests were reduced in overall length. For mathematics and science, the test length was shortened by reducing the number of test questions by reporting category proportionally. For ELA, in contrast, reducing the length of the test meant removing the writing prompt and a group of approximately nine multiple-choice items.

The following pages provide an overview of the year-to-year changes to the PSSA. Tables and descriptions show the subject areas assessed, time of year the testing activity took place, and the type of testing that occurred (e.g., operational, field testing, Grade 12 retest) for each year.

To access any of the PSSA technical reports referenced in the Preface, please go to the Pennsylvania Department of Education website, www.education.pa.gov.

ASSESSMENT ACTIVITIES OCCURRING IN THE 2003–04 SCHOOL YEAR

Table P–1 outlines the operational assessments and field tests administered during the 2003–04 school year. (A spring operational assessment in mathematics and reading took place at Grades 3, 5, 8, and 11.)

As a result of new Assessment Anchor Content Standards (Assessment Anchors) developed by the Pennsylvania Department of Education (PDE) during 2003, new test items were developed (see Chapter Two of the *2005 PSSA Technical Report for Reading and Mathematics*). Following the spring operational assessment, a separate, standalone field test of new items for Grades 5, 8, and 11 was conducted. Note that Grade 11 students also took an operational writing assessment in February, and Grades 6 and 9 students participated in a fall writing assessment. Lastly, Grade 12 students who as 11th graders in the preceding spring failed to attain at least the Proficient level in any subject area were offered an opportunity to retest.

Table P–1. Operational Assessment and Field Testing During the 2003–04 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test (conducted by CTB/ McGraw-Hill)	April 2004
5	Operational mathematics and reading	April 2004
5	Standalone field test in mathematics and reading	April/May 2004
6	Operational writing	October 2004
8	Operational mathematics and reading	April 2004
8	Standalone field test in mathematics and reading	April/May 2004
9	Operational writing	October 2004
11	Operational mathematics and reading	April 2004
11	Standalone field test in mathematics and reading	April/May 2004
11	Operational writing	February 2004
12	Retest opportunity for students who as Grade 11 students in the spring of 2003 failed to reach at least the Proficient level in mathematics, reading, or writing	October/ November 2004

ASSESSMENT ACTIVITIES OCCURRING IN THE 2004–05 SCHOOL YEAR

Table P–2 displays the operational assessments and field tests that took place during the 2004–05 school year. The operational assessment at Grades 5, 8, and 11 used items chosen from the spring 2004 field test. This was the first operational assessment that reflected the Pennsylvania Assessment Anchors and Eligible Content. Fulfilling the No Child Left Behind Act of 2001 (NCLB) requirement that states must implement a test at Grades 3–8, a major field test in mathematics and reading was administered at Grades 4, 6, and 7. Item development for these new grade levels took place during 2004.

The Grades 6 and 9 writing assessment was reevaluated in favor of moving the writing assessment to Grades 5 and 8. This accounts for the separate (standalone) field test at these grade levels. There was also a test administration change from October to February. In addition, the writing assessment underwent changes to align the test to the Academic Standards for writing. New writing prompts and stimulus-based multiple-choice items were also field tested at Grade 11 as part of the operational assessment, hence the reference to an embedded field test. No assessment activity of any kind occurred at Grade 9. As in fall 2003, the retest opportunity at Grade 12 continued.

Table P–2. Operational Assessment and Field Testing During the 2004–05 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test (conducted by CTB/ McGraw-Hill)	April 2005
4	Standalone field test for mathematics and reading	April 2005
5	Operational mathematics and reading with embedded field test	April 2005
5	Standalone field test in writing	February 2005
6	Standalone field test for mathematics and reading	April 2005
7	Standalone field test for mathematics and reading	April 2005
8	Operational mathematics and reading with embedded field test	April 2005
8	Standalone field test in writing	February 2005
11	Operational mathematics and reading with embedded field test	April 2005
11	Operational writing with embedded field test	February 2005
12	Retest opportunity for students who as Grade 11 students in the spring of 2004 failed to reach at least the Proficient level in mathematics, reading, or writing	October/ November 2004

ASSESSMENT ACTIVITIES OCCURRING IN THE 2005–06 SCHOOL YEAR

Table P–3 shows the assessment activities that occurred during the 2005–06 school year. Note that the reading and mathematics operational assessments ran consecutively in Grades 3–8 and Grade 11. For Grades 4, 6, and 7, it was the first year for operational assessments. Field testing for mathematics and reading was embedded as part of the operational assessment at each grade level. At Grade 3, the reference to field testing with items developed by DRC reflects the transition of shifting the assessment from CTB/McGraw-Hill to DRC in 2007. As in previous years, the retest opportunity at Grade 12 continued.

The first operational assessments for writing at Grades 5 and 8 took place in the 2005–06 school year, while the Grade 11 writing assessment continued in the same February testing window. For all three grade levels, the operational writing assessments featured mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis shift in writing modes assessed. See the *2006 PSSA Technical Report for Writing: Grades 5, 8, and 11* for further information about the new writing assessments. Since extensive field testing in February 2005 produced a pool of prompts for use over several years, no additional writing prompts were field tested in 2006. However, new multiple-choice items were field tested in the 2006 writing assessment.

Table P–3. Operational Assessment and Field Testing During the 2005–06 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test of DRC-written items (conducted by CTB/McGraw-Hill)	April 2006
4	Operational mathematics and reading with embedded field test	March 2006
5	Operational mathematics and reading with embedded field test	March 2006
5	Operational writing with embedded field test	February 2006
6	Operational mathematics and reading with embedded field test	March 2006
7	Operational mathematics and reading with embedded field test	March 2006
8	Operational mathematics and reading with embedded field test	March 2006
8	Operational writing with embedded field test	February 2006
11	Operational mathematics and reading with embedded field test	March 2006
11	Operational writing with embedded field test	February 2006
12	Retest opportunity for students who as Grade 11 students in the spring of 2005 failed to reach at least the Proficient level in mathematics, reading, or writing	October/ November 2005

ASSESSMENT ACTIVITIES OCCURRING IN THE 2006–07 SCHOOL YEAR

Table P–4 shows the assessment plan for the 2006–07 school year. Note that the mathematics and reading assessments ran consecutively in Grades 3–8 and Grade 11. For Grades 4, 6, and 7, it was the second year for operational assessments and the first year in which these grade levels were included in the adequate yearly progress (AYP) calculations. Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. This was the first year in which DRC was responsible for the Grade 3 assessment, as the transition from CTB/McGraw-Hill was complete. As in previous years, the retest opportunity at Grade 12 continued.

The operational assessment for writing at Grades 5, 8, and 11 continued in the same February testing window featuring the mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed, which were introduced in 2006. Since extensive field testing in February 2005 produced a pool of prompts for use over several years, no additional writing prompts needed to be field tested in 2007. However, new multiple-choice items were field tested in the 2007 writing assessment.

Following the spring operational assessments in writing, reading, and mathematics, a separate, standalone field test in science was administered for Grades 4, 8, and 11 with full implementation scheduled for 2008.

Table P–4. Operational Assessment and Field Testing During the 2006–07 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	March 2007
4	Operational mathematics and reading with embedded field test	March 2007
4	Standalone field test in science	April/May 2007
5	Operational mathematics and reading with embedded field test	March 2007
5	Operational writing with embedded field test	February 2007
6	Operational mathematics and reading with embedded field test	March 2007
7	Operational mathematics and reading with embedded field test	March 2007
8	Operational mathematics and reading with embedded field test	March 2007
8	Operational writing with embedded field test	February 2007
8	Standalone field test in science	April/May 2007
11	Operational mathematics and reading with embedded field test	March 2007
11	Operational writing with embedded field test	February 2007
11	Standalone field test in science	April/May 2007
12	Retest opportunity for students who as Grade 11 students in the spring of 2006 failed to reach at least the Proficient level in mathematics, reading, or writing	October/ November 2006

ASSESSMENT ACTIVITIES OCCURRING IN THE 2007–08 SCHOOL YEAR

Table P–5 shows the assessment plan for the 2007–08 school year. Note that the mathematics and reading assessments ran consecutively in Grades 3–8 and Grade 11. For Grades 4, 6, and 7, it was the third year for operational assessments and the second year in which these grade levels were included in the AYP calculations. Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. This was the second year in which DRC was responsible for the Grade 3 assessment. As in previous years, the retest opportunity at Grade 12 continued.

The operational assessment for writing at Grades 5, 8, and 11 continued in the same February testing window featuring the mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed, which was introduced in 2006. Since extensive field testing in February 2005 produced a pool of prompts for use over several years, no additional writing prompts needed to be field tested in 2007. However, new multiple-choice items were field tested in the 2008 writing assessment.

Joining the spring operational assessments in writing, reading, and mathematics was science at Grades 4, 8, and 11. See the *2008 PSSA Technical Report for Science: Grades 4, 8, and 11* for further information about the new science assessments

Table P–5. Operational Assessment and Field Testing During the 2007–08 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	March/April 2008
4	Operational mathematics and reading with embedded field test	March/April 2008
4	Operational science with embedded field test	April/May 2008
5	Operational mathematics and reading with embedded field test	March/April 2008
5	Operational writing with embedded field test	February 2008
6	Operational mathematics and reading with embedded field test	March/April 2008
7	Operational mathematics and reading with embedded field test	March/April 2008
8	Operational mathematics and reading with embedded field test	March/April 2008
8	Operational writing with embedded field test	February 2008
8	Operational science with embedded field test	April/May 2008
11	Operational mathematics and reading with embedded field test	March/April 2008
11	Operational writing with embedded field test	February 2008
11	Operational science with embedded field test	April/May 2008
12	Retest opportunity for students who as Grade 11 students in the spring of 2007 failed to reach at least the Proficient level in mathematics, reading, or writing	October/ November 2007

ASSESSMENT ACTIVITIES OCCURRING IN THE 2008–09 SCHOOL YEAR

Table P–6 shows the assessment plan for the 2008–09 school year. The mathematics and reading assessments continued to be operational for Grades 3–8 and Grade 11. Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. As in previous years, the fall retest opportunity at Grade 12 continued.

The operational assessment for writing at Grades 5, 8, and 11 continued with a February testing window featuring mode-specific scoring guidelines; stimulus-based, multiple-choice items; and a grade-specific emphasis in writing modes assessed. An embedded field test of writing prompts was incorporated in the 2009 assessment along with a set of embedded field test multiple-choice items.

The second operational assessment in science took place in April/May. Similar to the other operational assessments, field testing for science was embedded as part of the operational assessments at each grade level.

Table P–6. Operational Assessment and Field Testing During the 2008–09 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	March 2009
4	Operational mathematics and reading with embedded field test	March 2009
4	Operational science with embedded field test	April/May 2009
5	Operational mathematics and reading with embedded field test	March 2009
5	Operational writing with embedded field test	February 2009
6	Operational mathematics and reading with embedded field test	March 2009
7	Operational mathematics and reading with embedded field test	March 2009
8	Operational mathematics and reading with embedded field test	March 2009
8	Operational writing with embedded field test	February 2009
8	Operational science with embedded field test	April/May 2009
11	Operational mathematics and reading with embedded field test	March 2009
11	Operational writing with embedded field test	February 2009
11	Operational science with embedded field test	April/May 2009
12	Retest opportunity for students who as Grade 11 students in the spring of 2008 failed to reach at least the Proficient level in mathematics, reading, or writing	October/ November 2008

ASSESSMENT ACTIVITIES OCCURRING IN THE 2009–10 SCHOOL YEAR

Table P–7 shows the assessment plan for the 2009–10 school year. A notable change from previous years was that all assessments and make-ups were completed during the testing window from April through the first week of May.

The mathematics and reading assessments continued to be operational for Grades 3–8 and Grade 11. Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. As in previous years, the fall retest opportunity at Grade 12 continued.

The operational assessment for writing at Grades 5, 8, and 11 continued to feature mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed. An embedded field test of writing prompts was included in the 2010 assessment along with a set of embedded field test multiple-choice items.

The operational assessment for science at Grades 4, 8, and 11 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (all grades) as well as scenario-based multiple-choice (Grades 8 and 11) and open-ended (Grade 11 only) questions. Field testing was embedded as part of the operational assessments at each grade level.

Table P–7. Operational Assessment and Field Testing During the 2009–10 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	April/May 2010
4	Operational mathematics and reading with embedded field test	April/May 2010
4	Operational science with embedded field test	April/May 2010
5	Operational mathematics and reading with embedded field test	April/May 2010
5	Operational writing with embedded field test	April/May 2010
6	Operational mathematics and reading with embedded field test	April/May 2010
7	Operational mathematics and reading with embedded field test	April/May 2010
8	Operational mathematics and reading with embedded field test	April/May 2010
8	Operational writing with embedded field test	April/May 2010
8	Operational science with embedded field test	April/May 2010
11	Operational mathematics and reading with embedded field test	April/May 2010
11	Operational writing with embedded field test	April/May 2010
11	Operational science with embedded field test	April/May 2010
12	Retest opportunity for students who as Grade 11 students in the spring of 2009 failed to reach at least the Proficient level in mathematics, reading, science, or writing	October/ November 2009

ASSESSMENT ACTIVITIES OCCURRING IN THE 2010–11 SCHOOL YEAR

Table P–8 shows the assessment plan for the 2010–11 school year. A change from the previous year is an earlier testing window, beginning in mid-March for mathematics and reading, late-March to April for writing, and early April for science. A make-up period extended into mid-April for all assessments.

The mathematics and reading assessments continued to be operational for Grades 3–8 and Grade 11. Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. As in previous years, the fall retest opportunity at Grade 12 continued.

The operational assessment for writing at Grades 5, 8, and 11 continued to feature mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed. An embedded field test of writing prompts was included in the 2011 assessment along with a set of embedded field test multiple-choice items.

The operational assessment for science at Grades 4, 8, and 11 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (all grades) as well as scenario-based multiple-choice (Grades 8 and 11) and open-ended (Grade 11 only) questions. Field testing was embedded as part of the operational assessments at each grade level.

Table P–8. Operational Assessment and Field Testing During the 2010–11 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	March/April 2011
4	Operational mathematics and reading with embedded field test	March/April 2011
4	Operational science with embedded field test	March/April 2011
5	Operational mathematics and reading with embedded field test	March/April 2011
5	Operational writing with embedded field test	March/April 2011
6	Operational mathematics and reading with embedded field test	March/April 2011
7	Operational mathematics and reading with embedded field test	March/April 2011
8	Operational mathematics and reading with embedded field test	March/April 2011
8	Operational writing with embedded field test	March/April 2011
8	Operational science with embedded field test	March/April 2011
11	Operational mathematics and reading with embedded field test	March/April 2011
11	Operational writing with embedded field test	March/April 2011
11	Operational science with embedded field test	March/April 2011
12	Retest opportunity for students who as Grade 11 students in the spring of 2010 failed to reach at least the Proficient level in mathematics, reading, science, or writing	October/ November 2010

ASSESSMENT ACTIVITIES OCCURRING IN THE 2011–12 SCHOOL YEAR

Table P–9 shows the assessment plan for the 2011–12 school year. The testing window for mathematics and reading began in mid-March, while writing and science began in mid to late April. The make-up period for mathematics and reading extended into late March, while writing and science extended into early May.

The mathematics and reading assessments continued to be operational for Grades 3–8 and Grade 11. Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. As in previous years, the fall retest opportunity at Grade 12 continued.

The operational assessment for writing at Grades 5, 8, and 11 continued to feature mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed. An embedded field test of writing prompts was included in the 2012 assessment along with a set of embedded field test multiple-choice items.

The operational assessment for science at Grades 4, 8, and 11 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (all grades) as well as scenario-based multiple-choice (Grades 8 and 11) and open-ended (Grade 11 only) questions. Field testing was embedded as part of the operational assessments at each grade level.

Table P–9. Operational Assessment and Field Testing During the 2011–12 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	March 2012
4	Operational mathematics and reading with embedded field test	March 2012
4	Operational science with embedded field test	April 2012
5	Operational mathematics and reading with embedded field test	March 2012
5	Operational writing with embedded field test	April 2012
6	Operational mathematics and reading with embedded field test	March 2012
7	Operational mathematics and reading with embedded field test	March 2012
8	Operational mathematics and reading with embedded field test	March 2012
8	Operational writing with embedded field test	April 2012
8	Operational science with embedded field test	April 2012
11	Operational mathematics and reading with embedded field test	March 2012
11	Operational writing with embedded field test	April 2012
11	Operational science with embedded field test	April 2012
12	Retest opportunity for students who as Grade 11 students in the spring of 2011 failed to reach at least the Proficient level in mathematics, reading, science, or writing	October/ November 2011

TRANSITION TO THE PENNSYLVANIA CORE STANDARDS

The 2012–13 school year began the initial transition for the PSSA Mathematics, Reading, and Writing tests to align to the newly-developed Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards (PCS). The two-stage transition from the Legacy PSSA Mathematics, Reading, and Writing tests to the new PCS-based PSSA tests was proposed to occur during the operational 2013–14 and 2014–15 administrations, with Grades 3, 4, and 5 part of the first phase, and Grades 6, 7, and 8 part of the second phase. (The final decision was made for a single operational transition, to occur during the operational 2014–15 administration.)

As a part of the PCS transition, the Legacy PSSA Reading test and the Legacy PSSA Writing test were phased out and were replaced with an English Language Arts test aligned to the PCS. As part of this transition, there was a standalone field test for the Writing component of the English Language Arts test. This standalone field test included standalone multiple-choice items (as opposed to stimulus-based multiple-choice items on the Legacy Writing test) and writing prompts at each grade. In addition, at Grade 3 there were open-ended items on the standalone ELA Writing test. For Grades 3, 4, and 5, this standalone field test took place during a two-week testing window in early to mid-February 2013. A similar standalone field test took place in February 2014 for Grades 6, 7, and 8. The Reading component of the new PCS ELA test was embedded in the 2013 Reading field test in Grades 3 through 5; additional items for the Reading component of the new PCS ELA test were embedded in the 2014 Reading field test in Grades 3 through 5. The Reading component of the new PCS ELA test in Grades 6 through 8 was embedded in the 2014 Reading field test.

ASSESSMENT ACTIVITIES OCCURRING IN THE 2012–13 SCHOOL YEAR

Table P–10 shows the assessment plan for the 2012–13 school year. PDE modified the order of the testing windows for writing, reading and mathematics, and science. Writing took place earlier than reading and mathematics instead of at the same time as science. The testing window for writing began mid-March; mathematics and reading began early to mid-April, while science began mid to late April. The make-up period for writing extended into mid to late March, while mathematics, reading, and science extended into early May. These operational assessments were all offered in an online format in addition to the paper/pencil format used in previous assessments.

An additional change from previous years was the removal of Grade 11 from the Mathematics, Reading, Science, and Writing. As Grade 11 was no longer a part of the assessments, the fall retest opportunity at Grade 12 was no longer available. Operational tests continued to be available for Mathematics and Reading at Grades 3–8, Science at grades 4 and 8, and Writing at grades 5 and 8.

Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. The embedded field test items for Grades 3, 4, and 5 were aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards, while the embedded field test items for Grades 6, 7, and 8 continued to be aligned to the previous Assessment Anchor Content Standards.

The operational assessment for Science at Grades 4 and 8 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (all grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

The operational assessment for Writing at Grades 5 and 8 continued to feature mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed. An embedded field test of writing prompts along with a set of embedded field test multiple-choice items was included in the 2013 assessment at Grade 8. The operational assessment at Grade 5 included placeholder multiple-choice items for consistency in the length of the multiple-choice section of the assessment; however, students responded to only two writing prompts at Grade 5, as a field-test writing prompt was not needed due to the standalone field test at that grade.

Table P–10. Operational Assessment and Field Testing During the 2012–13 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test (field test aligned to the PCS)	April 2013
3	Standalone field test in ELA: writing (aligned to the PCS)	February 2013
4	Operational mathematics and reading with embedded field test (field test aligned to the PCS)	April 2013
4	Operational science with embedded field test	April 2013
4	Standalone field test in ELA: writing (aligned to the PCS)	February 2013
5	Operational mathematics and reading with embedded field test (field test aligned to the PCS)	April 2013
5	Operational writing	March 2013
5	Standalone field test in ELA: writing (aligned to the PCS)	February 2013
6	Operational mathematics and reading with embedded field test	April 2013
7	Operational mathematics and reading with embedded field test	April 2013
8	Operational mathematics and reading with embedded field test	April 2013
8	Operational writing with embedded field test	March 2013
8	Operational science with embedded field test	April 2013

ASSESSMENT ACTIVITIES OCCURRING IN THE 2013–14 SCHOOL YEAR

Table P–11 shows the assessment plan for the 2013–14 school year. The 2013–14 school year continued the transition for the PSSA Mathematics, Reading, and Writing tests to align to the newly-developed Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards (PCS), as field-test items were aligned to the PCS-aligned Assessment Anchors and Eligible Content. The operational assessments in Mathematics, Reading, and Writing were comprised of items that align to both the PCS and the existing Assessment Anchors and Eligible Content. Reporting in 2013–14 continued to use the previous content structure. The transition from the Legacy PSSA Mathematics, Reading, and Writing tests to the new PCS-based PSSA tests was planned to occur during the operational 2014–15 administration.

As a part of the PCS transition, the Legacy PSSA Reading test and the Legacy PSSA Writing test were phased out and were replaced with an English Language Arts test aligned to the PCS. As part of this transition, there was a standalone field test at Grades 6, 7, and 8 for the Writing component of the English Language Arts test. This standalone field test included standalone multiple-choice items (as opposed to stimulus-based multiple-choice items on the Legacy Writing test) and writing prompts at Grades 6, 7, and 8. This standalone field test took place during a two-week testing window in early to mid-February. The Reading component of the new PCS ELA test was embedded in the 2014 Reading field test for Grades 6, 7, and 8 and in the 2013 and 2014 Reading field test for Grades 3, 4, and 5.

Writing took place after reading and mathematics but before science. The testing window for mathematics and reading began mid-March; writing began late March to early April; and science began late April. The make-up period for mathematics and reading extended into early April, while the make-up period for writing extended into early to mid-April and science extended into early May. These operational assessments continued to be offered in an online format in addition to the paper/pencil format used in previous assessments.

Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. The embedded field test items were aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (all grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

The operational assessment for writing at Grades 5 and 8 continued to feature mode-specific scoring guidelines, stimulus-based multiple-choice items, and a grade-specific emphasis in writing modes assessed. Students responded to only two writing prompts, as a field-test writing prompt was not needed due to the upcoming transition to the ELA assessments.

Table P–11. Operational Assessment and Field Testing During the 2013–14 School Year

Grade	Assessment Activity	Date
3	Operational mathematics and reading with embedded field test	March 2014
4	Operational mathematics and reading with embedded field test	March 2014
4	Operational science with embedded field test	April-May 2014
5	Operational mathematics and reading with embedded field test	March 2014
5	Operational writing	March-April 2014
6	Operational mathematics and reading with embedded field test	March 2014
6	Standalone field test in ELA: writing	February 2014
7	Operational mathematics and reading with embedded field test	March 2014
7	Standalone field test in ELA: writing	February 2014
8	Operational mathematics and reading with embedded field test	March 2014
8	Operational writing with embedded field test	March-April 2014
8	Operational science with embedded field test	April-May 2014
8	Standalone field test in ELA: writing	February 2014

ASSESSMENT ACTIVITIES OCCURRING IN THE 2014–15 SCHOOL YEAR

Table P–12 shows the assessment plan for the 2014–15 school year. The 2014–15 school year completes the transition for the PSSA Mathematics, Reading, and Writing tests to align to the newly-developed Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards (PCS), as both operational and field-test items were aligned only to the PCS-aligned Assessment Anchors and Eligible Content. Reporting in 2014–15 also transitioned to the new content structure. The transition from the Legacy PSSA Mathematics, Reading, and Writing tests to the new PCS-based PSSA Mathematics and ELA tests occurred during the operational 2014–15 administration.

The testing window for English Language Arts began in mid-April followed by the testing windows for Mathematics in mid to late April and then Science in late April to early May. These operational assessments continued to be offered in an online format in addition to the paper/pencil format used in previous assessments. The online assessment became available for students to take on iPads and Chromebooks beginning with the 2015 administration.

Field testing for mathematics and reading continued to be embedded as part of the operational assessments at each grade level. The embedded field test items continued to be aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (both grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

Table P–12. Operational Assessment and Field Testing During the 2014–15 School Year

Grade	Assessment Activity	Date
3	Operational mathematics with embedded field test	April 2015
3	Operational ELA with embedded field test	April 2015
4	Operational mathematics with embedded field test	April 2015
4	Operational ELA with embedded field test	April 2015
4	Operational science with embedded field test	April-May 2015
5	Operational mathematics embedded field test	April 2015
5	Operational ELA with embedded field test	April 2015
6	Operational mathematics with embedded field test	April 2015
6	Operational ELA with embedded field test	April 2015
7	Operational mathematics with embedded field test	April 2015
7	Operational ELA with embedded field test	April 2015
8	Operational mathematics with embedded field test	April 2015
8	Operational ELA with embedded field test	April 2015
8	Operational science with embedded field test	April-May 2015

ASSESSMENT ACTIVITIES OCCURRING IN THE 2015–16 SCHOOL YEAR

Table P–13 shows the assessment plan for the 2015–16 school year. The PSSA tests administered in the 2015–16 school year will continue to be aligned to the Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The testing window for English Language Arts began early to mid-April followed by the testing windows for Mathematics in mid-April and then Science in late April. Makeup assessments were available through early May. These operational assessments continued to be offered in an online format in addition to the paper/pencil format used in previous assessments. The online assessments were available for students to take on iPads and Chromebooks.

Field testing for mathematics and English language arts continued to be embedded as part of the operational assessments at each grade level. The embedded field test items continued to be aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (both grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

Table P–13. Operational Assessment and Field Testing During the 2015–16 School Year

Grade	Assessment Activity	Date
3	Operational mathematics with embedded field test	April 2016
3	Operational ELA with embedded field test	April 2016
4	Operational mathematics with embedded field test	April 2016
4	Operational ELA with embedded field test	April 2016
4	Operational science with embedded field test	April 2016
5	Operational mathematics embedded field test	April 2016
5	Operational ELA with embedded field test	April 2016
6	Operational mathematics with embedded field test	April 2016
6	Operational ELA with embedded field test	April 2016
7	Operational mathematics with embedded field test	April 2016
7	Operational ELA with embedded field test	April 2016
8	Operational mathematics with embedded field test	April 2016
8	Operational ELA with embedded field test	April 2016
8	Operational science with embedded field test	April 2016

ASSESSMENT ACTIVITIES OCCURRING IN THE 2016–17 SCHOOL YEAR

Table P–14 shows the assessment plan for the 2016–17 school year. The PSSA tests administered in the 2016–17 school year will continue to be aligned to the Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The testing window for English Language Arts began early April followed by the testing windows for Mathematics in mid-April and then Science in early May. Makeup assessments were available through early to mid-May. These operational assessments continued to be offered in an online format in addition to the paper/pencil format used in previous assessments. The online assessments were available for students to take on PCs, iPads, and Chromebooks.

Field testing for mathematics and English language arts continued to be embedded as part of the operational assessments at each grade level. The embedded field test items continued to be aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 included multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (both grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

Table P–14. Operational Assessment and Field Testing During the 2016–17 School Year

Grade	Assessment Activity	Date
3	Operational mathematics with embedded field test	April 2017
3	Operational ELA with embedded field test	April 2017
4	Operational mathematics with embedded field test	April 2017
4	Operational ELA with embedded field test	April 2017
4	Operational science with embedded field test	May 2017
5	Operational mathematics embedded field test	April 2017
5	Operational ELA with embedded field test	April 2017
6	Operational mathematics with embedded field test	April 2017
6	Operational ELA with embedded field test	April 2017
7	Operational mathematics with embedded field test	April 2017
7	Operational ELA with embedded field test	April 2017
8	Operational mathematics with embedded field test	April 2017
8	Operational ELA with embedded field test	April 2017
8	Operational science with embedded field test	May 2017

ASSESSMENT ACTIVITIES OCCURING IN THE 2017–18 SCHOOL YEAR

Table P–15 shows the assessment plan for the 2017–18 school year. The PSSA tests administered in the 2017–18 school year continued to aligned to the Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The testing window for English Language Arts was in early to mid-April followed by the testing windows for Mathematics in mid-April and then Science in late-April into early May. The makeup assessments were available through early May. These operational assessments continued to be offered in an online format in addition to the paper/pencil format.

Field testing for mathematics and English language arts will continue to be embedded as part of the operational assessments at each grade level. The embedded field test items continued to be aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 continued to include multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (both grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

Table P–15. Operational Assessment and Field Testing During the 2017–18 School Year

Grade	Assessment Activity	Date
3	Operational mathematics with embedded field test	April 2018
3	Operational ELA with embedded field test	April 2018
4	Operational mathematics with embedded field test	April 2018
4	Operational ELA with embedded field test	April 2018
4	Operational science with embedded field test	April 2018
5	Operational mathematics embedded field test	April 2018
5	Operational ELA with embedded field test	April 2018
6	Operational mathematics with embedded field test	April 2018
6	Operational ELA with embedded field test	April 2018
7	Operational mathematics with embedded field test	April 2018
7	Operational ELA with embedded field test	April 2018
8	Operational mathematics with embedded field test	April 2018
8	Operational ELA with embedded field test	April 2018
8	Operational science with embedded field test	April 2018

ASSESSMENT ACTIVITIES OCCURING IN THE 2018–19 SCHOOL YEAR

Table P–16 shows the assessment plan for the 2018–19 school year. The PSSA tests administered in the 2018–19 school year

continued to be aligned to the Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The testing window for English Language Arts was in mid-April followed by the testing windows for Mathematics and science in late-April into early May. The makeup assessments were available through late-April into early May. These operational assessments continued to be offered in an online format in addition to the paper/pencil format.

Field testing for mathematics and English language arts continued to be embedded as part of the operational assessments at each grade level. The embedded field test items continued to be aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 continued to include multiple-choice and open-ended questions. Students responded to standalone multiple-choice and open-ended questions (both grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing was embedded as part of the operational assessments at each grade level.

Table P–16. Operational Assessment and Field Testing During the 2018–19 School Year

Grade	Assessment Activity	Date
3	Operational mathematics with embedded field test	April 2019
3	Operational ELA with embedded field test	April 2019
4	Operational mathematics with embedded field test	April 2019
4	Operational ELA with embedded field test	April 2019
4	Operational science with embedded field test	April 2019
5	Operational mathematics embedded field test	April 2019
5	Operational ELA with embedded field test	April 2019
6	Operational mathematics with embedded field test	April 2019
6	Operational ELA with embedded field test	April 2019
7	Operational mathematics with embedded field test	April 2019
7	Operational ELA with embedded field test	April 2019
8	Operational mathematics with embedded field test	April 2019
8	Operational ELA with embedded field test	April 2019
8	Operational science with embedded field test	April 2019

ASSESSMENT ACTIVITIES PLANNED FOR THE 2019–20 SCHOOL YEAR

Table P–17 shows the assessment plan for the 2019–20 school year. The PSSA tests administered in the 2019–20 school year will continue to be aligned to the Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The testing window for English Language Arts will be in mid-April followed by the testing windows for Mathematics and science in late-April into early May. The makeup assessments will be available through early late-April into early May. These operational assessments will continue to be offered in an online format in addition to the paper/pencil format.

Field testing for mathematics and English language arts will continue to be embedded as part of the operational assessments at each grade level. The embedded field test items will continue to be aligned to the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Core Standards.

The operational assessment for science at Grades 4 and 8 will continue to include multiple-choice and open-ended questions. Students will respond to standalone multiple-choice and open-ended questions (both grades) as well as scenario-based multiple-choice questions (Grades 8 only). Field testing will be embedded as part of the operational assessments at each grade level.

Table P–17. Operational Assessment and Field Testing During the 2019–20 School Year (Planned)

Grade	Assessment Activity	Date
3	Operational mathematics with embedded field test	April 2020
3	Operational ELA with embedded field test	April 2020
4	Operational mathematics with embedded field test	April 2020
4	Operational ELA with embedded field test	April 2020
4	Operational science with embedded field test	April 2020
5	Operational mathematics embedded field test	April 2020
5	Operational ELA with embedded field test	April 2020
6	Operational mathematics with embedded field test	April 2020
6	Operational ELA with embedded field test	April 2020
7	Operational mathematics with embedded field test	April 2020
7	Operational ELA with embedded field test	April 2020
8	Operational mathematics with embedded field test	April 2020
8	Operational ELA with embedded field test	April 2020
8	Operational science with embedded field test	April 2020

CHAPTER ONE: BACKGROUND, PURPOSE, AND INTENDED USES OF THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT (PSSA)

This brief overview of the Pennsylvania System of School Assessment (PSSA) summarizes the history of the current program's development process, the program's intent and purpose, recent changes to the program, and the student population that participates in the assessments. Pennsylvania's involvement in state-wide assessment actually began in the 1969–70 school year with a purely school-based assessment known as *Educational Quality Assessment* (EQA), which continued through the 1987–88 school year. A state mandated student competency testing program called *Testing for Essential Learning and Literacy Skills* (TELLS) also operated from the school years of 1984–85 through 1990–91.

THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT

The Pennsylvania System of School Assessment program was instituted in 1992 as a school evaluation model with reporting at the school level only. Test administration took place in February/March, and school district participation was every third year based on the strategic planning cycle. Mathematics and reading were assessed at Grades 5, 8, and 11; districts could choose to participate in the writing assessment at Grades 6 and 9. The State Board of Education's revisions to Chapter 5 in November 1994 brought major changes to the PSSA, beginning with the spring 1995 assessment. These changes included the following:

- All districts were required to participate in the mathematics and reading assessment each year.
- Student-level reports were generated in addition to school reports.
- The Grades 6 and 9 writing assessments became mandatory on a three-year cycle corresponding with the district's strategic planning cycle.

Yearly administration of the PSSA in 1996, 1997, and 1998 continued at the assessed grades for mathematics and reading, utilizing essentially the same test structure, reporting practices, and testing window. Writing assessment continued on the established mandatory cycle; however, an increasing number of districts chose to participate every year on a voluntary basis.

PENNSYLVANIA ACADEMIC STANDARDS AND THE PSSA

A major structural change took place in test content with the State Board of Education's adoption of the Pennsylvania Academic Standards for Reading, Writing, Speaking and Listening, and Mathematics in January 1999 (Pennsylvania State Board of Education, 1999). These new, more rigorous standards aimed to better prepare students for the 21st century work force. The Academic Standards, which are part of *Chapter 4 Regulations on Academic Standards and Assessment*, detailed what students should know (knowledge) and be able to do (skills) at various grade levels. Subsequently, the State Board approved a set of criteria defining Advanced, Proficient, Basic, and Below Basic levels of performance. Mathematics and reading performance level results were reported at both the student and school levels for the 2000 PSSA. At that point, the PSSA became a standards-based, criterion-referenced assessment measuring student attainment of the Academic Standards while simultaneously determining the extent to which school programs enabled students to achieve proficiency of the Academic Standards. The regulations also stipulated that appropriate results be broadly disseminated to an array of audiences including students, parents, educators, citizens, and state policymakers, including the State Senate, the General Assembly, and the State Board. School reporting was to include the aggregate performance of all students and for relevant subgroups, such as those students with an Individualized Education Plan (IEP). Finally, the data was intended to inform educators regarding school program strengths and weaknesses in order to guide the improvement of curricula and instructional strategies. The data was also intended to be used in the development of strategic plans.

The mathematics and reading assessments from 2001 through 2004 underwent various content enhancements to improve alignment to the Academic Standards. For example, the reading assessment transitioned to utilizing more passages of shorter length and fewer items to improve the range of topics to which students responded. Various reporting modifications were introduced to more effectively communicate results.

ASSESSMENT ANCHOR CONTENT STANDARDS, CONTENT STRUCTURE, AND NEW GRADE LEVELS FOR MATHEMATICS AND READING

Assessment in 2005 was marked by major structural changes to the PSSA. Assessment Anchor Content Standards (Assessment Anchors) developed during the previous school year to clarify content structure and improve articulation between assessment and instruction were implemented in terms of test design and reporting. At the same time, field testing of mathematics and reading occurred at Grades 4, 6, and 7. As specified by PL 107–110, the *No Child Left Behind Act of 2001* (NCLB), states, school districts, and schools must achieve a minimum level of improvement each year, known as adequate yearly progress, or AYP. Accordingly, the third year of calculations for AYP were conducted and reported for Grades 5, 8, and 11.

The 2006 operational mathematics and reading assessment incorporated Grades 4, 6, and 7 for the first time. The assessed grade levels for 2006 included Grades 3–8 and 11. The fourth year of calculations for AYP were conducted and reported for Grades 5, 8, and 11 and, for the first time, Grade 3.

In 2007 the operational mathematics and reading assessment continued in Grades 3–8 and 11. AYP calculations for Grades 4, 6, and 7 took place in 2007 when they were assessed for the second time.

The operational mathematics and reading assessments of 2008, 2009, 2010, 2011, and 2012 continued in Grades 3–8 and 11, utilizing the same content structure. AYP calculations continued for all grades. The operational mathematics and reading assessments continued for Grades 3–8 in 2013 utilizing the same content structure.

TRANSITION TO PENNSYLVANIA CORE STANDARDS-ALIGNED ASSESSMENTS IN ENGLISH LANGUAGE ARTS AND MATHEMATICS

As a part of the transition to align to the Pennsylvania Core Standards, the operational mathematics and reading assessments for Grades 3–8 in 2014 aligned to both the previous Assessment Anchors (those aligned to the Pennsylvania Academic Standards) and the newly developed Assessment Anchors aligned to the Pennsylvania Core Standards. The operational assessments of 2015 in Grades 3–8 marked the completion of the transition to alignment with the Pennsylvania Core Standards in mathematics and English language arts. The 2019 PSSA had nine field test forms per grade in Grades 3–8, each with core items as well as placeholder items to ensure consistency in the length of the assessment in future years when equating block items are again included in the test design. More information about the operational layout for mathematics and English language arts can be found in Chapter Three.

Preliminary performance level descriptors were developed for mathematics and English language arts in the spring of 2012. These descriptions of the expectations of students at each performance level (Basic, Proficient, and Advanced) were used to guide development of items aligned to the PCS-aligned Assessment Anchors and Eligible Content that were field tested in 2013 (Grades 3, 4, and 5) and in 2014 (Grades 3–8). These performance level descriptors were validated by committees of Pennsylvania educators in February 2015 prior to standard setting in June 2015.

More information regarding the 2019 mathematics and reading tests may be found in Chapter Two and in the following Pennsylvania Department of Education publications available on the PDE website: *PSSA Assessment Handbook*, *PSSA English Language Arts Preliminary Item and Scoring Sampler* (one per assessed grade level), and *PSSA Mathematics Preliminary Item and Scoring Sampler* (one per assessed grade level). These handbooks can be accessed by going to www.education.pa.gov.

THE PENNSYLVANIA SCIENCE ASSESSMENT

In accordance with the NCLB requirement to implement an operational science assessment in 2008, a major test development effort in science took place during 2006, followed by a large-scale, standalone field test in April/May of 2007. A full implementation of an operational science assessment at Grades 4, 8, and 11 first occurred in April–May 2008. The 2009 PSSA operational science assessment continued with the same content structure and testing window as in 2008.

Several historical milestones were significant to the development of a science test in Pennsylvania. These include the following:

- The adoption of Act 16 or Pennsylvania Senate Bill 652 in 2000, which redefined the PSSA "as a test developed and implemented by the Department of Education to determine only academic achievement relating directly to objective Academic Standards in the areas of reading, mathematics, and science." (See the *Science Assessment Handbook*, PDE, November 2006).
- Pennsylvania State Board of Education adoption of the *Science and Technology Standards* on July 12, 2001, and the *Environment and Ecology Standards* on January 5, 2002.

Aligned to the *Pennsylvania Science Assessment Anchor Content Standards* and Eligible Content, the science test is designed to measure and report results in four major categories:

- The Nature of Science
- Biological Sciences
- Physical Sciences
- Earth and Space Sciences

Students use their content knowledge and science process skills to answer a set of multiple-choice items and open-ended questions that are standalone or related to a scenario. A science scenario consists of a description of a class project, an experiment, or other research and typically contains text, graphs, charts, and/or tables. Science test questions at Grade 4 consist of standalone multiple-choice and 0–2-point short answer open-ended items. At Grade 8, multiple-choice questions consist of both standalone and scenario-based items. All open-ended items at Grade 8 are standalone 0–2-point questions. More information may be found in Chapter Two and in the following Pennsylvania Department of Education publications available on the PDE website: *PSSA Assessment Handbook* and *PSSA Science Item and Scoring Sampler Supplement* (one per assessed grade level). These handbooks can be accessed by going to www.education.pa.gov. The establishment of performance levels for science, utilizing the Bookmark method, took place during the summer of 2008. For additional details about sciences standard setting event, refer to the PSSA science performance level setting technical report in 2008.

PURPOSE AND INTENDED USES OF THE PSSA

The preceding discussion provides some important background and rationale for the development of the PSSA. Although the topic of test validity is covered in detail in Chapter Nineteen of this report, some introductory remarks to frame how a validity argument is linked to test purpose and use is appropriate here. Validity is often defined as, the degree to which theory and evidence support the intended purpose and use of test scores. As such, the beginning of any validation process is to clearly articulate test purpose and intended uses. The purpose of the PSSA is to measure how well students acquire the knowledge and skills described in the *Pennsylvania Assessment Anchor Content Standards* (Assessment Anchors) as defined by the Eligible Content for mathematics, ELA, and Science. The intended uses of the PSSA are to:

1. Provide information for use in school and district accountability systems
2. Improve curricular and instructional practices in order to help students reach proficiency in the Pennsylvania Core Standards (ELA and Mathematics) or the Pennsylvania Academic Standards (Science)

It follows, then, that a validity argument must be developed to support claims that PSSA test scores are appropriate for these uses. The *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014) links the concept of validity, test purpose, and test use to this need for evidence that test scores are appropriate for their intended purpose and uses. Briefly, a validity argument is characterized as an accumulation of five sources, or types, of evidence that test scores are appropriate for their intended use, including evidence related to test content, its internal structure and relation to other variables, examinee response processes, and testing consequences. Complete definitions of these sources, and corresponding evidence that PSSA scores may be interpreted as intended is provided in Chapter Nineteen.

CHAPTER TWO: OVERVIEW OF THE PSSA FRAMEWORK

PENNSYLVANIA CORE STANDARDS, PENNSYLVANIA ACADEMIC STANDARDS, ASSESSMENT ANCHOR CONTENT STANDARDS, AND ELIGIBLE CONTENT

PSSA ENGLISH LANGUAGE ARTS, MATHEMATICS, AND SCIENCE

The PSSA Assessment Anchor Content Standards and Eligible Content are based on the Pennsylvania Core Standards in English language arts and mathematics and the Pennsylvania Academic Standards in science. Although the Academic Standards indicated what students should know and be able to do, educator concerns regarding the number and breadth of Academic Standards led to an initiative by the Pennsylvania Department of Education (PDE) to develop Assessment Anchor Content Standards (Assessment Anchors) to indicate which parts of the Academic Standards (Instructional Standards) would be assessed on the PSSA. Based on recommendations from Pennsylvania educators, the Assessment Anchors were designed as a tool to improve the articulation of curricular, instructional, and assessment practices.

With Pennsylvania's decision to adopt the Pennsylvania Core Standards based on the Common Core State Standards, committees of Pennsylvania educators met in October 2011 to write, review, and approve the Assessment Anchors and Eligible Content statements. To provide initial focus, each content and grade span committee was presented with materials specific to the content and grade span in question, including a basic blueprint structure, the Pennsylvania Academic Standards, the Pennsylvania Assessment Anchors and Eligible Content aligned to the Pennsylvania Academic Standards, the Common Core State Standards, and draft Eligible Content statements. Committees then completed an iterative process of reviewing and revising the draft Eligible Content statements followed by discussions across grade-span committees to ensure vertical articulation across the grades. The results from the committee work were evaluated by national, state, and local subject experts, and following revisions, they were ultimately validated by another committee of Pennsylvania educators. Following committee approval, the Pennsylvania Core Standards-aligned Assessment Anchors and Eligible Content for English Language Arts and Mathematics were approved by the State Board of Education in September 2013.

The Assessment Anchors clarify what is expected across each grade span and focus the content of the standards into what is assessable on a large-scale test. The Assessment Anchor documents also serve to communicate Eligible Content, also called assessment limits, or the range of knowledge and skills from which the PSSA would be designed.

The Assessment Anchor's coding is read like an outline. The coding includes the content, grade level, Reporting Category, Assessment Anchor, descriptor (Sub-Assessment Anchor), and Eligible Content. Thus, S.4.A.1.3.1 would be Science, Grade 4, Reporting Category A, Assessment Anchor 1, descriptor (Sub-Assessment Anchor) 3, and Eligible Content 1.

Each of the Assessment Anchors has one or more descriptors (Sub-Assessment Anchors) and Eligible Content varying to reflect grade-level appropriateness. The Assessment Anchors form the basis of the test design. In turn, this hierarchy is the basis for organizing the total content scores (based on the core [common] sections).

Achieve, Inc., Washington, D.C., conducted a preliminary review of the science Assessment Anchors in 2003 to evaluate the alignment with the Academic Standards and produced a follow-up report on the anchors in 2005.

The complete set of Assessment Anchors and Eligible Content aligned to the Pennsylvania Academic Standards can be referenced at PDE's website: www.education.pa.gov.

OVERVIEW OF THE 2019 PSSA

MATHEMATICS ASSESSMENT MEASURES

The Assessment Anchors are organized into four classifications, as listed below.

- A = Numbers and Operations
- B = Algebraic Concepts
- C = Geometry
- D = Data Analysis and Probability

These four classifications are used throughout the grade levels. In addition to these classifications, there are five Reporting Categories for each grade level. The first letter of each Reporting Category represents the classification, and the second letter represents the Domain as stated in the Pennsylvania Core Standards for Mathematics. These Reporting Categories are listed below.

- A = Numbers and Operations
    - A-T = Numbers and Operations in Base Ten (grades 3–5)
    - A-F = Numbers and Operations—Fractions (grades 3–5)
    - A-N = The Number System (grades 6–8)
    - A-R = Ratios and Proportional Relationships (grades 6, 7)
- B = Algebraic Concepts
    - B-O = Operations and Algebraic Thinking (grades 3–5)
    - B-E = Expressions and Equations (grades 6–8)
    - B-F = Functions (grade 8)
- C = Geometry
    - C-G = Geometry (grades 3–8)
- D = Data Analysis and Probability
    - D-M = Measurement and Data (grades 3–5)
    - D-S = Statistics and Probability (grades 6–8)

The PSSA mathematics assessment employs two types of test items: multiple-choice and open-ended. These item types assess different levels of knowledge and provide different kinds of information about mathematics achievement. Psychometrically, multiple-choice items are very useful and efficient tools for collecting information about a student's academic achievement. Open-ended performance tasks generally generate fewer scoreable points than multiple-choice items in the same amount of testing time; however, they provide tasks that are more realistic and are better at sampling higher-level thinking skills. Furthermore, well-constructed scoring guides have made it possible to include open-ended tasks in large-scale assessments such as the PSSA. Trained scorers can apply the scoring guides to efficiently score large numbers of student papers in a highly reliable way. The design of the PSSA attempts to achieve a reasonable balance between the two item types.

Furthermore, the Standards for Mathematical Practice is included in the development and review process of each item. Some items may align to none of the practices while others may align to multiple practices. The Standards for Mathematical Practice originated in the Common Core State Standards for Mathematics and were adopted by Pennsylvania as part of the Academic Standards for Mathematics.

MATHEMATICS MULTIPLE-CHOICE ITEMS

The majority of the mathematics items included on the PSSA are multiple-choice (selected-response) items. This item type is especially efficient for measuring a broad range of content. In the PSSA mathematics assessment, each multiple-choice item has four response options, only one of which is correct. The student is awarded one point for choosing the correct response. Distractors typically represent incorrect concepts, incorrect logic, incorrect application of an algorithm, or computational errors.

Multiple-choice items are used to assess a variety of skill levels, from short-term recall of facts to problem solving. PSSA items involving application emphasize the requirement to carry out some mathematical process to find an answer, rather than simply recalling information from memory.

OPEN-ENDED TASKS FOR MATHEMATICS

Open-ended, or constructed-response, tasks require students to read a problem description and to develop an appropriate solution. The open-ended items are designed to take about ten minutes per item. Most of the open-ended items have several components to the overall task that may enable students to enter or begin the problem at different places. In some items, each successive component is designed to assess progressively more difficult skills or higher knowledge levels. Certain components ask students to explain their reasoning for engaging in particular mathematical operations or for arriving at certain conclusions. The types of tasks utilized do not necessarily require computations. Students may also be asked to perform such tasks as constructing a graph, shading some portion of a figure, or listing object combinations that meet specified criteria.

Open-ended tasks are especially useful for measuring students' problem-solving skills in mathematics. They offer the opportunity to present real-life situations that require students to solve problems using mathematics abilities learned in the classroom. Students must read the task carefully, identify the necessary information, devise a method of solution, perform the calculations, enter the solution directly in the response space, and, when required, offer an explanation. This provides insight into the students' mathematical knowledge, abilities, and reasoning processes.

The open-ended mathematics items are scored on a 0–4 point scale using an item-specific scoring guideline. The item-specific scoring guideline outlines the requirements for each score point. Item-specific scoring guidelines are based on the "General Description of Mathematics Scoring Guidelines for Open-Ended Items". The general guidelines describe a hierarchy of responses, which represent the five score levels. See Appendix A or the *Mathematics Item and Scoring Samplers* available on the PDE website.

ENGLISH LANGUAGE ARTS ASSESSMENT MEASURES

The content blueprints for the English language arts assessment are shown in the following tables. The blueprints are organized around three Reporting Clusters (Reading, Writing, and Text-Dependent Analysis) based on the expressed emphasis contained within the Pennsylvania Core Standards.

- Reading
  - A = Literature Text
  - B = Informational Text
  - A-K and B-K = Key Ideas and Details
  - A-C and B-C = Craft and Structure/Integration of Knowledge and Ideas
  - A-V and B-V = Vocabulary Acquisition and Use
- Writing
  - D = Conventions of Standard English
- Text-Dependent Analysis
  - E = Text-Dependent Analysis (Grades 4–8 only)

Within the Reading Reporting Cluster, each Eligible Content aligns to a Genre Reporting Category (Literature Text or Informational Text) as well as a Core Competency Reporting Category (Key Ideas and Details; Craft and Structure/ Integration of Knowledge and Ideas; or Vocabulary Acquisition and Use) as shown in the table below.

Table 2–1. English Language Arts Eligible Content Blueprint

Genre	Key Ideas and Details (Key Ideas)	Craft and Structure/Integration of Knowledge and Ideas (CSI)	Vocabulary Acquisition and Use (Vocabulary)
Literature Text	A-K.1.1.1	A-C.2.1.1	A-V.4.1.1
Literature Text	A-K.1.1.2	A-C.3.1.1	A-V.4.1.2
Literature Text	A-K.1.1.3	NA	NA
Informational Text	B-K.1.1.1	B-C.2.1.1	B-V.4.1.1
Informational Text	B-K.1.1.2	B-C.2.1.2	B-V.4.1.2
Informational Text	B-K.1.1.3	B-C.3.1.1	NA
Informational Text	NA	B-C.3.1.2	NA
Informational Text	NA	B-C.3.1.3	NA

The English language arts assessment employs several types of test questions, including standalone and passage-based Multiple-Choice questions (MC), Evidence-Based Selected-Response (EBSR) questions, Short-Answer (SA) questions (Grade 3 only) and Text-Dependent Analysis (TDA) questions (Grades 4–8).

PASSAGE-BASED MULTIPLE-CHOICE ITEMS

Passage-based multiple-choice items measure how well students comprehend the overall meaning of a passage or make basic inferences about it. At times, asking students to choose a preferred answer is the best way to determine whether they have gleaned certain information from a story. Such information may include setting, central idea, or main events and their sequence. These multiple-choice items are aligned to Reporting Categories within the Reading Reporting Cluster.

Each reading multiple-choice item has four response options, only one of which is correct. The student is awarded one point for choosing the correct response. Incorrect response choices, or distractors, typically represent some kind of misinterpretation, predisposition, unsound reasoning, or casual reading of the item and/or stimuli.

STANDALONE MULTIPLE-CHOICE ITEMS

Standalone multiple-choice items require that a student demonstrate both passive (recognizing and identifying grammatical and mechanical errors in text, such as misspellings, errors in word choice, errors in verb tense, or pronoun usage) and active (choosing the appropriate correction of an embedded error, such as deleting an irrelevant detail, changing the sequence of details, or placing correct marks of punctuation) language skills related to conventions of standard English and knowledge of language. These multiple-choice items are aligned to the Language Reporting Category within the Writing Reporting Cluster.

All language multiple-choice items have four response options that include only one correct answer. The student is awarded one raw score point for choosing the correct response. Incorrect response choices, or distractors, typically represent some kind of misinterpretation or predisposition, unsound reasoning, or casual reading of the item and/or stimuli.

EVIDENCE-BASED SELECTED-RESPONSE ITEMS

Each two-part evidence-based selected-response (EBSR) question is designed to elicit an evidence-based response from a student who has read either a Literature or Informational Text passage. In Part One, which is similar to a multiple-choice question, the student analyzes a passage and chooses the best answer from four answer choices. In Part Two, the student elicits evidence from the passage to select one or more answers based on his/her response to Part One. Part Two is different from a multiple-choice question in that there may be more than four answer options and more than one correct answer. Each EBSR test question is worth either two or three points, and students can receive partial credit for providing a correct response to Part One or for providing one or more correct responses in Part Two. The student is awarded one raw score point for choosing each correct response. Incorrect response choices, or distractors, in both Part One and Part Two typically represent some kind of misinterpretation, predisposition, unsound reasoning, or casual reading of the item and/or stimuli.

SHORT-ANSWER ITEMS (GRADE 3)

Constructed-response tasks such as the short-answer questions included on the assessment for Grade 3 require written responses. These items are designed to address comprehension of text in ways that multiple-choice items cannot. These short written responses require about five minutes per item and allow a student to prepare an answer using supporting details or examples derived from the text. Prior to 2013, these test questions were called "open-ended" items due to the many possible responses students could construct compared to the four static options available in a multiple-choice item. These items began to be labeled as short-answer items during the 2013 administration. The shift in labeling, from "open-ended" to "short-answer," was implemented to draw a greater contrast to the new "Text-Dependent Analysis" questions which require substantial student writing. By comparison, responses to the short-answer items are simpler and require less explication and almost no analysis.

The reading short-answer items are scored on a 0–3-point scale using an item-specific scoring guideline. This scale is consistent with the scale used on the National Assessment of Educational Progress (NAEP). The change from the former 0–4-point scale improves the alignment with the types of tasks required. Each task is text-dependent and is carefully constructed with the scoring guideline reflecting the task requirements. All item-specific scoring guidelines are based on the "General Scoring Guidelines for Short-Answer Reading Items." The general guidelines describe a hierarchy of responses, which represent the four score levels. See Appendix A or the *English Language Arts Item and Scoring Samplers* available on the PDE website.

TEXT-DEPENDENT ANALYSIS ITEMS (GRADES 4–8)

Text-dependent analysis questions require students to draw on basic writing skills while inferring and synthesizing information from a passage or passage set they have read during the test event, in order to develop a comprehensive, holistic essay response. Both Literature and Informational Texts are addressed through this item type. The demand required of a student's reading and writing skills in response to a TDA coincides with the similar demands required for a student to be college and career ready. The essay responses developed for this item type require approximately thirty minutes. These items are reported under the Text-Dependent Analysis Reporting Category, which is found in the Reporting Cluster of the same name.

The text-dependent analysis items are scored on a 1–4-point scale using the holistic "PSSA Text-Dependent Analysis Scoring Guidelines." The TDA scoring guidelines describe a hierarchy of responses, which represent the four score levels, and include comprehension, writing, and analysis skills. See Appendix A or the *English Language Arts Item and Scoring Samplers* available on the PDE website.

PASSAGE COMPLEXITY

The Pennsylvania Core Standards require students to read increasingly complex texts with greater independence and proficiency as they progress toward college- and career-readiness. DRC has worked with PDE to develop a process that measures (1) the quantitative evaluation of the text, and (2) the qualitative evaluation of the text that is reported out on a passage placemat. In addition, a third component, matching reader to text and task, is also taken into consideration during passage evaluation and teacher committee reviews.

QUANTITATIVE EVALUATION

Evaluating the complexity of a passage is essentially a judgmental process by individuals familiar with the classroom context and what is developmentally and linguistically appropriate for students at a given grade level. Although readability indices will be computed and made available on the passage placemat for each passage, we believe that these indices measure different aspects of readability and can result in various interpretations. Because no readability formula is perfect, qualitative measures have been implemented to help determine placement and appropriateness for passages used in the Pennsylvania assessments. These measures include: 1) rubric-based qualitative evaluations, and 2) teacher content review committees to provide expert opinions on grade-level appropriateness as part of matching the reader to text and task considerations.

QUALITATIVE EVALUATION

Rubrics provide the qualitative measures for literary and informational passages. As indicated on these placemats, the quantitative measures suggest the appropriate grade band of the text, while the qualitative rubrics pinpoint the specific grade level. These rubrics provide a powerful and comprehensive way of evaluating a range of stimulus materials that cover the literary and informational scope outlined in the Pennsylvania Core Standards. Passages selected for the Pennsylvania assessments should have evidence of their complexity determination and grade-level placement, based on both quantitative and qualitative measures as specified above.

SCIENCE ASSESSMENT MEASURES

The PSSA science assessment has four major reporting categories: The Nature of Science, Biological Sciences, Physical Sciences, and Earth and Space Sciences. These categories are similar to those used by the National Assessment of Educational Progress (NAEP) and The Third International Mathematics and Science Study (TIMSS). However, the PSSA organizes the categories differently. The science assessment anchors cover seventeen major categories from two sets of standards: Science and Technology Standards (3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, and 3.8) and Environment and Ecology Standards (4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, and 4.9).

The Assessment Anchors are organized into four classifications, as listed below.

- A = Nature of Science
- B = Biological Sciences
- C = Physical Sciences
- D = Earth and Space Sciences

These four reporting categories are used in both grades four and eight. In addition to these reporting categories, there are additional Assessment Anchors for each grade level. The first letter of each Assessment Anchors represents the reporting category, and the second letter represents the Assessment Anchors. These Assessment Anchors are listed below.

- A. The Nature of Science
    - S.A.1. Reasoning and Analysis
    - S.A.2. Processes, Procedures, and Tools of Scientific
    - S.A.3. Systems, Models, and Patterns
- B. Biological Sciences
    - S.B.1. Structure and Function of Organisms
    - S.B.2. Continuity of Life
    - S.B.3. Ecological Behavior and Systems

- C. Physical Sciences
    - S.C.1. Structure, Properties and Interactions of Matter and Energy
    - S.C.2 Forms, Sources, Conversions, and Transfer of Energy
    - S.C.3 Principles of Force and Motion
- D. Earth and Space Sciences
    - S.D.1 Earth Features and Processes that Change Earth and Its Resources
    - S.D.2 Weather, Climate, and Atmospheric Processes
    - S.D.3 Composition and Structure of the Universe

The science assessment employs two types of test items: multiple-choice and open-ended. These item types assess different levels of knowledge and provide different kinds of information about science achievement. The design of the operational 2019 PSSA for science achieves a reasonable balance between the two item types. Concepts include

SCIENCE MULTIPLE-CHOICE ITEMS

The majority of the science items included on the PSSA are multiple-choice (selected-response) items, either as standalone multiple-choice items or as scenario-based multiple-choice items. (Scenario-based multiple-choice items are found in Grade 8 only.) Multiple-choice items are especially efficient for measuring a broad range of content. In the PSSA science assessment, each multiple-choice item has four response options, only one of which is correct. The student is awarded one point for choosing the correct response. Distractors typically represent incorrect concepts, incorrect logic, or incorrect application of a scientific principle.

Multiple-choice items are used to assess a variety of skill levels, from short-term recall of facts to the application of science content. PSSA items involving application emphasize the requirement to utilize science content to find an answer rather than simply recalling information from memory.

OPEN-ENDED ITEMS FOR SCIENCE

At all grades, standalone open-ended science items require students to read a description of a scientific problem and to develop an appropriate solution. Standalone open-ended items require about five minutes per task.

Open-ended tasks are especially useful for measuring students' skills in science. These tasks may present real-life situations that require students to solve problems using science abilities learned in the classroom. Students must read a task carefully, identify the necessary information, devise a method of solution, enter the solution directly into the answer document, and when required, offer an explanation. This provides insight into students' science knowledge, abilities, and reasoning processes.

The open-ended science items are scored on a 0–2-point scale with an item-specific scoring guideline, and each task is carefully constructed with a scoring guideline reflecting the task requirements. The general guidelines describe a hierarchy of responses, which represent the three score levels. Each item-specific scoring guideline outlines the requirements at each score point, and each item-specific scoring guideline is based on the "Science Scoring Guidelines for Open-Ended Items." See Appendix A or the *Science Item and Scoring Samplers* available on the PDE website.

SCIENCE SCENARIOS FOR GRADE 8

In addition to standalone multiple-choice and open-ended items, the science assessment includes scenarios at Grade 8. In consideration of the multidisciplinary and interdisciplinary nature of science content, science scenarios create stronger connections between The Nature of Science/Science Content and the multiple-choice items associated with a scenario. As a result, science scenarios allow the assessment to efficiently address and utilize the connections among the science content domains. A science scenario contains text, graphics, charts, and/or tables and uses these elements to describe the results of a class project, an experiment, or other similar research. Students use the information found in a science scenario as a platform from which to answer multiple-choice questions. Scenarios and questions reach beyond simple fact recollection; they are designed to challenge students to think and to apply the knowledge and skills learned in their classrooms. Scenarios are designed to reflect multi-dimensional classroom activities that incorporate higher cognitive levels of understanding. Science scenarios challenge students to interpret stimulus content and to apply existing knowledge to new data, while using science knowledge and process skills to arrive at their answers.

CHAPTER THREE: ITEM DEVELOPMENT PROCESS

The core portion of the 2019 PSSA operational administration is made up of items that were field tested primarily in the 2018 PSSA administration. Therefore, the activities that led to the 2019 PSSA operational administration began with the development of the test items that appeared in the field test portion of the 2018 operational administration. In turn, items that appeared on the field test portion of the 2018 operational administration were developed during and prior to 2018. (See Table 3–1 for a graphic representation of the basic process flow and overlap of the development cycles.)

Table 3–1. General Development Timeline Pattern of the PSSA

Oper Admin Year	2013	2014	2015	2016	2017	2018	2019
2015	Initial Item Dev →	Field Test →	Oper Core Admin with embedded equating block items →	Core-to-Core Link			
2016		Initial Item Dev →	Field Test →	Oper Core Admin with embedded equating block items →	Core-to-Core Link		
2017			Initial Item Dev →	Field Test →	Oper Core Admin with embedded equating block items[1]	Core-to-Core Link	
2018				Initial Item Dev →	Field Test →	Oper Core Admin with embedded equating block items	Core-to-Core Link
2019					Initial Item Dev →	Field Test →	Oper Core Admin with embedded equating block items

Table 3–2. General Timeline Associated with 2013 and 2014 Field Test and 2015-2019 Operational Assessment of ELA and Mathematics at Grades 3, 4, 5, 6, 7, and 8

Time Frame	Assessment	Activity
January 2012–July 2012	’13 FT for ’15 OP	Item development for items to embed in 2013 operational test (Grades 3–5 only)
July 2012	’13 FT for ’15 OP	Item review for the embedded field test in 2013 operational assessment (Grades 3–5 only)
September 2012–January 2013	’13 OP & ’13 FT for ’15 OP	Forms construction for 2013 operational assessment with embedded field test (Grades 3–5 only)
January 2013–June 2013	’14 FT for ’15 OP	Item development for items to embed on 2014 operational assessment
February 2013	’13 FT for ’15 OP	2013 standalone field test for ELA: Writing Grades 3–5
March 2013–May 2013	’13 FT for ’15 OP	2013 embedded field test in 2013 operational test (Grades 3–5 only)
June 2013	’14 FT for ’15 OP	Item review for the embedded field test in 2014 operational assessment
July 2013	’13 FT for ’15 OP	Statistical review of 2013 field tested items (Grades 3–5 only)
September 2013–January 2014	’14 OP & ’14 FT for ’15 OP	Forms construction for 2014 operational assessment
January 2014–July 2014	’15 FT for ’16 OP	Item development for items to embed in 2015 operational test
February 2014	’14 FT for ’15 OP	2014 standalone field test for ELA: Writing Grades 6–8
April 2014–May 2014	’14 OP & ’14 FT for ’15 OP	2014 embedded field test in 2014 operational assessment
June 2014	’15 FT for ’16 OP	Item review for the embedded field test in 2015 operational assessment
July 2014	’14 FT for ’15 OP	Statistical review of 2014 field tested items
September 2014–January 2015	’15 OP & ’15 FT for ’16 OP	Forms construction for 2015 operational assessment
April 2015–May 2015	’15 OP & ’15 FT for ’16 OP	2015 operational assessment
January 2015–July 2015	’15 FT for ’16 OP	Item development for items to embed in 2016 operational test
April 2015–May 2015	’14 OP & ’14 FT for ’15 OP	2015 embedded field test in 2015 operational assessment
June 2015	’15 FT for ’16 OP	Item review for the embedded field test in 2016 operational assessment
July 2015	’14 FT for ’15 OP	Statistical review of 2015 field tested items
September 2015–January 2016	’16 OP & ’16 FT for ’17 OP	Forms construction for 2016 operational assessment
April 2016–May 2016	’16 OP & ’16 FT for ’17 OP	2016 operational assessment
January 2016–July 2016	’17 FT for ’18 OP	Item development for items to embed in 2017 operational test
April 2016–May 2016	’15 OP & ’15 FT for ’16 OP	2016 embedded field test in 2016 operational assessment
June 2016	’16 FT for ’17 OP	Item review for the embedded field test in 2017 operational assessment
July 2016	’15 FT for ’16 OP	Statistical review of 2016 field tested items
September 2016–January 2017	’17 OP & ’17 FT for ’18 OP	Forms construction for 2017 operational assessment
April 2017–May 2017	’17 OP & ’17 FT for ’18 OP	2017 operational assessment
January 2017–July 2017	’17 FT for ’18 OP	Item development for items to embed in 2018 operational test
April 2017–May 2017	’16 OP & ’16 FT for ’17 OP	2017 embedded field test in 2017 operational assessment
June 2017	’17 FT for ’18 OP	Item review for the embedded field test in 2018 operational assessment
July 2017	’16 FT for ’17 OP	Statistical review of 2017 field tested items
September 2017–January 2018	’18 OP & ’18 FT for ’19 OP	Forms construction for 2018 operational assessment
April 2018–May 2018	’18 OP & ’18 FT for ’19 OP	2018 operational assessment
January 2018–July 2018	’18 FT for ’19 OP	Item development for items to embed in 2019 operational test

Table 3–2 (continued). General Timeline Associated with 2013 and 2014 Field Test and 2015-2019 Operational Assessment of ELA and Mathematics at Grades 3, 4, 5, 6, 7, and 8

Time Frame	Assessment	Activity
April 2018–May 2018	’18 OP & ’18 FT for ’19 OP	2018 embedded field test in 2018 operational assessment
June 2018	’18 FT for ’19 OP	Item review for the embedded field test in 2019 operational assessment
July 2018	’17 FT for ’18 OP	Statistical review of 2018 field tested items
September 2018–January 2019	’18 OP & ’18 FT for ’19 OP	Forms construction for 2019 operational assessment
April 2019–May 2019	’18 OP & ’18 FT for ’19 OP	2019 operational assessment

Table 3–3. Participating Districts by Region

Region of Commonwealth	School District
Western	Athens Area, Grove City Area, Penn Hills, Pittsburgh Public Schools
Central	Manheim Township, Newport, State College Area, West Shore, Wilkes-Barre Area
Eastern	Haverford Township, Lower Merion, Mid-Valley, Philadelphia City SD, Upper Merion

PROCESS AND PROCEDURES FOR THE 2006 ITEM PILOT

Two parallel forms of the science assessment were designed for each grade level, with a designated administration time of thirty minutes. No attempt was made to replicate the design of a PSSA science operational test for the cognitive lab or pilot test because of testing-time limitations and the objectives of this study. The items were representative of items from each of the proposed PSSA’s four reporting categories (i.e., The Nature of Science, Biological Sciences, Physical Sciences, and Earth and Space Sciences). All test items were approved by PDE before inclusion in the PSSA Science Item Tryout Project.

In Grade 4, each form of the test consisted of ten multiple-choice items, 70 percent of which included graphs, graphics, charts, or tables with relevant information associated with the item. All four reporting strands were assessed in each Grade 4 test form. In Grades 8 and 11, age/grade-appropriate science scenarios were developed. The scenarios included graphics, charts, tables, graphs, and diagrams to support the scenario text. A set of test items associated with each science scenario was developed. In Grade 8, each test form included items from all four reporting strands. In Grade 11, scenarios in test Form A assessed the biological, earth and space, and nature of science reporting strands, while test Form B assessed the physical, earth and space, and nature of science reporting strands.

Scenarios and questions reached beyond simple fact recollection; they were designed to challenge students to think and to apply knowledge and skills learned in their classrooms. The science scenarios were based on Pennsylvania Assessment Anchors and Eligible Content. Scenarios were designed to reflect multi-dimensional classroom activities that incorporate higher cognitive levels of understanding. Each scenario was stimulus-based and included passages with graphics, charts, graphs, or a combination of all three media. Science scenarios challenged students to interpret passage content while using science knowledge and process skills to determine their answers.

IMPLEMENTATION AND TEST ADMINISTRATION FOR 2006 ITEM PILOT

Two classrooms within one geographic region participated in the project each day. At least two test development specialists were present at all but one school district during the pilot study project sessions; in addition, representatives from PDE attended most sessions. The PSSA Science Item Tryout Project field work occurred during a three-week window, beginning on February 27 and concluding on March 16.

TEST DEVELOPMENT CONSIDERATIONS: ALL ASSESSMENTS

The major considerations in the item development process were the alignment to the Pennsylvania Core Standards-aligned Assessment Anchors and Eligible Content (mathematics and ELA), alignment to the Pennsylvania Academic Standards-aligned Assessment Anchors and Eligible Content (science only), grade-level appropriateness (reading/interest level, etc.), depth of knowledge, cognitive level, item/task level of complexity, estimated difficulty level, relevancy of context, rationale for distractors, style, accuracy, and correct terminology. The *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 2014) and the *Principles of Universal Design* (Thompson, Johnstone, & Thurlow, 2002) guided the development process. In addition, DRC's manual, *Fairness in Testing: Guidelines for Training on Bias, Fairness, and Sensitivity Issues* was used for developing items. All items were reviewed for fairness by bias and sensitivity committees and for content by Pennsylvania educators and field-specialists. Items were also reviewed for adherence to the Principles of Universal Design by representatives from the National Center for Educational Outcomes (NCEO). In addition, the items were reviewed for adherence to the guidelines outlined in the Pennsylvania publication *Principles, Guidelines and Procedures for Developing Fair Assessment Systems: Pennsylvania Assessment Through Themes* (PATT).

BIAS, FAIRNESS, AND SENSITIVITY: ALL ASSESSMENTS

At every stage of the item and test development process, DRC employs procedures that are designed to ensure that items and tests met Standard 7.4 of the Standards for Educational and Psychological Testing (AERA, APA, NCME, 2014).

> *Standard 7.4: Test developers should strive to identify and eliminate language, symbols, words, phrases, and content that are generally regarded as offensive by members of racial, ethnic, gender, or other groups, except when judged to be necessary for adequate representation of the domain.*

To meet Standard 7.4, DRC employs a series of internal quality steps. DRC provides specific training for test developers, item writers, and reviewers on how to write, review, revise, and edit items for issues of bias, fairness, and sensitivity (as well as for technical quality). Training also includes an awareness of and sensitivity to issues of cultural diversity. In addition to providing *internal* training in reviewing items in order to eliminate potential bias, DRC also provides *external* training to the review panels of minority experts, teachers, and other stakeholders.

DRC's guidelines for bias, fairness, and sensitivity include instruction concerning how to eliminate language, symbols, words, phrases, and content that might be considered offensive by members of racial, ethnic, gender, or other groups. Areas of bias that are specifically targeted include, but are not limited to, stereotyping, gender, regional/geographic, ethnic/cultural, socioeconomic/class, religious, and biases against a particular age group (ageism) or persons with disabilities. DRC catalogues topics that should be avoided and maintains balance in gender and ethnic emphasis within the pool of available items and passages.

UNIVERSAL DESIGN: ALL ASSESSMENTS

As stated above, the Principles of Universal Design were incorporated throughout the item development process to allow participation of the widest possible range of students in the PSSA. The following checklist was used as a guideline:

- Items measure what they are intended to measure.
- Items respect the diversity of the assessment population.
- Items have a clear format for text.
- Stimuli and items have clear pictures and graphics.
- Items have concise and readable text.
- Items allow changes to other formats, such as Braille, without changing meaning or difficulty.
- The arrangement of the items on the test has an overall appearance that is clean and well organized.

A more extensive description of the application of the Principles of Universal Design is described in Chapter Four.

DEPTH OF KNOWLEDGE: ALL ASSESSMENTS

An important element in statewide assessment is the alignment between the overall assessment system and the state's standards. A methodology developed by Norman Webb (1999) offers a comprehensive model that can be applied to a wide variety of contexts. With regard to the alignment between standards statements and the assessment instruments, Webb's criteria include five categories, one of which deals with content. Within the content category is a useful set of levels for evaluating depth of knowledge (DOK). According to Webb (1999), "depth-of-knowledge consistency between standards and assessments indicates alignment if what is elicited from students on the assessment is as demanding cognitively as what students are expected to know and do as stated in the standards" (p. 7–8). The four levels of cognitive complexity (i.e., depths of knowledge) are as follows:

- Level 1: Recall
- Level 2: Application of Skill/Concept
- Level 3: Strategic Thinking
- Level 4: Extended Thinking

Depth-of-knowledge levels were incorporated in the item writing and review process, and items were coded with respect to the level they represented. Generally, multiple-choice items are written to DOK levels 1 and 2, evidence-based selected-response items are written to DOK levels 2 and 3, and constructed-response items are written to DOK level 3.

PASSAGE READABILITY

Evaluating the readability of a passage is essentially a judgmental process by individuals familiar with the classroom context and what is linguistically appropriate at a given grade level as described in the section on reading passage selection later in this chapter. Although various readability indices were computed and reviewed, it is recognized that such methods measure different aspects of readability and are often fraught with particular interpretive liabilities. Thus, the commonly available readability formulas were not used in a rigid way, but more informally to provide for several snapshots of a passage that senior test development staff considered along with experience-based judgments in guiding the passage selection process. In addition, passages were reviewed by committees of Pennsylvania educators who evaluated each passage for readability and grade-level appropriateness.

TEST ITEM READABILITY: ALL ASSESSMENTS

Careful attention was given to the readability of the items to make certain that the assessment focus of the item did not shift based on the difficulty of reading the item. Subject areas such as mathematics or science contain many content-specific vocabulary terms. As a result, readability formulas were not used. However, wherever it was practicable and reasonable, every effort was made to keep the vocabulary one grade level below the tested grade level for non-reading tests. There was a conscious consideration made to ensure that each test question was evaluating a student's ability to build toward mastery of the mathematics standards or the science standards versus the student's reading ability. Resources used to verify the vocabulary level were the *EDL Core Vocabularies* and the *Children's Writer's Word Book.*

In addition, every test question is brought before several different committees comprised of grade-level experts in the field of mathematics education and science education. They review each question from the perspective of the students they teach, and they determine the validity of the vocabulary used and work to minimize the level of reading required.

Vocabulary was also addressed at the Bias, Fairness, and Sensitivity Review, although the focus was on how certain words or phrases may represent a possible source of bias or issue of fairness or sensitivity.

TEST DEVELOPMENT PROCESS: ALL ASSESSMENTS

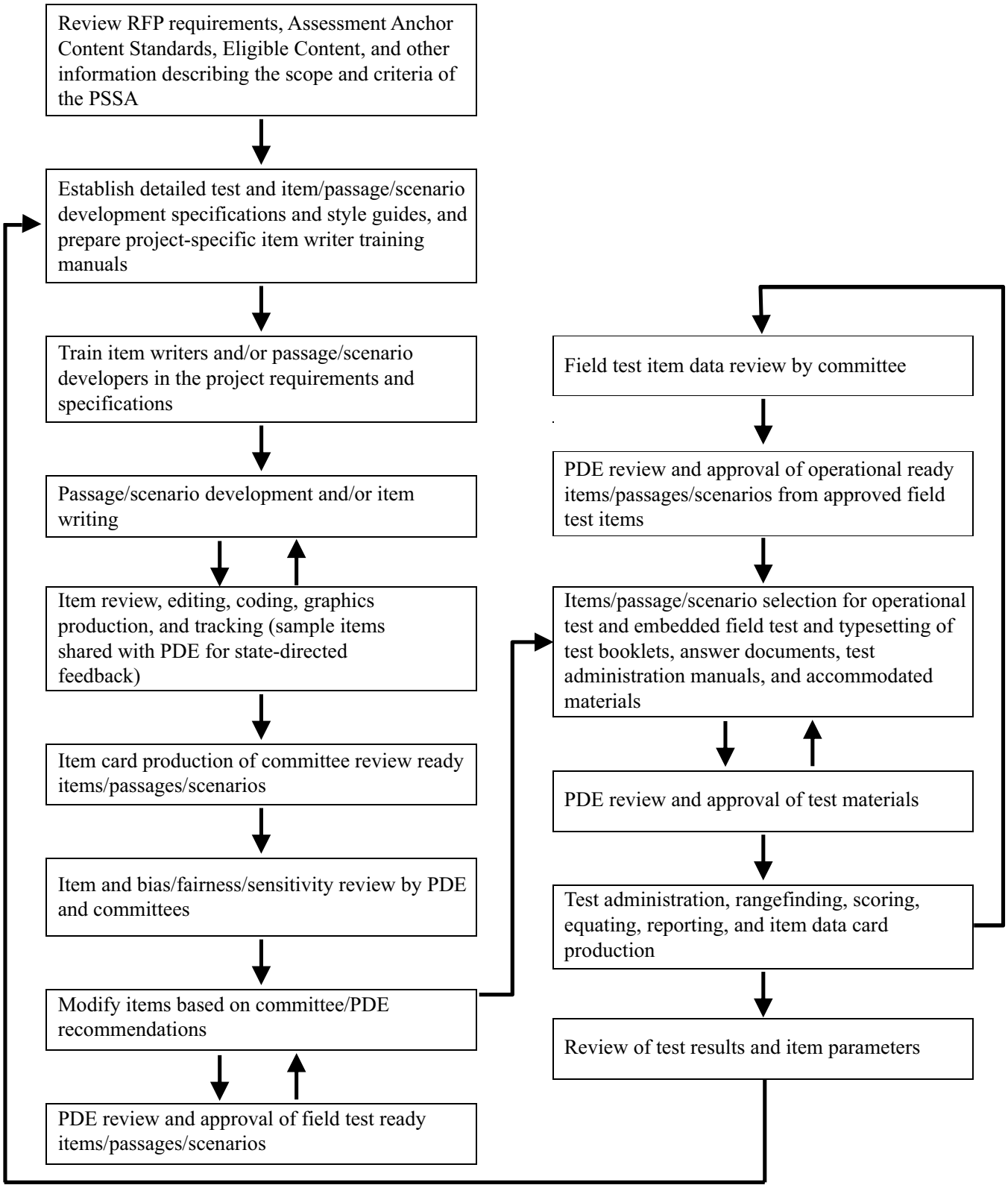
The test development process for passages, scenarios, and items followed a logical timeline, which is outlined below in Figure 3–1. On the front end of the schedule, tasks were generally completed with the goal of presenting field test candidate items to committees of Pennsylvania educators. On the back-end of the schedule, all tasks lead to the field test data review.

Figure 3–1. Item and Test Development Cycle and Timeline

Steps in Development Cycle	Timeline Before/After New Item Review		
Development planning	Fall	⇩	-12 to -9 months
Reading passage selection	Fall	⇩	-12 to -9 months
Item writer training	Fall/Winter	⇩	-9 months
Initial item authoring	Winter/Spring	⇩	-9 to -4 months
Internal reviews and PDE reviews	Spring/Summer	⇳	-8 to -1 month
Bias, Fairness, and Sensitivity Review	Summer/Fall	⇩	+/- 0 months
New Item Content Review	Summer/Fall	⇨	+/- 0 months
Post-review resolution and clean-up	Summer/Fall	⇩	+1 to +2 months
Build test forms	Fall	⇩	+2 to +4 months
Internal form reviews and PDE reviews	Fall/Winter	⇳	+3 to +4 months
Form printing, packaging, and shipping	Winter/Spring	⇩	+4 to +8 months
Test administration	Spring	⇩	+9 months
Material/data processing, rangefinding, and scoring	Spring/Summer	⇩	+10 to +12 months
Field Test Item Data Review	Summer	⇨	+12 months
Select operational items	Summer/Fall	⇩	+13 to +15 months

The process flowchart in Figure 3–2 illustrates the interrelationship among the steps in the process that occur in a normal year of development (i.e., when the items for field testing are primarily from new development, as opposed to being selected from an existing item bank). In addition, a detailed process table describing the item and test development processes also appears in Appendix C.

Figure 3–2. DRC Item and Test Development Process



The following paragraphs describe the processes which lead up to the operational test in a normal round of development. These processes were used to develop field test items used as operational items for all administrations.

ITEM DEVELOPMENT PLANNING MEETING: ALL ASSESSMENTS

Prior to the start of any item development work, DRC's test development staff meets with PDE's assessment office to discuss the test development plans for the next PSSA administration, including the test blueprint, the field test plan (including development counts), procedures, timelines, etc. With a complete development cycle lasting several years (from item authoring through field test, data review, and operational usage), the initial planning begins well in advance of the anticipated administration. For the 2019 operational administration, the initial planning meeting for the item authoring process for the 2019 field test occurred in fall 2018. Item authoring began early in 2018, with the item review meetings occurring in June 2018. See Table 3–2.

ITEM WRITER TRAINING: ALL ASSESSMENTS

Item writers were selected and trained for the content areas of mathematics, English language arts, and science. Qualified writers were college graduates with teaching experience and a demonstrated base of knowledge in the content area. Many of these writers were content assessment specialists and curriculum specialists. The writers were trained individually and had previous experience in writing selected-response and constructed-response items. Prior to developing items for the PSSA, the cadre of item writers was trained with regard to the following:

- Pennsylvania Core Standards, Assessment Anchors, and Eligible Content (mathematics and ELA)
- Pennsylvania Academic Standards, Assessment Anchors, and Eligible Content (science)
- Webb's Four Levels of Cognitive Complexity: Recall, Basic Application of Skill/Concept, Strategic Thinking, and Extended Thinking
- General Scoring Guidelines for Each Content Area
- Specific and General Guidelines for Item Writing
- Bias, Fairness, and Sensitivity Guidelines
- Principles of Universal Design
- Item Quality Technical Style Guidelines
- Reference Information
- Sample Items

READING PASSAGE SELECTION

The task of searching for passages was conducted by DRC professionals with classroom experience in reading/language arts. These professionals also underwent specialized training (provided by DRC) in the characteristics of acceptable passages. Guidelines for passage selection included appropriate length, text structure, density, and vocabulary for the grade level. A judgment was also made about whether the reading level required by a particular passage was at the independent level, that is, where the average student should be able to read 90 percent of words in the text independently. Passage finders were given the charge to search for a specified number of passages for each genre. Generally, at least twice as many passages as needed were sought. Most passages acquired for the 2019 field test were authentic in that they were culled from published materials. Approval to reprint was secured from the publishers as necessary. Passages underwent an internal review by several test development content editors to judge their merit with regard to the following criteria:

- Passages have interest value for students.
- Passages are grade-appropriate in terms of text complexity, vocabulary, and language characteristics.
- Passages are free of bias, fairness, and sensitivity issues.
- Passages represent different cultures.
- Passages are from a variety of sources.
- Passages are able to stand the test of time.
- Passages are sufficiently rich to generate a variety of SR and CR items.

- Passages are complete with all necessary permissions documentation.
- Passages avoid dated subject matter unless a relevant historical context is provided.
- Passages should not require students to have extensive background knowledge in a certain discipline or area to understand a text.

Once through the internal review process, those passages deemed potentially acceptable were reviewed by the Reading Content Committee and Bias, Fairness, and Sensitivity Committee for final approval.

ITEM AUTHORING AND TRACKING: ALL ASSESSMENTS

Initially, items are generated with software-prepared PSSA Item Cards, which allows for preliminary sorting and reviewing. Although very similar, the PSSA Item Card for Multiple-Choice Items differs from the PSSA Item Card for Evidence-Based Selected-Response Items and the PSSA Item Card for Constructed-response Items in that the former has a location at the bottom of the card for comments regarding the distractors. Examples of these three cards are shown in Appendix D. In both instances a column against the right margin includes codes to identify the subject area, grade level, content categories, passage information (in the case of reading), item type, depth of knowledge (cognitive complexity), estimated difficulty, answer key (for MC items), and calculator use (for mathematics items).

All items undergoing field testing in 2019 were entered into the DRC Item Development and Educational Assessment System (IDEAS), which is a comprehensive, secure, online item banking system. It accommodates item writing, item viewing and reviewing, and item tracking and versioning. IDEAS manages the transition of an item from its developmental stage to its approval for use within a test form. The system supports an extensive item history that includes item usage within a form, item-level notes, content categories and subcategories, item statistics from both classical and Rasch item analyses, and classifications derived from analyses of differential item functioning (DIF). A sample IDEAS Data Card is presented in Appendix D.

INTERNAL REVIEWS AND PDE REVIEWS: ALL ASSESSMENTS

To ensure that the items produced were sufficient in number and adequately distributed across subcategories and levels of difficulty, item writers were informed of the required quantities of items. As items were written, an item authoring card was completed. It contained information about the item, such as grade level, content category, and subcategories. Based on the item writer's classroom teaching experience, knowledge of the content area curriculum, and cognitive demands required by the item, estimates were recorded for level of cognitive complexity and difficulty level. Items were written to provide for a range of difficulty.

As part of the item construction process, each item was reviewed by content specialists and editors at DRC. Content specialists and editors evaluated each item to make sure that it measured the intended Eligible Content and/or Assessment Anchor Content Standard. They also assessed each item to make certain that it was appropriate for the intended grade and that it provided and cued only one correct answer (MC items only). In addition, the difficulty level, depth of knowledge, graphics, language demand, and distractors were also evaluated. Other elements considered in this process included, but were not limited to, Universal Design, bias, source of challenge, grammar/punctuation, and PSSA style.

Following this internal process, items were reviewed by content specialists at the Pennsylvania Department of Education. PDE staff then consulted with DRC about any general issues or concerns (e.g., style, format, interpretation of Assessment Anchors and Eligible Content) and about edits to specific items. Following PDE's review, the items were prepared for the content review meetings conducted with Pennsylvania educators.

ITEM CONTENT REVIEW IN SUMMER 2018: ALL ASSESSMENTS

Prior to the 2014 field testing, all newly-developed test items were submitted to content committees for review. The content committees consisted of Pennsylvania educators from school districts throughout the Commonwealth of Pennsylvania, some with postsecondary university affiliations. The primary responsibility of the content committee was to evaluate items with regard to quality and content classification, including grade-level appropriateness, estimated difficulty, depth of knowledge, and source of challenge. With source of challenge, items are identified where the cognitive demand is focused on an unintended content, concept, or skill (Webb, 2002). In addition, source of challenge may be attributed if the reason that an answer could be given results from a cultural bias, an inappropriate reading level, or a flawed graphic in an item, or if an item requires specialized, non-content related knowledge to answer. Source of challenge could result in a student who has mastered the intended content or skill answering the item incorrectly or a student who has not mastered the intended content or skill answering the item correctly. Committee members were asked to note any items with a source of challenge and to suggest revisions to remove the source of challenge. They also suggested revisions and made recommendations for reclassification of items. In some cases when an item was deleted, the committee suggested a replacement item and/or reviewed a suggested replacement item provided by the facilitators. The committee also reviewed the items for adherence to the Principles of Universal Design, including language demand and issues of bias, fairness, and sensitivity.

The content review was held June 19–21, 2018, for science and ELA, June 19–22, 2018, for ELA, and June 19–22, 2018, for mathematics. Committee members were approved by PDE, and PDE-approved invitations were sent to them by DRC. PDE also selected internal staff members for attendance. The meeting commenced with a welcome by PDE and DRC. This was followed by an overview of the test development process by DRC. PDE, along with DRC, also provided training on the procedures and forms to be used for item content review.

DRC content assessment specialists facilitated the reviews and were assisted by representatives of PDE. Committee members, grouped by grade level and content area, worked through and reviewed the items for quality and content, as well as for the following categories:

- Assessment Anchor Alignment (classified as Full, Partial, or No)
- Content Limits (classified as Yes or No)
- Grade-Level Appropriateness (classified as At Grade Level, Below Grade Level, or Above Grade Level)
- Difficulty Level (classified as Easy, Medium, or Hard)
- Depth of Knowledge (classified as Recall, Application, Strategic Thinking)
- Appropriate Source of Challenge (classified as Yes or No)
- Correct Answer (classified as Yes or No)
- Quality of Distractors (classified as Yes or No)
- Graphics (classified as Yes or No) in regards to appropriateness
- Appropriate Language Demand (classified as Yes or No)
- Freedom from Bias (classified as Yes or No)

The members then came to a consensus and assigned a status to each item as a group: Approved, Accepted with Revision, Move to Another Assessment Anchor or Grade, or Rejected. All comments were recorded, and a master rating sheet was completed. Committee facilitators recorded the committee consensus on the Item Review Rating Sheet. A sample form and rating criteria may be found in Appendix E.

Security was addressed by adhering to a strict set of procedures. Items in binders were distributed for committee review by number and signed for by each member on a daily basis. All attendees, with the exception of PDE staff, were required to sign a confidentiality agreement. All materials not in use at any time were stored in a locked room. Secure materials that did not need to be retained after the meetings were deposited in secure barrels and the contents shredded.

BIAS, FAIRNESS, AND SENSITIVITY REVIEWS IN JULY AND AUGUST 2018: ALL ASSESSMENTS

Prior to 2019 field testing, all newly-developed test items for English language arts, mathematics, and science were also submitted to a Bias, Fairness, and Sensitivity Committee for review. This took place from July 30 to August 3, 2018. The committee's primary responsibility was to evaluate items with regard to bias, fairness, and sensitivity issues. They also made recommendations for changes to or deletion of items in order to remove the potential for issues of bias, fairness, and/or sensitivity. Included in the review were proposed reading passages. An expert, multi-ethnic committee composed of men and women was trained by a DRC test development lead to review items for bias, fairness, and sensitivity issues. Training materials included a manual developed by DRC (DRC, 2003–2016). Members of the committee also had expertise with students with special needs and English Learners. PDE staff members were also trained and participated in the review. All mathematics, English language arts, and science items were read by a cross-section of committee members. Each member noted bias, fairness, and/or sensitivity comments on tracking sheets and on the item, if needed for clarification. Committee members individually categorized any concerns as related to ageism, disability, ethnicity/culture, gender, region, religion, socioeconomic status, or stereotyping. These categories were then the framework through which recommendations for modification or rejection of items occurred during the subsequent committee consensus process. The committee then discussed each of the issues as a group and came to a consensus as to which issues should represent the view of the committee. All consensus comments were then compiled, and the suggested actions on these items were recorded and submitted to PDE. This review followed the same security procedures as outlined above, except that the materials were locked up and stored at the DRC offices in Harrisburg. Table 3–4 shows the gender and race/ethnicity composition of the members of the bias committee who reviewed the PSSA items and passages.

Table 3–4. Demographic Composition of the 2019 Bias, Fairness, and Sensitivity Committee

Member #	Gender	Race/Ethnicity	Background
1.	Male	Asian American	National Consultant (Retired Educator)
2.	Female	Native American	Title II Supervisor/Coordinator (Bilingual)
3.	Female	Caucasian American	National Consultant (SPED expertise)
4.	Female	Caucasian American	Educator (Special Education)
5.	Male	Caucasian American	University Professor
6.	Male	Caucasian American	Director of Curriculum and Assessment
7.	Male	African American	Middle School Educator
8.	Female	African American	Literacy Coach, Education Director
9.	Female	African American	National Consultant (SPED expertise)
10.	Female	Latino	Migrant education student support specialist
11.	Female	Latino	National Consultant (Community Leader, Disability Rights Activist)
Totals	7 Females, 4 Males	2 Latinos, 1 Asian American, 4 Caucasian Americans, 1 Native American, 3 African Americans	

The results from the Bias, Fairness, and Sensitivity Committee review of mathematics are summarized in Table 3–5.

Table 3–5. Number of Items—2019 Bias, Fairness, and Sensitivity Committee Review for Mathematics

Grade	Total items reviewed per grade	Accepted As Is	Accepted With Revision	Rejected
3	69	68	1	0
4	68	65	3	0
5	69	68	1	0
6	71	70	1	0
7	70	69	1	0
8	71	71	0	0
Total	418	411	7	0

The results from the Bias, Fairness, and Sensitivity Committee review of science are summarized in Table 3–6.

Table 3–6. Number of Items—2019 Bias, Fairness, and Sensitivity Committee Review for Science

Grade	Total scenarios reviewed per grade	Total items reviewed per grade	Accepted As Is	Accepted With Revision	Rejected
4	n/a	109	105	4	0
8	8	137	135	2	0
Total	8	246	240	6	0

The results from the Bias, Fairness, and Sensitivity Committee review of ELA: Reading are summarized in Table 3–7.

Table 3–7. Number of Items—2019 Bias, Fairness, and Sensitivity Committee Review for ELA: Reading

Grade	Total passages reviewed per grade	Total items or prompts reviewed per grade	Accepted As Is	Accepted With Revision	Rejected
3	9	121	120	1	0
4	11	152	151	1	0
5	12	149	148	1	0
6	9	124	124	0	0
7	10	125	100	0	25
8	10	136	132	4	0
Total	61	807	775	7	25

CHAPTER FOUR: UNIVERSAL DESIGN PROCEDURES APPLIED IN THE PSSA TEST DEVELOPMENT PROCESS

Universally designed assessments allow participation of the widest possible range of students and contribute to valid inferences about participating students. Principles of Universal Design are based on the premise that each child in school is a part of the population to be tested and that testing results should not be affected by disability, gender, race, or English language ability (Thompson, Johnstone, & Thurlow, 2002). At every stage of the item and test development process, including the 2014 field test, procedures were employed to ensure that items and subsequent tests were designed and developed using the elements of universally designed assessments developed by the National Center for Educational Outcomes (NCEO).

Federal legislation addresses the need for universally designed assessments. The No Child Left Behind Act (Elementary and Secondary Education Act) requires that each state must "provide for the participation in [statewide] assessments of all students" [Section 1111(b)(3)(C)(ix)(I)]. Both Title 1 and IDEA regulations call for universally designed assessments that are accessible and valid for all students, including students with disabilities and English Language Learners. The benefits of universally designed assessments not only apply to these groups of students, but to all individuals with wide-ranging characteristics.

DRC's test development team was trained in the elements of Universal Design as it relates to developing large-scale statewide assessments. Team leaders were trained directly by NCEO, and other team members were subsequently trained by team leaders. Committees involved in content review included some members who were familiar with the unique needs of students with disabilities and English Language Learners. Likewise, some members of the Bias, Fairness, and Sensitivity Committee were conversant with these issues. What follows are the Universal Design guidelines followed during all stages of the item development process for the PSSA.

ELEMENTS OF UNIVERSALLY DESIGNED ASSESSMENTS

After a review of research relevant to the assessment development process and the Principles of Universal Design (Center for Universal Design, 1997), NCEO has produced seven elements of Universal Design as they apply to assessments (Thompson, Johnstone, & Thurlow, 2002). These elements served to guide PSSA item development.

- **Inclusive Assessment Population**

  The PSSA target population includes all students at the assessed grades attending Commonwealth schools. For state, district, and school accountability purposes, the target population includes all students except those who will participate in accountability through an alternate assessment.

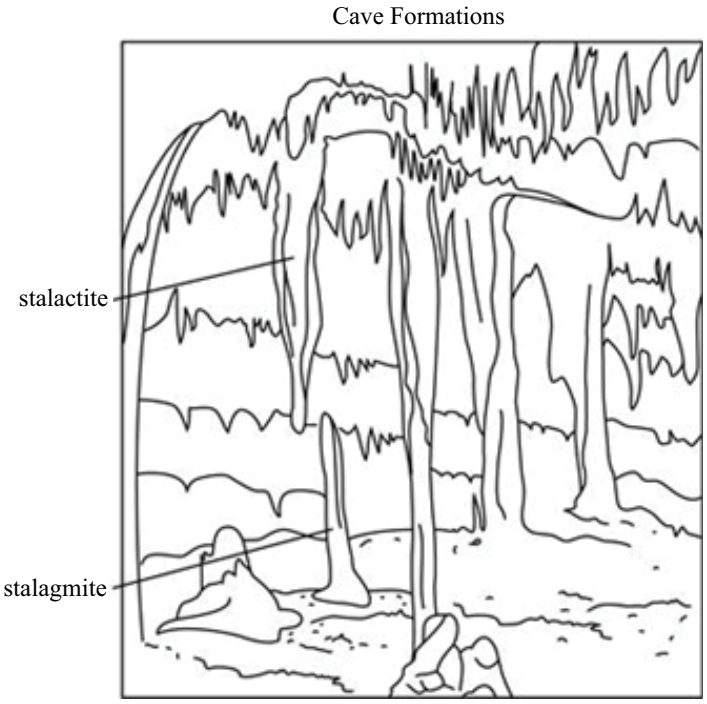
- **Precisely Defined Constructs**

  An important function of well-designed assessments is that they actually measure what they are intended to measure. The Pennsylvania Assessment Anchors and Eligible Content provided clear descriptions of the constructs to be measured by the PSSA at the assessed grade levels. Universally designed assessments must remove all non-construct-oriented cognitive, sensory, emotional, and physical barriers.

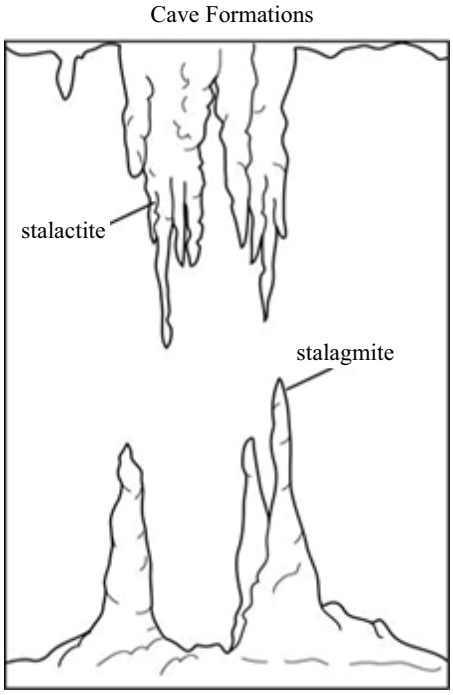
- **Accessible, Non-biased Items**

  DRC conducted both internal and external reviews of items and test specifications to ensure that they did not create barriers because of lack of sensitivity to disability, culture, or other subgroups. Items and test specifications were developed by a team of individuals who understand the varied characteristics of items that might create difficulties for any group of students. Accessibility is incorporated as a primary dimension of test specifications, so accessibility was woven into the fabric of the test rather than added after the fact. The following examples show two graphics with the same construct, example 1 being less accessible and example 2 being more accessible.

Example 1 – Less Accessible:



Example 2 – More Accessible:



- **Amenable to Accommodations**

  Even though items on universally designed assessments are accessible for most students, there are some students who continue to need accommodations. This essential element of a universally designed assessment requires that the test is compatible with accommodations and a variety of widely used adaptive equipment and assistive technology. (See the section on Assessment Accommodations later in Chapter Four.)

- **Simple, Clear, and Intuitive Instructions and Procedures**

  Assessment instructions should be easy to understand, regardless of a student's experience, knowledge, language skills, or current concentration level. Questions that are posed using complex language can invalidate the test if students cannot understand how they are expected to respond to a question. To meet this guideline, directions and questions were prepared in simple, clear, and understandable language that underwent multiple reviews.

- **Maximum Readability and Comprehensibility**

  A variety of guidelines exist to ensure the maximum readability and comprehensibility of a test. These features go beyond what is measured by readability formulas. Readability and comprehensibility are affected by many factors, including student background, sentence difficulty, text organization, and others. All of these features were considered as item text was developed.

  Plain language is a concept now being highlighted in research on assessments. Plain language has been defined as language that is straightforward and concise. The following strategies for editing text to produce plain language were used during the editing process of the new PSSA items:

  - Reduction of excessive length
  - Use of common words
  - Avoidance of ambiguous words
  - Avoidance of irregularly spelled words

- Avoidance of proper names
- Avoidance of inconsistent naming and graphic conventions
- Avoidance of unclear signals about how to direct attention

- **Maximum Legibility**

  Legibility is the physical appearance of text, the way that the shapes of letters and numbers enable people to read text easily. Bias can result when tests contain physical features that interfere with a student's focus on or understanding of the constructs that test items are intended to assess. A style guide developed and updated annually (DRC, 2004–2013) was utilized, with PDE approval, which included dimensions of style consistent with universal design.

GUIDELINES FOR UNIVERSALLY DESIGNED ITEMS

All test items written and reviewed adhered closely to the following guidelines for Universal Design. Item writers and reviewers used a checklist during the item development process to ensure that each aspect was attended to. For more information on the checklist, see the Universal Design: All Assessments section in Chapter Three of this report.

1. **Items measure what they are intended to measure.** Item writing training included ensuring that writers and reviewers had a clear understanding of Pennsylvania's Core Standards (ELA and mathematics) or Academic Standards (science) and the Assessment Anchors. During all phases of test development, items were presented with content-standard information to ensure that each item reflected the intended Assessment Anchor. Careful consideration of the content standards was important in determining which skills involved in responding to an item were extraneous and which were relevant to what was being tested. In certain types of items an additional skill is necessary, such as the mathematics test, which requires the student to read.
2. **Items respect the diversity of the assessment population.** To develop items that avoid content that might unfairly advantage or disadvantage any student subgroup, item writers, test developers, and reviewers were trained to write and review items for issues of bias, fairness, and sensitivity. Training also included an awareness of, and sensitivity to, issues of cultural and regional diversity.
3. **Items have a clear format for text.** Decisions about how items are presented to students must allow for maximum readability for all students. Appropriate fonts and point sizes were employed with minimal use of italics, which is far less legible and is read considerably more slowly than standard typeface. Captions, footnotes, keys, and legends were at least a 12-point size.[1] Legibility was enhanced by sufficient spacing between letters, words, and lines. Blank space around paragraphs and between columns and staggered right margins were used.
4. **Stimuli and items have clear pictures and graphics.** When pictures and graphics were used, they were designed to provide essential information in a clear and uncluttered manner. Illustrations were placed directly next to the information to which they referred, and labels were used where possible. Sufficient contrast between background and text, with minimal use of shading, increased readability for students with visual impairments. Color was not used to convey important information.
5. **Items have concise and readable text.** Linguistic demands of stimuli and items can interfere with a student's ability to demonstrate knowledge of the construct being assessed. During item writing and review, the following guidelines were used.

   - Simple, clear, commonly-used words were used whenever possible.
   - Extraneous text was omitted.
   - Vocabulary and sentence complexity were appropriate for the grade level being assessed.
   - Technical terms and abbreviations were used only if they were related to the content being measured.
   - Definitions and examples were clear and understandable.

[1] While font size follows specific requirements during online setup of an assessment, the screen resolution used at the local level can impact whether the effective font size is visible to the student.

- Idioms were avoided unless idiomatic speech was being assessed.
- The questions to be answered were clearly identifiable.

6. **Items allow changes to format without changing meaning or difficulty.** A Braille version of the PSSA was available at each assessed grade. Attention was given to using items that allow for Braille. Specific accommodations were permitted, such as signing to a student, the use of oral presentation under specified conditions, and the use of various assistive technologies. Spanish versions of the PSSA mathematics and PSSA science tests were available for use by English Learners who would benefit from this accommodation. In the online format, permitted accommodations included text-to-speech audio, a color overlay, contrasting text options, and American Sign Language videos.
7. **The test has an overall appearance that is clean and organized.** Images, pictures, and text that may not be necessary (e.g., sidebars, overlays, callout boxes, visual crowding, shading) and that could be potentially distracting to students were avoided. Also avoided were purely decorative features that did not serve a purpose. Information was organized in a left-right, top-bottom format.

ITEM DEVELOPMENT

DRC worked closely with the Pennsylvania Department of Education to help ensure that PSSA tests complied with nationally recognized Principles of Universal Design. The implementation of accommodations on large-scale statewide assessments for students with disabilities was supported in the development of the PSSA. In addition to the Principles of Universal Design described in the Pennsylvania Technical Report, DRC applied to each content area assessment the standards for test accessibility described in *Tests Access: Making Tests Accessible for Students with Visual Impairments—A Guide for Test Publishers, Test Developers, and State Assessment Personnel* (Allman, 2004). To this end, DRC embraced the following precepts:

Test directions were carefully worded to allow for alternate responses to constructed-response (e.g., open-ended or short-answer) questions.

- During item and bias reviews, test committee members were made aware of the Principles of Universal Design and of issues that might adversely affect students with disabilities, with the goal of ensuring that PSSA tests were bias-free for all students.
- With the goal of ensuring that the PSSA tests are accessible to the widest range of diverse student populations, PDE instructed DRC to limit item types that were difficult to format in Braille and that might become distorted when published in large print. DRC was instructed to limit the following on the PSSA.
    - Mathematics: Complicated tessellations; charts or graphs that extended beyond one page
    - Reading: Graphics and illustrations that were not germane to the content presented
    - All content areas: Unnecessary boxes and framing of text, unless enclosing the text provided necessary context for the student; use of italics (limited to only when it was absolutely necessary, such as with variables)

ITEM FORMATTING

For all content areas, DRC formatted PSSA tests to maximize accessibility for all students by using text that was in a size and font style easily readable. DRC limited shading, graphics, charts, and the number of items per page so that there was sufficient white space on each page. Whenever possible, DRC ensured that graphics, pictures, diagrams, charts, and tables were positioned on the page with the associated test items. DRC used high contrast for text and background where possible to convey pertinent information. Tests were published on dull-finish paper to avoid the glare encountered on glossy paper. DRC paid close attention to the binding of the PSSA test booklets to ensure that they laid flat for two-page viewing and ease of reading and handling.

DRC ensured consistency across PSSA assessments by following these Principles of Universal Design:

- High contrast and clarity was used to convey detailed information.
- Typically, shading was avoided; when necessary for content purposes, 10 percent screens were used as the standard.
- Overlaid print on diagrams, charts, and graphs was avoided.
- Charts, graphs, diagrams, and tables were clearly labeled with titles and with short descriptions where applicable.
- Only relevant information was included in diagrams, pictures, and graphics.
- Symbols used in keys and legends were meaningful and provided reasonable representations of the topics they depicted.
- Pictures that required physical measurement were true to size.

ASSESSMENT ACCOMMODATIONS

While universally designed assessments provide for participation of the widest range of students, many students require accommodations in order to participate in the regular assessment. Clearly, the intent of providing accommodations for students is to ensure that students are not unfairly disadvantaged during testing and that the accommodations used during instruction, if appropriate, are made available as students take the test. The literature related to assessment accommodations is still evolving and often focuses on state policies regulating accommodations rather than on providing empirical data that supports the reliability and validity of the use of accommodations. On a yearly basis, the Pennsylvania Department of Education examines accommodations policies and current research to ensure that valid, acceptable accommodations are available for students. Accommodations manuals, *Accommodations Guidelines* and *Accommodations Guidelines for English Learners*, were developed for use with the 2019 PSSA. The PDE guideline manuals can be accessed by going to www.education.pa.gov.

In addition, Spanish-language versions, translated from the original English versions, were made available for both the mathematics and science PSSAs. The Spanish-translation versions are discussed in Chapter Six.

CHAPTER FIVE: FIELD TEST LEADING TO THE 2019 CORE

Generally, all non-linking core items appearing on the 2019 assessments came from the 2018 embedded field test positions. PSSA test forms contained common items that were identical on all forms along with embedded field test items and equating block items. The common items consisted of a set of core items taken by all students. The field test items and equating block items were embedded and were unique, in most instances, to a form; however, there were instances in which an embedded field test or equating block item appeared on more than one form. More information on the field test designs for all contents can be found in the content-specific portions of Chapter Three.

The purpose of administering field test items is to compute and obtain statistics to (a) review items prior to operational use and to (b) obtain item parameters for pre-equating purposes. Based on the statistical review, many of the field test items embedded in the 2019 PSSA were selected for use as common or equating block items in the 2020 PSSA.

STATISTICAL ANALYSIS OF ITEM DATA

All field tested items were analyzed statistically following conventional item analysis methods. For SR items (including multiple-choice and evidence-based selected-response items), traditional or classical item statistics included the corrected point-biserial correlation (Pt. Bis.) for the correct and incorrect responses (distractors), percent correct (*p*-value), and the percent responding to incorrect responses. For constructed-response (CR) items (including open-ended questions, short-answer questions, and text-dependent analysis questions), the statistical indices included the item-test correlation, the point-biserial correlation for each score level, percent of responses in each score category or level, and the percent of non-scoreable responses.

In general, more capable students are expected to respond correctly to easy items and less capable students are expected to respond incorrectly to difficult items. If either of these situations does not occur, the item will be reviewed by DRC test development staff and committees of Pennsylvania educators to determine the nature of the problem and the characteristics of the students affected. The primary way of detecting such conditions is through the point-biserial correlation coefficient for dichotomous (MC) items and the item-total correlation for polytomous (EBSR and CR) items. In each case the statistic will be positive if the total test mean score is higher for the students who respond correctly to MC items (or attain a higher CR item score) and negative when the reverse is true.

Item statistics are used as a means of detecting items that deserve closer scrutiny, rather than being a mechanism for automatic retention or rejection. Toward this end, a set of criteria was used to identify items that needed a closer review by committees of Pennsylvania educators.

For an MC item to be flagged, the criteria included any of the following:

- Percent correct (*p*-value) less than 0.3 or greater than 0.9
- Point-biserial correlation for the correct response of less than 0.25 for ELA and mathematics
- Point-biserial correlation for the correct response of less than 0.20 for Science
- Point-biserial correlation for any incorrect response greater than 0.0
- Percent responding to any incorrect responses greater than the percent correct
- Gender DIF code of either C- or C+
- Any ethnic DIF code of C- or C+

For an EBSR item to be flagged, the criteria included any of the following:

- *P*-value less than 0.3 or greater than 0.9
- Part One point-biserial correlation for the correct response of less than 0.25
- Part One point-biserial correlation for any incorrect response greater than 0.0
- Part One percent responding to any incorrect responses greater than the percent correct

- Gender DIF code of either C- or C+
- Any ethnic DIF code of C- or C+
- Score proportion less than 0.05

For a CR item to be flagged, the criteria included any of the following:

- *P*-value less than 0.3 or greater than 0.9 for ELA and Mathematics; *P*-value less than 0.1 and greater than 0.9 for Science
- Score proportion less than 0.05
- Gender DIF code of C- or C+
- Any ethnic DIF code of C- or C+

Item analysis results for field test items are presented in Appendix F.

REVIEW OF ITEMS WITH DATA

In the preceding section on Statistical Analysis of Item Data, it was stated that test development content-area specialists used certain statistics from item and DIF analyses of the 2018 field test to identify items for further review. Specific flagging criteria for this purpose were specified in the previous section. Items not identified for this review were those that had good statistical characteristics and, consequently, were regarded as statistically acceptable. Likewise, items of extremely poor statistical quality were regarded as unacceptable and needed no further review. However, there were some items—relatively few in number—that DRC content-area test development specialists and DRC psychometric specialists regarded as needing further review by a committee of Pennsylvania educators. The intent was to capture all items that needed a closer look; thus, the criteria employed tended to over-identify rather than under-identify items.

The review of the items with data was conducted by over 50 Pennsylvania educators (teachers and PDE staff) broken out into subject-area and/or grade level or span committees. The review for mathematics Grades 3–8 took place July 24–26, 2018. The review for ELA Grades 3–8 took place July 24–25, 2018. The review for science took place on July 24, 2018. In these sessions, committee members were first trained by a representative from DRC's psychometrics staff with regard to the statistical indices used in item evaluation. This was followed by a discussion with examples concerning reasons that an item might be retained regardless of the statistics. The committee review process involved a brief exploration of possible reasons for the statistical profile of an item (e.g., possible bias, grade appropriateness, instructional issues) and a decision regarding acceptance. DRC content-area test development specialists facilitated the review of the items. Each committee reviewed the pool of field tested items and made recommendations on each item and/or scenario/passage. Further discussion on how this information was used is covered in Chapter Six.

Table 5–1. 2018 Data Review Committee Results

Test	Grade	No. of Items in 2018 FT	SR*†	CR*	DIF only*	Total*	% Total *	No. of Items Rejected**	% of Items Rejected**	No. of Items Classified as Rejected ***	% of Item Classified as Rejected ***
ELA	3	111	25	2	4	27	24%	6	5%	25	2
ELA	4	111	25	9	1	34	31%	4	4%	25	9
ELA	5	111	19	9	1	28	25%	9	8%	19	9
ELA	6	111	30	8	0	38	34%	14	13%	30	8
ELA	7	111	33	9	1	42	38%	13	12%	33	9
ELA	8	111	19	9	2	28	25%	5	5%	19	9
Math	3	63	27	7	3	34	54%	5	8%	27	7
Math	4	63	21	7	0	28	44%	8	13%	21	7
Math	5	63	30	8	0	38	60%	5	8%	30	8
Math	6	63	17	8	0	25	40%	8	13%	17	8
Math	7	63	27	9	0	36	57%	6	10%	27	9
Math	8	63	16	7	1	23	37%	3	5%	16	7
Science	4	108	20	3	3	23	21%	6	6%	20	3
Science	8	132	15	5	0	20	15%	1	1%	15	5
Totals	N/A	618	173	54	7	227	37%	42	7%	173	54

† SR includes multiple-choice items and EBSR items.
*Flagged Items in 2018 Field Test Examined at 2018 Data Review Committee
**Flagged Items in 2018 Field Test Rejected by 2018 Data Review Committee
***Items Classified as "Rejected" from 2018 Field Test (all sources: Data Review Committee, PDE, and DRC)

DIFFERENTIAL ITEM FUNCTIONING

Differential item functioning (DIF) occurs when examinees with the same ability level but different group memberships do not have the same probability of answering an item correctly. When the probability differs, it is important for content experts to review such items for any potential *item bias*. It is important to note that, as a statistical concept, DIF is different from item bias. DIF detects a difference in performance after controlling for student ability, whereas bias is a content issue that can arise in situations where something other than the intended construct of measurement affects the probability of a correct response for a particular group. For example, bias is likely present when an item presents negative group stereotypes that draw the attention of the examinee, uses non-construct relevant language that is more familiar to one subpopulation than to another, or is presented in a non-construct relevant format that disadvantages certain learning styles. While the source of item bias can be plain to trained judges, DIF may have no clear cause. In such cases, something other than bias, including construct relevant content, may be explaining the differential performance on the item. Flagging items with DIF then, provides the opportunity for reviewers to assess and correct potential bias, but DIF does not necessarily mean that bias is present.

LIMITATIONS OF STATISTICAL DETECTION

No statistical procedure should be used as a substitute for rigorous, hands-on reviews by content and bias specialists. The statistical results can help organize the review so the effort is concentrated on the most problematic cases. Further, no items should be automatically rejected simply because a statistical method flagged them or accepted because they were not flagged.

Statistical detection of DIF is also not an exact science. There have been a variety of methods proposed for detecting DIF, but no single statistic can be considered either necessary or sufficient. Different methods are more

or less successful, but can also detect DIF at different rates. No analysis can guarantee that a test is free of bias, but thoughtful item development and field test analysis can prevent potentially biased items from unfairly impacting student scores.

A fundamental shortcoming of all statistical methods used in DIF evaluation is that all are intrinsic to the test being evaluated. If a test is unbiased overall but contains one or two DIF items, any method can identify DIF. However, because all current methods use total test performance as the measure on which to control for group abilities, a test with all DIF items will not be able to separate DIF effects from differences in achievement on the test.

MANTEL-HAENSZEL PROCEDURE FOR DIFFERENTIAL ITEM FUNCTIONING

For multiple-choice (MC) items, the *Mantel-Haenszel* procedure (Mantel & Haenszel, 1959) for detecting differential item functioning is a commonly used technique in educational testing. It does not depend on the application or the fit of any specific measurement model. However, it does have significant philosophical overlap with the Rasch model since it uses a test's total score for the analysis.

The procedure as implemented by DRC contrasts a focal group with a reference group. While it makes no practical difference in the analysis which group is defined as the focal group, the group most apt to be disadvantaged by a biased measurement is typically defined as the focal group. In these analyses, the focal group was female for gender-based DIF and black for ethnicity-based DIF; reference groups were male and white, respectively. The Mantel-Haenszel (MH) statistic for each item is computed from a contingency table. It has two groups (focal and reference) and two outcomes (right or wrong). The ability groups are defined using the test score distribution for the total examinee population.

The basic MH statistic is a single degree of freedom chi-square that compares the observed number in each cell to the expected number. The expected counts are computed to ensure that the analysis is not confounded with differences in the achievement level of the two groups.

For OE items, a comparable statistic is computed based on the standardized mean difference (SMD) (Dorans, Schmitt, & Bleistein, 1992), which is computed as the differences in mean scores for the focal and reference groups if both groups had the same score distribution.

To assist the review committees in interpreting the analyses, the items are assigned a severity code (A, B, or C) based on the magnitude of the MH statistic, and a direction (minus or plus) based on the direction of the MH statistic. Items classified as A+ or A- have little or no statistical indication of DIF. Items classified as B+ or B- have some indication of DIF but may be judged to be acceptable for future use. Items classified as C+ or C- have strong evidence of DIF and should be reviewed and possibly rejected from the eligible item pool. The plus sign indicates that the item favors the focal group and a minus sign indicates that the item favors the reference group.

RESULTS AND OBSERVATIONS

DIF analyses were conducted on the 2019 PSSA field test items and may be compared to the 2018 results. Counts of the number of items from each grade and subject area that were assigned to each severity code are shown below in Tables 5–7A (MC items), 5–7B (OE items), 5–7C (EBSR items), and 5–7D (TDA items). Overall, a larger proportion of ELA items were flagged for moderate (B) DIF in comparison to Math and Science. Moderate (B) DIF for MC item results show a general balance in the numbers of items favoring males and females, except in ELA grade 8 where 4 items favor males and 2 items favor females, which is a slight improvement over the ELA grade 8 results from 2018. There was a decrease in the proportion of MC items identified due to moderate or severe DIF based on ethnicity, except for Math grade 6, where 2 MC items favored white students over black students. Additionally, there was a decrease in the proportion of MC items identified due to moderate or severe DIF with respect to gender, across all subjects, except for ELA grade 7, Math grade 7, and Science grade 4. More MC items had B DIF that favored females over males. Half as many items were flagged for gender C DIF in 2019, of which most were TDA items.

Similar to 2018 there are few open-ended items showing B and C DIF for gender and ethnicity. Small decreases in the numbers of open ended items favoring White students are noted in 2019, except for Math grades 5 and 6 where there was one more B DIF item favoring White students. There were also slight decreases in the number of open ended items favoring females, except for Math grade 8 and Science grade 4 where there was one more B DIF item

favoring females. In 2018, several EBSR items were identified for having moderate DIF due to ethnic differences, whereas in 2019 no EBSR items were identified for moderate or severe DIF. Moreover, there was also a decrease in the proportion of TDA items with B or C DIF, in comparison to 2018 field testing results. Most of the TDA items identified were due to moderate or severe DIF favoring females.

Table 5-2A1. DIF Summary for Male/Female—MC Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	3	47	36	0	0	0	1	84	48	41	1	0	0	0	90
ELA	4	38	41	1	2	0	1	83	31	55	1	3	0	0	90
ELA	5	54	25	3	1	0	1	84	55	33	2	0	0	0	90
ELA	6	56	24	3	0	0	1	84	61	26	1	1	0	1	90
ELA	7	52	31	0	1	0	0	84	43	44	1	1	0	1	90
ELA	8	44	32	1	5	0	0	82	49	35	2	4	0	0	90
Math	3	28	25	1	0	0	0	54	20	33	0	1	0	0	54
Math	4	29	25	0	0	0	0	54	25	29	0	0	0	0	54
Math	5	24	30	0	0	0	0	54	27	27	0	0	0	0	54
Math	6	33	20	0	1	0	0	54	29	24	1	0	0	0	54
Math	7	27	27	0	0	0	0	54	31	21	2	0	0	0	54
Math	8	23	31	0	0	0	0	54	23	31	0	0	0	0	54
Science	4	40	32	0	0	0	0	72	48	22	1	1	0	0	72
Science	8	48	42	3	3	0	0	96	48	45	3	0	0	0	96

Table 5-2A2. DIF Summary for Whites/Black—MC Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	3	4	67	0	9	0	4	84	33	56	0	1	0	0	90
ELA	4	3	69	0	11	0	0	83	25	62	0	3	0	0	90
ELA	5	7	69	0	8	0	0	84	24	64	0	2	0	0	90
ELA	6	18	64	0	2	0	0	84	31	58	0	1	0	0	90
ELA	7	17	59	0	7	0	1	84	25	61	0	4	0	0	90
ELA	8	16	60	0	4	0	2	82	34	52	0	4	0	0	90
Math	3	13	37	0	2	0	2	54	19	35	0	0	0	0	54
Math	4	15	37	0	2	0	0	54	23	31	0	0	0	0	54
Math	5	13	41	0	0	0	0	54	23	31	0	0	0	0	54
Math	6	8	46	0	0	0	0	54	15	37	0	2	0	0	54
Math	7	14	40	0	0	0	0	54	22	32	0	0	0	0	54
Math	8	13	39	0	1	0	1	54	24	30	0	0	0	0	54
Science	4	8	62	0	2	0	0	72	13	57	0	2	0	0	72
Science	8	13	77	0	6	0	0	96	33	60	0	2	0	1	96

Table 5-2B1. DIF Summary Male/Female—OE Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	3	6	0	2	0	1	0	9	8	0	1	0	0	0	9
Math	3	6	2	1	0	0	0	9	5	2	1	0	0	0	8
Math	4	7	2	0	0	0	0	9	7	2	0	0	0	0	9
Math	5	6	1	2	0	0	0	9	7	1	1	0	0	0	9
Math	6	5	4	0	0	0	0	9	7	2	0	0	0	0	9
Math	7	7	1	1	0	0	0	9	5	4	0	0	0	0	9
Math	8	6	3	0	0	0	0	9	3	4	1	0	0	0	8
Science	4	8	4	0	0	0	0	12	10	1	1	0	0	0	12
Science	8	10	2	0	0	0	0	12	7	5	0	0	0	0	12

Table 5-2B2. DIF Summary White/Black—OE Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	3	2	4	0	3	0	0	9	3	6	0	0	0	0	9
Math	3	0	7	0	2	0	0	9	0	4	0	1	0	0	8
Math	4	1	6	0	1	0	1	9	1	7	0	0	0	0	9
Math	5	0	9	0	0	0	0	9	0	6	0	1	0	0	9
Math	6	0	8	0	1	0	0	9	1	2	0	2	0	0	9
Math	7	2	6	0	1	0	0	9	0	3	0	0	0	1	9
Math	8	0	7	0	2	0	0	9	1	2	0	0	0	0	8
Science	4	0	8	0	1	0	3	12	2	4	0	0	0	0	12
Science	8	0	9	0	3	0	0	12	1	3	0	0	0	0	12

Table 5-2C1. DIF Summary Male/Female—EBSR Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	3	11	7	0	0	0	0	18	9	9	0	0	0	0	18
ELA	4	8	10	0	0	0	0	18	7	11	0	0	0	0	18
ELA	5	11	7	0	0	0	0	18	14	4	0	0	0	0	18
ELA	6	12	6	0	0	0	0	18	9	9	0	0	0	0	18
ELA	7	12	6	0	0	0	0	18	11	7	0	0	0	0	18
ELA	8	10	8	0	0	0	0	18	9	9	0	0	0	0	18

Table 5-2C2. DIF Summary White/Black—EBSR Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	3	1	17	0	0	0	0	18	3	15	0	0	0	0	18
ELA	4	1	14	0	3	0	0	18	3	15	0	0	0	0	18
ELA	5	0	15	0	3	0	0	18	4	14	0	0	0	0	18
ELA	6	2	14	0	2	0	0	18	7	11	0	0	0	0	18
ELA	7	2	13	0	3	0	0	18	3	15	0	0	0	0	18
ELA	8	4	12	0	2	0	0	18	7	11	0	0	0	0	18

Table 5-2D1. DIF Summary Male/Female—TDA Items

Subject	Grade	A+ 2018	A- 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	4	0	0	9	0	0	0	9	6	0	3	0	0	0	9
ELA	5	1	0	4	0	4	0	9	3	0	5	0	1	0	9
ELA	6	4	0	2	0	3	0	9	3	0	5	0	1	0	9
ELA	7	1	0	4	0	4	0	9	2	0	5	0	2	0	9
ELA	8	1	0	4	0	4	0	9	1	0	4	0	4	0	9

Table 5-2D2. DIF Summary White/Black—TDA Items

Subject	Grade	C- 2018	A+ 2018	A 2018	B+ 2018	B- 2018	C+ 2018	C- 2018	Total 2018	A+ 2019	A- 2019	B+ 2019	B- 2019	C+ 2019	C- 2019	Total 2019
ELA	4	0	0	4	0	4	0	1	9	1	7	0	1	0	0	9
ELA	5	1	0	4	0	4	0	1	9	0	7	0	2	0	0	9
ELA	6	0	0	4	0	2	0	3	9	2	5	0	2	0	0	9
ELA	7	0	0	3	0	5	0	1	9	1	6	0	2	0	0	9
ELA	8	1	0	4	0	4	0	1	9	4	5	0	0	0	0	9

CHAPTER SIX: OPERATIONAL FORMS CONSTRUCTION FOR 2019

FINAL SELECTION OF ITEMS AND 2019 PSSA FORMS CONSTRUCTION

When the final selection of items for the operational 2019 test was ready to begin, the candidate items that emerged, including those from the spring 2018 field test, had undergone multiple reviews, including:

- Reviews by DRC content-area test development specialists and curriculum specialists to ensure that all items were properly aligned with content standards
- Formal bias, fairness, and sensitivity review by the Bias, Fairness, and Sensitivity Committee consisting of a multi-ethnic group of men and women having expertise with students with special needs and English Learners
- Formal review by the content committees consisting of Pennsylvania educators, including teachers as well as district personnel
- PDE review
- Item data review by members of the PDE subject-area teacher committees

The item and bias reviews are detailed in Chapter Three. The results of the data review are summarized in Chapter Five.

The end product of the above process was an item status designation for each field tested item. All items having an item status code of Acceptable/Active were candidates to be selected for the 2019 PSSA. To have an item status code of Acceptable/Active meant that the item met the following criteria:

- Appropriately aligned with its designated Assessment Anchor Content Standard (Assessment Anchor) and sub-classifications
- Acceptable in terms of bias/fairness/sensitivity issues, including differential item functioning (for gender and ethnicity)
- Acceptable in terms of psychometric standards, including a special review of flagged items

Next, all relevant information regarding the acceptable items, including associated graphics, was entered into the item banking system known as IDEAS (Item Development and Education Assessment System). From IDEAS and other database sources, Microsoft Excel files were created for each content area at each grade. These files contained all relevant content codes and statistical characteristics. IDEAS also created an item card displaying each acceptable item, any associated graphic, and all relevant content codes and item statistics for use by the content-area test development specialists and psychometric services staff.

DRC test development specialists reviewed the test design blueprint, including the number of items per strand for each content-area test. Special considerations, such as calculator use and manipulatives, were noted.

Psychometricians provided content-area test development specialists with an overview of the psychometric guidelines for forms construction, including guidelines for selecting linking items to link to previous test forms.

Senior DRC content-area test development specialists reviewed all items in the operational pool to make an initial selection for common (core) and equating block positions according to test blueprint requirements and psychometric guidelines. Changes to items were not encouraged since alterations could affect how an item might perform on subsequent testing.

For the common items, this meant that the combination of SR and CR items would yield the appropriate range of points while tapping an appropriate variety of the Assessment Anchors and related Eligible Content within each Reporting Category. Items selected in the first round were examined with regard to how well they went together as a set. Of particular concern were the following:

- One item providing cues as to the correct answer to another item
- Context redundancy (e.g., mathematics items with a sports context)

- Presence of clang (distractors not unique from one another)
- Diversity of names and artwork for gender and ethnicity

The first round of items was then evaluated for statistical features such as an acceptable point-biserial correlation and whether correct answers were distributed equally—that is, whether approximately 25 percent of correct answers appeared in each of the four possible positions (A, B, C, or D). Selected items that were deemed psychometrically less advantageous in contrast to the overall psychometric characteristics of the core resulted in a search by the senior reviewer for suitable replacements. At this point, the second round of items was analyzed. If necessary, this iterative process between content-based selections and statistical properties continued in an effort to reach the best possible balance.

In the case of the core-to-core linking items, content considerations remained relevant, together with statistical features, such as an acceptable point-biserial correlation and whether the items, as a collection, had an average logit value and a test characteristic curve approximating that of the previous year.

The process for selecting equating block items was slightly different. The chief consideration was that items in equating block positions of the various forms mirrored the psychometric considerations of the core. In some cases, the selection of equating block items also required multiple rounds of selection and evaluation until the best possible balance of content and statistical properties was obtained. The content-area test development specialist's task was to distribute these items in equating block positions across the forms so that the MC items assigned to a particular form would go well with one another and reflect the same content and statistical considerations as previously outlined. Additionally, the forms needed to display similar difficulty levels.

Once the recommendations were finalized for the core items, core-to-core linking items, and equating block items, they were submitted to PDE for review. Department staff provided feedback, which could be in the form of approval or recommendations for replacing certain items. Any item replacement was accomplished by the collective effort of the test development specialists, psychometricians, and PDE staff until final PDE approval was given. Once final PDE approval of the forms was given, PDE also participated in the construction and review of scrambled forms.

SPECIAL FORMS USED IN THE 2019 PSSA

SPANISH TRANSLATION OF THE MATHEMATICS AND SCIENCE ASSESSMENTS

Starting with the 2005 assessment, school personnel had the option of allowing Spanish-speaking students who had been enrolled in schools in the United States for less than three years to respond to a Spanish version of the PSSA for mathematics. In 2009, a Spanish version was also added for the science component of the PSSA. The original translation of the items and the *Directions for Administration Manual* was completed by Second Language Testing, Incorporated (SLTI). SLTI used translators with varying cultural and regional backgrounds to create the Spanish versions of the mathematics and science assessments. The translations were then reviewed and verified by DRC's internal Spanish group. As part of the internal review, a Spanish style guide is maintained to document Spanish word choice from administration to administration and across grades within an administration. After discussions with PDE and SLTI, the mathematics assessment for Grades 4–8 and the science assessment for Grades 4 and 8 were designed with a side-by-side format, that is, the English text and Spanish-translated text were printed on facing pages. The Spanish-translated text was on the left-hand side of the page and the original English text on the right-hand (facing) side.

The mathematics answer booklets for Grades 4–8 and the science answer booklets for Grades 4 and 8 were also presented in Spanish and English. In the case of mathematics, each open-ended item covered a total of four pages in the answer booklet. In the case of science, each open-ended item covered either two or four pages in the answer booklet, depending on the length of the original English-language item. In the case of four-page open-ended items, the first set of facing pages of an item was presented in Spanish. The second set of facing pages of an item was presented in the original English. Those students using this accommodated version of the mathematics assessment could write their answers on either the English language pages or on the translated Spanish language pages. Their answers could be written in English, Spanish, or a combination of both Spanish and English as all pages were evaluated and scored, and the highest possible scores from those combinations recorded for the students.

The mathematics scannable booklets for Grade 3 were presented in Spanish and English using a modified over/under format, with the Spanish presented directly above or to the left of the English. To assist the presentation of the two languages on the same page, the English portion was presented in italics and in a smaller font. Those students using this accommodated version of the mathematics assessment could also write their answers in English, Spanish, or a combination of both Spanish and English, with the highest possible scores from those combinations recorded for the students.

For the current Spanish forms, DRC utilized an outside vendor (Victory Productions) for translations of PSSA mathematics and science items by using the style guide setup and continuously used since 2005. Once Victory Productions has completed the initial translation of the entire set of materials, all translated material and the original English version are then sent to Language Services Consultants (LSC) for a third-party verification of the translation. LSC's review helps to ensure the equivalence of the original and translated assessments. When completed, the verified materials, along with any recommendations or questions, are passed back to DRC for processing.

Once Language Services Consultants (LSC) has adjudicated the initial translation completed by Victory Productions, the translated text is returned to DRC for final processing and typesetting. DRC has a Spanish translation team comprised of native Spanish-speaking translators and native English-speakers with formal education in Spanish. DRC's Spanish Team is supported by all content areas and their respective content leads in order to maintain the integrity of each translated item or passage. DRC conducts a minimum of five separate reads during the final preparation of the translated material. These reads include editorial reviews of items and forms and are used to polish language and eliminate any typographical errors.

An initial reading of items and passages is conducted individually by each member of the team. The team then reads, discusses, and edits the items as a group before sending the material to be entered into the item bank that houses Pennsylvania's test items (IDEAS). As part of the discussion and editing process, DRC's Spanish Team may also conduct an informational investigation, validating concepts within the translation related to specialized topics. Once the data entry is completed, DRC's Spanish Team confirms that the correct edits have been made and the items are read once again. After all newly-translated items have been edited and approved in this round of review, a PDF of the entire test form is produced. The Spanish Team then conducts a group review of the complete test form, coinciding with an independent review outside the team, making any edits that are necessary. Within each review, checks are performed to ensure accuracy of semantics, lexicon, syntax, and grammar.

Internal reviewers are instructed to address a number of issues when reviewing a translation, including the following:

- Are the stimulus and the item translated correctly?
- Are there inappropriate omissions in the translation?
- Are there inappropriate additions in the translation?
- Is there any wording that may not be comprehensible to speakers of a particular dialect? If so, the reviewer will enter an alternate wording in parentheses.
- Are standard item writing guidelines followed in the translated version?
- Are any options less or more attractive than in the English version? If so, the reviewer will suggest an alternate wording.
- Is the content of any item culturally insensitive or offensive? Is a substitute item required? Why?
- Is the wording of any item culturally insensitive or offensive?
- Is the language of the translation at the same register as the original?
- Is the language of the translation at an appropriate register for the grade level of the examinee?

Instructions for the appropriate use of these special forms are detailed in accommodation manuals titled *2019 Accommodations Guidelines* and *Accommodations Guidelines for English Learners.*

AUDIO

For students requiring an auditory presentation accommodation, a text-to-speech synthesizer is available to students taking the online mode of test delivery. For each operational exam, one form was selected for the creation of the audio version. Special scripts are crafted, writing out each item, distractor, graphic, and directions to utilize the rich, synthesized voice features while accounting for specific nuances of the intended sounds. The resulting audio information is provided to students receiving the accommodation. Since additional software is required to generate the vocalization from the scripted text and since headphones are required to minimize disruptions within a computer lab setting, local school personnel generally must preplan to use the audio version in order to ensure that the student has a properly equipped computer and a proper setting.

BRAILLE, LARGE PRINT, AND VIDEO SIGN LANGUAGE

Students were able to respond to test materials that were available in Braille, large print, or Video Sign Language. At each grade level assessed, one form was selected for the creation of these accommodations.

The large print edition is a replication of the standard print form; 8.5×11 standard form is enlarged to an 11×17 page format to achieve a font size of approximately 18-point. A side-by-side verification is completed between the standard print and large print forms to ensure that the integrity of all formatting and graphics is maintained on the large print forms.

For Braille production, the final selected form is delivered to American Printing House for the Blind (APH) via APH's secure website. APH ensures that all tests are translated correctly and accurately by using a translator and a validator. After all Braille booklets are printed, APH conducts a quality assurance step to ensure all items are bound in order and directions are included. All Braille booklets are shipped from APH to DRC via UPS.

DRC applies a security barcode to each large print and Braille booklet for purposes of shipping, distributing, and collecting the materials. This security barcode is used with DRC's Operations Materials Management System (Ops MMS).

School personnel were directed to transcribe all student answers (SR and CR) into scannable answer documents exactly as the student responded. No alterations or corrections of student work were permitted, and the transcribed answer document had to have the same form designation as the Braille and large print version.

DRC utilizes Victory Productions for the production of Sign Language Videos. The items are passed to Victory Productions via a secure ftp site. Two to three different interpreters are used to interpret and validate the translations during video recording. After the interpretations are recorded and returned to DRC via a secure ftp site, DRC loads these videos in the online test engine. When school personnel assign the specific sign language accommodation, the student will be able to play each video next to the item.

SUMMARY OF THE TRANSLATION VERIFICATION STUDY BY SLTI OF THE 2009 PSSA SCIENCE ASSESSMENTS

From November 2009 through January 2010 SLTI conducted a translation verification study of the 2009 PSSA Science Assessments titled "Translation Verification Study of the 2009 Pennsylvania System of School Assessment (PSSA) of Science for Grades 4, 8, and 11." In this study, the appropriateness of the transadaptation of the PSSA Science Assessments into Spanish was investigated. Three independent reviewers, specialists in bilingual science education and science translation, determined the appropriateness of each translated or adapted item. The purpose of the report was to conduct qualitative research on the comparability of the Spanish and English versions of the PSSA Science Assessments.

The report of this study by Second Language Testing, Incorporated described the assessments, the purpose of the translation verification study, the reviewers, the translation verification process, and the translation verification results. A total of 185 items covering tests at Grades 4 (63 items), 8 (63 items), and 11 (59 items) were reviewed. The study showed that none of the 185 reviewed items were judged by the reviewers to be inappropriately translated or adapted into Spanish. The study did provide suggestions for nine items that were judged appropriate but whose translation could still be improved in the event the items were used again.

Overall, the report concluded that the transadaptation of the 2009 PSSA Science Assessments was clearly appropriate. Since both the English and Spanish versions are comparable in the sense that both versions assess the same content, use the same format, have equal numbers of items, follow the same test administration and scoring procedures, and are used and interpreted in the same way, the study concluded that the English and Spanish versions of the science assessments measured the same content in two different languages. Thus, the study indicated that both language versions showed the same degree of alignment and the same depth-of-knowledge described in the Assessment Anchors alignment study. As a result, the report concluded that there was no need to conduct a separate alignment study of the Spanish version of the PSSA Science Assessments.

Beyond the findings presented in the study, the report recommended that appropriate quantitative analyses be carried out on construct equivalence. Unless such analyses clearly demonstrate a lack of equivalence, it is appropriate to assume that there is no need to conduct a separate linking study or a separate standard setting study for the Spanish versions of the tests. Both versions can be scored on the same scale, and scores on each version have the same meaning in terms of student mastery of the Science Assessment Anchors as defined by the Eligible Content.

The full report can be obtained by request from the Pennsylvania Department of Education.

SUMMARY OF COMPARABILITY REPORT FROM SIRECI PSYCHOMETRIC SERVICES

In addition to the study conducted by Second Language Testing, Incorporated, a second comparability study of the 2009 PSSA Spanish translations for science was completed in February 2010 by Sireci Psychometric Services. The report of the study is titled “Evaluating the Comparability of English and English-Spanish Science Tests from the Pennsylvania System of School Assessment.”

In this study, the data from the English language and English-Spanish dual-language Pennsylvania science tests for Grades 4, 8, and 11 were analyzed. These analyses were designed to evaluate the consistency of the structure of the data and the consistency of item functioning across the English and Spanish versions of these assessments using various psychometrics methods.

The full report can be obtained by request from the Pennsylvania Department of Education.

CHAPTER SEVEN: TEST ADMINISTRATION PROCEDURES

TEST SESSIONS, TEST SECTIONS, TEST TIMING, AND TEST LAYOUT

Some assessments utilized separate test booklets and answer booklets. An answer booklet was used to respond to the selected-response items (i.e., multiple-choice items and evidence-based selected-response items) and constructed-response items (i.e., open-ended items, short-answer items, and text-dependent analysis items,) and to collect demographic information. The selected-response items and all stimulus-text were placed within the test booklet. Other assessments used a single consumable booklet. When a single scannable answer booklet was utilized, the contents of the answer booklet and the test booklet were combined into one integrated booklet.

Table 7–1. Booklet Type by Administration

Assessment	Grade	Booklet Type
ELA	3	Single Consumable Booklet
ELA	4	Test Booklet and Answer Document
ELA	5	Test Booklet and Answer Document
ELA	6	Test Booklet and Answer Document
ELA	7	Test Booklet and Answer Document
ELA	8	Test Booklet and Answer Document
Mathematics	3	Single Consumable Booklet
Mathematics	4	Test Booklet and Answer Document
Mathematics	5	Test Booklet and Answer Document
Mathematics	6	Test Booklet and Answer Document
Mathematics	7	Test Booklet and Answer Document
Mathematics	8	Test Booklet and Answer Document
Science	4	Test Booklet and Answer Document
Science	8	Test Booklet and Answer Document

Generally, a separate test booklet and answer booklet were used to separate the selected-response items and constructed-response items. For the Grade 3 mathematics and ELA assessments, a single booklet was used for each assessment to accommodate the younger age of the students.

The number of sections for the 2019 operational assessment varied based on the content area of the assessment. The ELA assessments consisted of three sections. The mathematics and science assessments consisted of two sections. See also Appendix G.

Table 7–2. PSSA Test Section Information

Content Area	No. of Sections per Form
ELA	3
Mathematics	2
Science	2

Table 7–3. PSSA Testing Load and Duration by Subject by Grade

Assessment	Grade	Total No. of SR Items per Form per Administration	Total No. of CR Items per Form per Administration	Total Estimated Administration Time per Form (in Minutes)
ELA	3	52	3	134 to 166
ELA	4	57	2	225 to 246
ELA	5	57	2	225 to 246
ELA	6	57	2	225 to 246
ELA	7	57	2	225 to 246
ELA	8	57	2	225 to 246
Mathematics	3	48	4	156
Mathematics	4	48	4	156
Mathematics	5	48	4	156
Mathematics	6	48	4	156
Mathematics	7	48	4	156
Mathematics	8	48	4	156
Science	4	46	6	76
Science	8	48	6	90

Table 7–4. PSSA Testing Load and Duration by Grade by Subject

Grade	Content	Total No. of Items per Form per Administration	Total Estimated Administration Time per Form (in Minutes)	Total No. of Items per Student	Total Estimated Administration Time per Student (in Minutes)
3	ELA	55	134 to 166	107	290 to 322
3	Mathematics	52	156	107	290 to 322
4	ELA	59	225 to 246	163	457 to 478
4	Mathematics	52	156	163	457 to 478
4	Science	52	76	163	457 to 478
5	ELA	59	225 to 246	111	381 to 402
5	Mathematics	52	156	111	381 to 402
6	ELA	59	225 to 246	111	381 to 402
6	Mathematics	52	156	111	381 to 402
7	ELA	59	225 to 246	111	381 to 402
7	Mathematics	52	156	111	381 to 402
8	ELA	59	225 to 246	165	471 to 492
8	Mathematics	52	156	165	471 to 492
8	Science	54	90	165	471 to 492

In general, the estimated testing times allowed 1–3 minutes per multiple-choice item, depending on the content area. The evidence-based selected-response items were estimated to take approximately 3–5 minutes per item, depending on the number of responses required by the item. The open-ended or short-answer items were estimated to take approximately 5–10 minutes per item, also depending on the content area. Text-dependent analysis questions were estimated to take approximately 55–65 minutes per item.

Test administrators were instructed that each section in a form should be scheduled as one assessment session. However, they were allowed to combine multiple sections into a single session, as long as the sections were administered in the sequence in which they are printed in the test booklets (or shown on the screen). In all cases, individual assessment sections had to be completed within one school day.

Since not all students finished the assessment sections at the same time, test administrators were advised to use the flexibility of the time limits to the students' advantage. For example, test administrators managed the testing time so that students did not feel rushed while they were taking any assessment section, and no student was penalized because he or she worked slowly. It was equally stressed to test administrators that a student should not be given an opportunity to waste time. Students were told to close their booklets when they had finished the section of the assessment in which they had been working. Students who finished early were allowed to sit quietly or read for pleasure until all students had finished. Students with special requirements and/or abilities (i.e., physical, visual, auditory, or learning disabilities as defined by their IEP or service contracts) and students who just worked slowly may have required extended time. Special assessment situations were arranged for these students. When all students in a testing session indicated that they had finished an assessment section, test administrators ended the section and began the next section or allowed the students to return to regular activities.

Scheduled extended time was provided by a test administrator, and students were allowed to request extended time if they indicated that they had not completed the task. Such requests were granted if the test administrator found the request to be educationally valid. Test administrators were advised that not permitting ample time for students to complete the assessment might impact the students' and school's performance.

As a general guideline, however, when all students indicated that they had finished a section, that section was closed. Students requiring time beyond the majority of the student population were allowed to continue immediately following the regularly scheduled session in another setting. When such accommodations were made, school personnel ensured that students were monitored at all times to prevent sharing of information. Students were not permitted to continue a section of the assessment after a significant lapse of time from the original session.

TESTING WINDOW

The testing windows for the 2019 operational assessments were as follows:

- English Language Arts – April 15 through April 26, 2019
- Mathematics, Science, and Make-ups – April 29 through May 3, 2019

SHIPPING, PACKAGING, AND DELIVERY OF MATERIALS

DRC sent two shipments for the 2019 PSSA operational assessment:

- Shipment one contained the *Handbook for Assessment Coordinators* and the *Directions for Administration Manual*s for each grade tested at a school participating in the English Language Arts, Mathematics, and Science assessments. Shipment one was delivered by March 18, 2019.
- Shipment two contained the administrative materials (e.g., Return Shipping labels, District/School labels, Do Not Score labels, and Student Precode labels) and secure materials (e.g., consumable test/answer booklets) for each grade tested at a school participating in the English Language Arts, Mathematics, and Science assessments. Shipment two was delivered by April 1, 2019.

DRC ensured that all assessment materials were assembled correctly prior to shipping. DRC operations staff used the automated Operations Materials Management System (Ops MMS) to assign secure materials to a school at the time of ship out. This system used barcode technology to provide an automated quality check between items requested for a site and items shipped to a site. A shipment box manifest was produced for and placed in each box

shipped. DRC operations staff double-checked all box contents with the box manifest prior to sealing the box for shipping to ensure accurate delivery of materials. DRC operations staff performed lot acceptance sampling on both shipments. Districts and schools were selected at random and examined for correct and complete packaging and labeling. This sampling represented a minimum of 10 percent of all shipping sites.

DRC's materials management system, along with the systems of shippers, allowed DRC to track materials from DRC's warehouse facility to receipt at the district, school, or testing site. All DRC shipping facilities, materials processing facilities, and storage facilities are secure. Access is restricted by security code. Non-DRC personnel are escorted by a DRC employee at all times. Only DRC inventory control personnel have access to stored secure materials. DRC employees are trained in and made aware of the high level of security that is required.

DRC packed 4,060,040 assessment booklets and 213,102 *Directions for Administration Manual*s for 2,558 testing sites. DRC used United Parcel Service (UPS) and Advanced Shipping Technologies to deliver the secure materials to the testing sites.

ONLINE TESTING

Online administration is managed through the DRC eDIRECT client portal that provides tiered, secure access to all required administrative functions. Within eDIRECT, users manage student information and create test sessions.

Student information from the Pennsylvania Information Management System (PIMS) is imported into eDIRECT via file transfer or LEAs upload student directly into eDIRECT. From here, LEAs are able to view all of the demographic information associated with the students from PIMS before placing them in test sessions for test tickets.

Once the student data is loaded into Test Setup, users organize students into test sessions. Test sessions can be created by class, grade, or school. Through Test Setup, users can also update student accommodation information, print test tickets, and monitor student testing status.

The student login ticket contains unique login credentials used by the student to access the testing software. For a selected test session, users can download and print a PDF document containing instructions, a roster of student tickets being printed, and the actual test tickets. Student test tickets are considered secure materials and LEAs are required to keep printed tickets in a predetermined, locked, secure storage area.

The web-based test engine, DRC INSIGHT Online Learning System, is downloaded onto computers that students will access during the assessment. Test items and forms can only be accessed using a valid test ticket. During testing, responses are sent to a DRC server each time the student navigates away from an item or clicks the *Next* button to submit an answer. The system is configured to allow students to review answers before submitting their test.

MATERIALS RETURNED

DRC used UPS for all returns. The return windows for the PSSA materials were as follows:

- English Language Arts primary return window – April 17 through May 1, 2019
- Mathematics, Science, and Make-ups primary return window – May 1 through May 10, 2019
- Sites that returned used answer booklets by May 3, 2019 were included in early reporting.

TEST SECURITY MEASURES

Test security is essential to obtaining reliable and valid scores for accountability purposes. Test Security Certifications were required to be signed by each building Principal, School Assessment Coordinator, District Assessment Coordinator, Test Administrator, and Proctor after the assessment is administered. All signed Certifications were returned to the Chief School Administrator who must retain the Certifications for three years. The purpose of the Certifications was to serve as a tool to document that the individuals responsible for administering the assessments both understood and acknowledged the importance of test security and accountability. The Certifications attested that all security measures were followed concerning the handling of secure materials. Additional details can be found in the *Handbook for Assessment Coordinators*. A screen shot of the Test Administrator Certificate is provided in Figure 7-1.

Figure 7-1. Test Administrator and Proctor PSSA Test Security Certification

2019 PSSA Test Security Certification

(Test Administrator and Proctor)

District: _____

School: _____

AUN: _____

Maintaining the security and integrity of all assessment materials, preventing any dishonest or fraudulent behavior in the administration and handling of the assessment, and promoting a fair and equitable testing environment are essential in order to obtain reliable and valid student scores. In that regard, I certify the following:

Prior to the administration of the assessment, I completed the Pennsylvania State Test Administration Training, and I understand that the assessment materials are secure, confidential, and proprietary documents owned by the Pennsylvania Department of Education.

I have not reviewed, discussed, disseminated, described, or otherwise revealed the contents of the assessment to anyone. I have not removed any assessment materials from the school building unless I was specifically authorized to administer the assessment to a student on homebound instruction. I have not kept, copied, reproduced, released, or used any assessment, assessment question, specific assessment content, or examinee response to any item or any section of the secure assessment in any manner that is inconsistent with the instructions provided by or through the Pennsylvania Department of Education. I have not provided any examinee with an answer to an assessment question or in any way influenced an examinee's response to any assessment question. I have not in any manner altered or caused the alteration of any examinee response, assessment booklet, or papers used by examinees.

I understand that any breach in assessment security could result in the invalidation of assessment results, professional discipline, and/or criminal prosecution.

I understand that false statements herein are made subject to the penalties of 18 Pa.C.S. § 4904.

Administrator/Proctor Name	Administrator/Proctor Signature	Date of Signature

SAMPLE MANUALS

Copies of the *Handbook for Assessment Coordinators* and the *Directions for Administration Manual*s can be found on the PDE website at www.education.pa.gov.

TESTING WINDOW ASSESSMENT ACCOMMODATIONS

The 2019 *Accommodations Guidelines: Keystone Exams and PSSA* was developed by PDE for use with the PSSA. This manual can be found on the PDE website at www.education.pa.gov. Additional information regarding assessment accommodations can be found in Chapter Four and Six of this report.

CHAPTER EIGHT: PROCESSING AND SCORING

RECEIPT OF MATERIALS

Receipt of PSSA test materials began on April 16, 2019, and concluded with all make-up tests on May 15, 2019. DRC's Operations Materials Management System (Ops MMS) was utilized to receive assessment materials securely, accurately, and efficiently. This system features innovative automation and advanced barcode scanners. Captured data were organized into reports, which provided timely information with respect to suspected missing material.

The first step in the Ops MMS was the Box Receipt System. When a shipment arrived at DRC, the boxes were removed from the carrier's truck and passed under a barcode reader, which read the barcode printed on the return label and identified the district and school. The number of boxes was immediately compared to what was picked up at the district. The data collected in this process were stored in the Ops MMS database. After the barcode data were captured, the boxes were placed on a pallet and assigned a corresponding pallet number.

Once the box receipt process was completed, the materials separation phase began. Warehouse personnel opened the boxes and sorted materials by grade, subject, and status (used or unused booklets) into scanning boxes. Every booklets' security barcode and precode barcode were hand-scanned to link each document to the original box. As the booklets were sorted, the Ops MMS system guided the floor operator to which box to place the document. The Ops MMS system kept count and record of the materials placed in each box. This count remained correlated to the box as an essential quality-control step throughout the secure booklet processing and provided a target number for all steps of the check-in process. Once a box was closed, an MMS Processing Label was placed on that box.

Once labeled, the sorted and counted boxes proceeded to the Quality Assurance process, where a secure booklet check-in operator used a hand scanner to scan the MMS Processing Label. This procedure identified the material type and quantity parameters for what the Ops MMS should expect within a box. The box contents were then loaded into the streamfeeder.

The documents were fed past oscillating scanners that captured both the security code and precode from the booklets. A human operator monitored an Ops MMS screen that displayed scan errors, an ordered accounting of what was successfully scanned, and the document count for each box. The system ensured that each material within the box matched the information obtained from the original hand-scanning process.

When all materials were scanned and the correct document count was confirmed, the box was sealed and placed on a pallet. If the correct document count was not confirmed, or if the operator encountered difficulties with material scanning, the box and its contents were delivered to an exception handling station for resolution.

This check-in process occurred immediately upon receipt of materials; therefore, DRC provided feedback to districts and schools regarding any missing materials based on actual receipt versus expected receipt. Sites that had 100 percent of their materials missing after the date they were due to DRC were contacted, and any issues were resolved.

Throughout the process of secure booklet check-in, DRC project management ran a daily missing materials report. Every site that was missing any number of booklets was contacted by DRC. Results of these correspondences were recorded for inclusion in the final Missing Materials Report if the missing booklets were not returned by the testing site. DRC produced the Missing Materials Report for PDE upon completion of secure booklet check-in. The report listed all schools in each participating district along with security barcodes for any booklets not returned to DRC.

After scannable materials (used answer booklets) were processed through booklet check-in, the materials became available to the DRC Document Processing log-in staff for document log-in. The booklets were logged-in using the following process:

- A DRC scannable barcode batch header was scanned, and a batch number was assigned to each box of booklets.

- The DRC box label barcode was scanned into the system to link the box and booklets to the newly created batch and to create a Batch Control Sheet.
- The DRC box label barcode number, along with the number of booklets in the box, was printed on the Batch Control Sheet for document tracking purposes. All booklets that were linked to the box barcode were assigned to the batch number and tracked through all processing steps. As booklets were processed, DRC staff dated and initialed the Batch Control Sheet to indicate that proper processing and controls were observed.

Before the booklets were scanned, all batches went through a quality inspection to ensure batch integrity and correct document placement.

After a quality check-in at the DRC Document Processing log-in area, the spines were cut off the scannable documents, and the pages were sent to DRC's Imaging and Scoring System.

SCANNING OF MATERIALS

Customized scanning programs for all scannable documents were prepared to read the booklets and to format the scanned information electronically. Before materials arrived, all image scanning programs went through a quality review process that included scanning of mock data from production booklets to ensure proper data collection.

DRC's image scanners were calibrated using a standard deck of scannable pages with 16 known levels of gray. On a predefined page location, the average pixel darkness was compared to the standard calibration to determine the level of gray. Marks with an average darkness level of 4 or above on a scale of 16 (0 through F) were determined to be valid responses, per industry standards. If multiple marks were read for a single item and the difference of the grayscale reads was greater than four levels, the lighter mark was discarded. If the multiple marks had fewer than four levels of grayscale difference, the response was flagged systematically and forwarded to an editor for resolution.

DRC's image scanners read selected-response, demographic, and identification information. The image scanners also used barcode readers to read pre-printed barcodes from a label on the booklets.

The scannable documents were automatically fed into the image scanners where predefined processing criteria determined which fields were to be captured electronically. Open-ended response images were separated out for image-based scoring.

During scanning, a unique serial number was printed on each sheet of paper. This serial number was used for document integrity and to maintain sequencing within a batch of booklets.

A monitor randomly displayed images, and the human operator adjusted or cleaned the scanner when the scanned image did not meet DRC's strict quality standards for image clarity.

All images passed through a software clean-up program that despeckled, deskewed, and desmeared the images. A random sample of images was reviewed for image quality approval. If any document failed to meet image quality standards, the document was returned for rescanning.

Page-scan verification was performed to ensure that all predefined portions of the booklets were represented in their entirety in the image files. If a page was missing, the entire booklet was flagged for resolution.

After each batch was scanned, booklets were processed through a computer-based editing program to detect potential errors as a result of smudges, multiple marks, and omissions in predetermined fields. Marks that did not meet the predefined editing standards were routed to editors for resolution.

Experienced DRC Document Processing editing staff reviewed all potential errors detected during scanning and made necessary corrections to the data files. The imaging system displayed each suspected error. The editing staff then inspected the image and made any needed corrections using the unique serial number printed on the document during scanning.

Upon completion of editing, quality control reports were run to ensure that all detected potential errors were reviewed again and a final disposition was determined.

Before batches of booklets were extracted for scoring, a final edit was performed to ensure that all requirements for final processing were met. If a batch contained errors, it was flagged for further review before being extracted for scoring and reporting.

During this processing step, the actual number of documents scanned was compared to the number of booklets assigned to the box during book receipt. Count discrepancies between book receipt and booklets scanned were resolved at this time.

Once all requirements for final processing were met, the batch was released for scoring and student level processing.

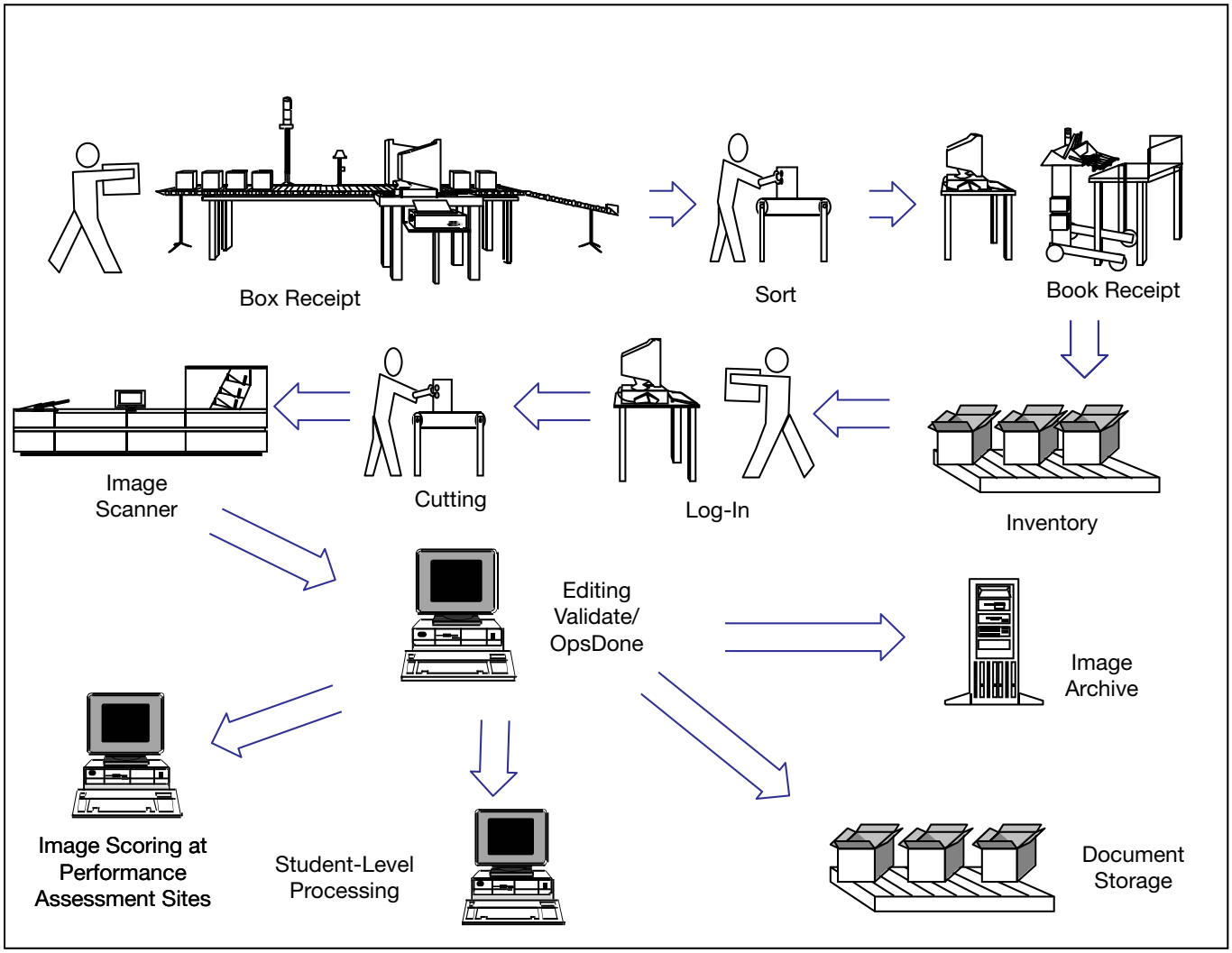
Table 8–1 shows the number of answer booklets received through booklet check-in, the number of booklets that contained student responses that were scanned and scored, the number of test booklets received, and the total number of booklets received for the English Language Arts assessment (ELA), the Mathematics assessment, and the Science assessment.

Table 8–1. Counts of 2019 PSSA Materials Received: Grades 3–8

Grade/Subject	Answer Booklets Received	Used Answer Booklets Received	Test Booklets Received	Total Booklets Received	Total Booklets Shipped
Grade 3 ELA	153,668	121,700	NA	153,668	153,681
Grade 4 ELA	156,672	124,258	156,702	313,374	313,432
Grade 5 ELA	158,456	126,156	158,473	316,929	316,974
Grade 6 ELA	156,674	126,467	156,712	313,386	313,430
Grade 7 ELA	155,460	125,151	155,480	310,940	310,988
Grade 8 ELA	155,264	123,833	155,284	310,548	310,598
Grade 3 Math	155,995	120,840	NA	155,995	156,003
Grade 4 Math	156,671	123,307	156,702	313,373	313,426
Grade 5 Math	159,543	125,471	159,559	319,102	319,144
Grade 6 Math	156,693	125,922	156,720	313,413	313,458
Grade 7 Math	155,405	124,722	155,431	310,836	310,892
Grade 8 Math	154,918	123,345	154,938	309,856	309,906
Grade 4 Science	155,409	122,065	155,441	310,850	310,904
Grade 8 Science	153,570	121,721	153,595	307,165	307,204

Figure 8–1 illustrates the production workflow for DRC's Ops MMS and Image Scanning and Scoring System from receipt of materials through all processing of materials and the presentation of scanned images for scoring.

Figure 8–1. Workflow System



MATERIALS STORAGE

Upon completion of processing, student response documents were boxed for security purposes and final storage:

- Project-specific box labels were created containing unique customer and project information, material type, batch number, pallet/box number, and the number of boxes for a given batch.
- Boxes were stacked on pallets that were labeled with the project information and a list of the pallet's contents before delivery to the Materials Distribution Center for final secure storage.
- Materials will be destroyed one year after contract year ends, with PDE written approval.

ONLINE TESTING

The DRC INSIGHT test engine runs on a custom web browser that is designed to ensure a fully secure environment during testing. The secure browser "locks down" the student's testing device, preventing the student from accessing the desktop, the Internet, and other external programs. For non-secure testing such as practice and training sessions, students can use the Online Tools Training (OTT) environment, which runs on a standard web browser.

The custom browser software is downloaded from eDIRECT and installed onto student testing devices. The secure browser can be installed on computers individually, or it can be downloaded to a central location, copied, and distributed to multiple computers simultaneously using common network distribution tools. Everything needed for testing is found within the secure browser, eliminating the need for districts to coordinate updates to third-party software.

Prior to operational use, DRC's quality assurance staff will perform full system-level tests in an independent test environment that simulates the production configuration. Tests are run on all supported computer platforms and browsers and include comprehensive review of system functionality, usability, reliability, security, and overall performance. Test content is also validated during this process.

Multiple methods are used to ensure secure data transfer, including encryption technologies and Secure Sockets Layer (SSL) protocol through Hypertext Transfer Protocol Secure (HTTPS). Test content is encrypted at the host server, and remains encrypted throughout all network transmissions; content is decrypted only once the student login is validated. Decrypted test content on the student workstation is stored only in memory during each test session. Once the session is ended (the test is completed or the student logs out), computer memory is purged to ensure security of test content is maintained.

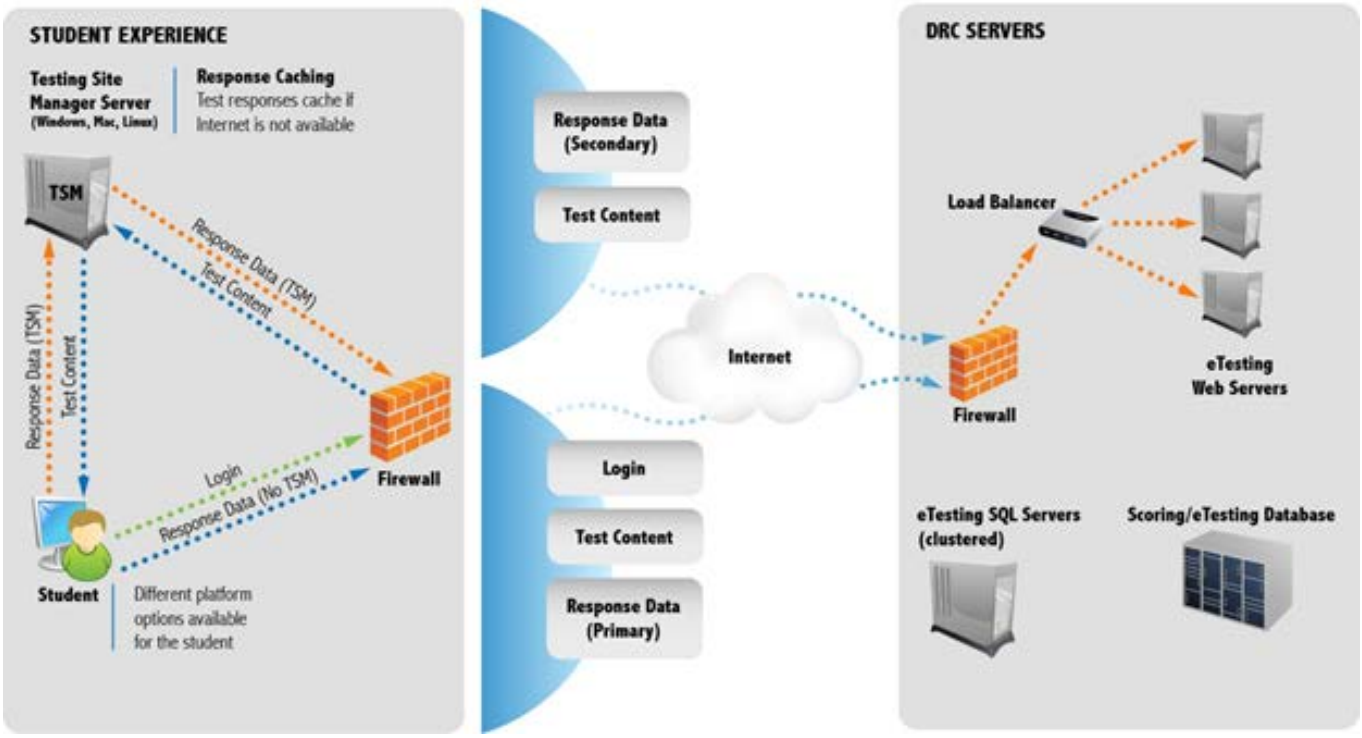
Responses are saved automatically every 45 seconds during testing, or when the student navigates away from an item or answers a selected-response item (whichever comes first). If a particular question takes the student longer than 45 seconds to answer, then the partial, incomplete responses are submitted at 45-second intervals until the student completes the item. This auto-save helps safeguard against students losing their work on longer items, such as constructed-response items. When the student returns to the test after a break or interruption, the student is returned to the point that they left off without having to navigate through all previously answered questions.

Table 8–2. Counts of 2019 PSSA Online Assessments: Grades 3–8

Grade/Subject	Total Online Assessments Completed
Grade 3 ELA	4,363
Grade 4 ELA	4,923
Grade 5 ELA	7,322
Grade 6 ELA	7,675
Grade 7 ELA	8,349
Grade 8 ELA	8,058
Grade 3 Math	4,442
Grade 4 Math	5,008
Grade 5 Math	7,263
Grade 6 Math	7,376
Grade 7 Math	7,770
Grade 8 Math	7,673
Grade 4 Science	6,196
Grade 8 Science	9,222

Figure 8–2 illustrates the secure transfer of online test responses between the student and DRC.

Figure 8–2. Architecture of the Student Testing Experience



SCORING MULTIPLE-CHOICE ITEMS

The scoring process included the scoring of multiple-choice items against the answer key and the aggregation of raw scores from the open-ended responses. A student's raw score is the actual number of points achieved by the student for tested elements of an assessment. From the raw scores, the scale scores were calculated.

The student file was scored against the final and approved multiple-choice answer key. Items were scored as right, wrong, omitted, or double-gridded (more than one answer was bubbled for an item). Sections of the test were evaluated as a whole and an attempt status was determined for each student for each subject. The score program defined all data elements at the student level for reporting.

RANGEFINDING

After student answer documents were received and processed, DRC's Performance Assessment Services (PAS) staff assembled groups of responses that exemplified the different score points for each subject. The score point ranges were represented by the following scoring guidelines:

- 0–3 item-specific scoring guidelines for ELA: reading (short answer)
- 1–4 holistic scoring guideline for ELA: text-dependent analysis
- 0–4 item-specific scoring guidelines for math
- 0–2 item-specific scoring guidelines for science

  Note: For English language arts and mathematics at all grade levels (3–8), Pennsylvania Core Standards (PCS) items were rangefound and field tested. ELA and Mathematics rangefound/field tested 9 forms per subject, per grade. Science rangefound/field tested 12 forms per subject, per grade level tested (4 and 8). All items were embedded in the 2019 operational PSSA.

Responses were pulled from the embedded field test portion of the PSSA for each subject. Once examples covering the range of score points were selected for each item, sets were assembled for rangefinding, and copies were made for each rangefinding participant. Rangefinding committees consisted of Pennsylvania educators, PDE staff members, DRC Test Development staff, and DRC Performance Assessment Services staff. The rangefinding meetings were as follows:

- ELA: Text-Dependent Analysis (TDA) Field Test Rangefinding (grades 4–8), June 3-7, Lancaster Marriott at Penn Square, Lancaster, PA
- Reading Field Test Rangefinding (grade 3), June 3-5, Lancaster Marriott at Penn Square, Lancaster, PA
- Math Field Test Rangefinding (grades 3–8), June 4-6, Lancaster Marriott at Penn Square, Lancaster, PA
- Science Field Test Rangefinding (grades 4 and 8), June 4-5, Lancaster Marriott at Penn Square, Lancaster, PA

Each rangefinding meeting began in a joint session with a review of the history of the assessment as well as a discussion of the purpose of the rangefinding meeting and the role rangefinding plays within the item development process. The session then broke into subject/grade-specific committees. Sets of student responses were presented to the committees, one item at a time. Each committee initially reviewed and scored student responses as a group to ensure consistency in the interpretation of the scoring guidelines. Committee members then went on to score responses independently. For each student response, committee members' scores were discussed until a consensus was reached. Only those responses for which there was strong agreement among committee members were chosen for inclusion in training materials for DRC raters.

Discussions of student responses included the mandatory use of scoring guideline language. This ensured that committee members remained focused on the specific requirements of each score level. DRC PAS staff took notes addressing how and why the committees arrived at score point decisions, and this information was used by the scoring directors in rater training.

DRC and PDE discussed scoring guideline edits suggested by the rangefinding committees. Changes approved by PDE were then incorporated into the scoring guidelines by DRC Test Development staff. The edited scoring guidelines were used in the preparation of materials and the training of raters.

RATER RECRUITMENT/QUALIFICATIONS

DRC retains a number of raters from year to year; the overall return rate in 2019 was 44%. This pool of experienced raters was drawn from to staff the scoring of the 2019 PSSA. To complete the rater staffing, recruiting events were held and applications for rater positions were screened by DRC's recruiting staff. Candidates were personally interviewed by DRC staff. In addition, each candidate was required to provide an on-demand writing sample, an on-demand math sample, references, and proof of a four-year college degree. In this screening process, preference was given to candidates with previous experience scoring large-scale assessments and degrees emphasizing expertise in mathematics, English language arts, or science. In some locations, staffing partners were used to augment hiring using the same practices as those employed by DRC. The rater pool consisted of educators and other professionals with content-specific backgrounds. These individuals were valued for their content-specific knowledge, but they were required to set aside their own biases about student performance and accept the scoring standards outlined in the PSSA.

LEADERSHIP RECRUITMENT/QUALIFICATIONS

Scoring directors and team leaders were selected from a pool of employees who displayed expertise as raters and leaders on previous DRC projects. These individuals had strong backgrounds in mathematics, English language arts, or science, and demonstrated organizational, leadership, communication, and management skills. All scoring directors had previous leadership experience working on large scale assessments. All scoring directors, team leaders, and raters were required to sign confidentiality agreements before handling secure materials.

Each room of raters was assigned a scoring director. All handscoring activities were led by a scoring director for the duration of the project. Scoring directors assisted in rangefinding, worked with supervisors to create training materials, conducted team leader training, and were responsible for training the raters. The scoring director made sure that reports were available and interpreted those reports for the raters. The scoring director also supervised the team leaders. Scoring directors were monitored by the project managers throughout the project.

Team leaders assisted the scoring director with rater training by answering individual questions that raters may not have felt comfortable asking in a large group. Once raters were qualified, team leaders were responsible for monitoring and maintaining the accuracy and workload of each team member. Ongoing monitoring identified those individuals having difficulty scoring accurately. These raters received one-on-one retraining from the team leader or scoring director. Any rater who could not be successfully retrained had his/her scores purged and was released from the project.

TRAINING

As part of preparation for the 2019 ELA, mathematics, and science assessments, DRC's PAS staff assembled the PDE-approved scoring guidelines and scored student responses approved by rangefinding committees into sets used for training raters. The item-specific scoring guidelines for mathematics, science and ELA: reading (short answer), as well as the focused holistic scoring guidelines for TDAs served as the raters' constant reference. Responses that were relevant in terms of the scoring concepts they illustrated were annotated and included in an anchor set. The full range of each score point was clearly represented and annotated in the anchor set, which was used for reference by raters throughout the project.

Training sets and qualifying sets contained student responses consensus-scored by rangefinding committee members. Raters were instructed on how to apply the scoring guidelines and were required to demonstrate a clear comprehension of each anchor set by performing well on the associated training materials. Responses were selected for training to show raters the range of each score point (e.g., high, mid, and low 2s). Examples of 0s were also included for all mathematics, reading, and science items. This process helped raters recognize the various ways that a student could respond in order to earn each score point outlined and defined in the scoring guidelines.

The scoring director conducted a team leader training session before training the raters. This session followed the same procedures as rater training, but was more rigorous and in-depth due to the extra responsibilities required of team leaders. During team leader training, all PSSA materials were reviewed and discussed. Team leaders were required to annotate all of their training materials with committee justifications from the rangefinding meetings. To facilitate scoring consistency, it was imperative that all team leaders imparted the same rationale for each response. Once the team leaders were qualified, leadership responsibilities were reviewed and team assignments were given. A ratio of one team leader per 7–10 raters ensured sufficient monitoring rates for team members.

Rater training began with the scoring director providing an intensive review of the scoring guidelines and anchor papers. Next, raters practiced by independently scoring the responses in the training sets. After each training set was taken, the scoring director led a thorough discussion of the responses.

Once the scoring guidelines, anchor sets, and training sets were thoroughly discussed, each rater was required to demonstrate understanding of the scoring criteria by qualifying (i.e., scoring with acceptable agreement to the true scores) on at least one of the qualifying sets. Raters who failed to achieve at least 70 percent exact agreement on the first qualifying set were given additional training, either individually or in a small group setting. Raters who did not perform at the required level of agreement by the end of the qualifying process were not allowed to score any student responses. These individuals were removed from the pool of potential raters in DRC's imaging system and released from the project.

The 2019 assessment included the opportunity for students to respond in Spanish to mathematics and science items. Rater training for the Spanish language response scoring was conducted at Tri-Lin Integrated Services in San Antonio, Texas, and was overseen by a DRC scoring director, who is a Spanish language speaker with a strong handscoring background. All Spanish raters were bilingual and hired specifically to score the Spanish portion of the assessment and were required to meet the same standards set for raters of the English language version of the assessment.

Table 8–3. Qualification Rates for 2019 PSSA Open-Ended Response Items

Subject	% Qualifying	% That Did Not Qualify
ELA	97	3
Math	99	1
Science	100	0

HANDSCORING PROCESS

Student responses were scored independently. All responses were scored once, and ten percent of the responses were scored a second time. The data collected from the ten-percent double-read portion was used to calculate the exact and adjacent agreement rates in the Scoring Summary Reports. The responses that were used for the ten percent read behind were randomly chosen by the imaging system at the item level. Additional read behinds by the team leaders and scoring directors were done to further ensure reliability.

Raters scored the imaged student responses on PC monitors at scoring locations in Cincinnati, Ohio; Plymouth, Minnesota; Woodbury, Minnesota; Philadelphia, Pennsylvania; Indianapolis, Indiana; Atlanta, Georgia; Milwaukee, Wisconsin; Lake Mary, Florida; and San Antonio, Texas.

In all locations, raters were seated at tables with individual imaging stations. Image distribution was controlled, ensuring that student images were sent only to designated groups of raters qualified to score those items. Imaged student responses were electronically separated for routing to individual raters by item. Raters were only provided with student responses for items that they were qualified to score. Scores were keyed into DRC's imaging system.

To handle possible alerts (i.e., student responses indicating potential issues related to students' safety and well-being that sometimes require attention at the state or local level), DRC's imaging system allows raters to forward responses needing attention to the scoring director. These alerts are reviewed by project management, who then notifies the students' schools and PDE of the occurrences. PDE does not receive any identifying information about the students. At no time in the alerts process do raters, or other DRC handscoring staff, acquire any knowledge concerning a student's personal identity.

HANDSCORING VALIDITY PROCESS

One of the training tools PAS utilized to ensure rater accuracy was the validity process. The goal of the validity process is to ensure that scoring standards are maintained. Specifically, the objective is to make sure that raters score student responses in a manner consistent with statewide standards both within a single administration of the PSSA and across consecutive administrations. During the scoring of the 2019 PSSA, scoring consistency was maintained, in part, through the validity process.

The validity process began with the selection of scored responses. Forty validity papers were selected for each core open-ended (OE) item. These 40 papers were drawn from a pool of exemplars (responses that are representative of a particular score point and have been verified by the scoring director). The scores on validity papers are considered true scores.

The validity papers were then implemented to test rater accuracy. The responses were selected within the imaging system and dispersed intermittently to the raters. By the end of the project, raters had scored all 40 validity papers for any items they were qualified to score. Raters were unaware when they were being dealt pre-scored validity responses and assumed that they were scoring live student responses. This helped bolster the internal validity of the process. All raters who received validity papers had already successfully completed the training/qualifying process.

The scores that the raters assigned to the validity papers were compared to the true scores in order to determine the validity of the raters' scores. For each item, the percentage of exact agreement as well as the percentage of high and low scores was computed. This data was accessed through the Validity Item Detail Report. The same sort of data was also computed for each specific rater. This data was accessed through the Validity Reader Detail Report. Both of these may be run as daily or cumulative reports.

The Validity Reader Detail Report was used to identify particular raters for retraining. If a rater on a certain day generated a lower rate of agreement on a group of validity papers, it was immediately apparent in the Validity Reader Detail Report. A lower rate of agreement was defined as anything below 70 percent exact agreement with the true scores. Any time a rater's validity agreement rate fell below 70 percent, the scoring director was cued to examine that rater's scoring. First, the scoring director attempted to ascertain what kind of validity papers the rater was scoring incorrectly. This was done to determine whether there was any sort of a trend (e.g., trending low on the 1–2 line). Once the source of the low agreement rate was determined, the rater was retrained. If it was determined that the rater had been scoring live papers inaccurately, then his/her scores were purged for that day, and the responses were re-circulated and scored by other raters.

The cumulative Validity Item Detail Report was utilized to identify potential room-wide trends in need of correction. For instance, if a particular validity response with a true score of 3 was given a score of 2 by a significant number of raters within the room, that trend would be revealed in the Validity Item Detail Report. To correct a trend of this sort, the scoring director would look for student responses similar to the validity paper being scored incorrectly. Once located, these responses would be used in room-wide re-training, usually in the form of an annotated handout or a short set of papers without printed scores given to raters as a recalibration test.

Validity was employed on all operational mathematics, ELA: reading, and science OE items, as well as on all operational TDAs. Each 40-paper validity set was formulated to mirror the score point distribution that the item generated during its previous administration. Each validity set included at least five examples of each score point. Examples of different types of responses were included to ensure that raters were tested on the full spectrum of response types.

The exact rater agreement rate generated during the validity process is sometimes higher than the inter-rater agreement rate for the same item. The reason for this sort of difference often has to do with how validity sets are formulated. The 40 validity papers for each item are intended to cover the full breadth of each score point. For example, each validity set contains examples of high, mid, and low 2s. This sort of scope ensures that the validity process is truly valid in terms of addressing the complete spectrum of response types. However, certain types of responses are generally not included in validity sets. These include line papers (i.e., examples of score points that are so close to the adjacent score point that raters are instructed to consult with a supervisor before assigning a score) and responses that, because of poor word choice/writing, are difficult to understand. The reason for these exclusions is that confusing/line/illegible papers often do not impart a teachable lesson. Since these types of papers are generally unique, any potential lesson the response might teach would apply only to that particular paper. Conversely, papers in validity sets are selected because they represent common response-types and teach lessons that can be applied to other similar papers. Due to this distinction, validity sets sometimes generate a slightly higher agreement rate than is generated during operational scoring. However, in some cases, validity papers can also generate *lower* rates of agreement than inter-rater agreement rate averages. The reason for this sort of difference is that validity is sometimes used to discern scoring trends for specific response types so that targeted retraining can occur. Within this year's TDA validity paper selection there were examples of student responses that were close to scoring lines in several grade levels. These validity papers were selected to address scoring decisions for these item-specific response types and sometimes generated lower rates of agreement than the room-wide inter-rater agreement rate for the same item. For all the reasons cited above, this year's TDA items generated some validity agreement percentages that were slightly lower than room-wide inter-rater agreement rates and others that were at or above room averages. It should be pointed out that for all TDA items, cumulative inter-rater agreement and validity averages were above expected handscoring best practice rates.

QUALITY CONTROL

Rater accuracy was monitored throughout the scoring session by means of daily and on-demand reports. These reports ensured that an acceptable level of scoring accuracy was maintained throughout the project. Interrater reliability was tracked and monitored with multiple quality control reports that were reviewed by quality assurance analysts. These reports and other quality control documents were generated at the scoring centers, where they were reviewed by the scoring directors, team leaders, and project managers. The following reports and documents were used during the scoring of the open-ended items:

The Scoring Summary Report (includes two related reports)

1. The Reader Monitor Report monitored how often raters were in exact agreement with one another and ensured that an acceptable agreement rate was maintained. This report provided daily and cumulative exact and adjacent inter-rater agreement on the ten percent that was double read.
2. The Score Point Distribution Report monitored the percentage of responses given each of the score points. For example, the mathematics daily and cumulative reports showed what percentage of 0s, 1s, 2s, 3s, and 4s a rater had given to all the responses scored at the time the report was produced. It also indicated the number of responses read by each rater so that production rates could be monitore

The Item Status Report monitored the progress of handscoring. This report tracked each response and indicated the status (e.g., not read, complete, awaiting supervisor review, etc.). This report ensured that all responses were scored by the end of the project.

The Reader Score Report identified all responses scored by an individual rater. This report was useful if any responses needed rescoring due to possible rater drift.

The Validity Reports (addressed in detail on previous pages) tracked how raters performed by comparing pre-scored responses to raters' scores for the same responses. If a rater's scoring fell below the 70 percent determined agreement rate, remediation occurred. Raters who did not retrain to the required level of agreement were released from the project.

The Read-Behind Log was used by the team leader/scoring director to monitor individual rater reliability. Team leaders read randomly-selected, scored items from each team member on a daily basis. If the team leader disagreed with a rater's score, remediation occurred. This proved to be a very effective type of feedback because it was performed in real time with live student responses scored by each rater.

Recalibration Sets were used throughout the scoring sessions to ensure accuracy by comparing each rater's scores with the true scores on a pre-selected set of responses. Recalibration sets helped to refocus raters on Pennsylvania scoring standards. These checks made sure there was no change in the scoring pattern as the project progressed. Raters failing to achieve 70 percent agreement with the recalibration true scores were given additional training to achieve the highest degree of accuracy possible. Raters who were unable to recalibrate were released from the project. The process for creating and administering recalibration sets was similar to the one employed for creating and administering training sets.

Table 8–4. Inter-rater Agreement for 2019 PSSA Mathematics Grades 3–8 Open-Ended Response Items and Validity

Mathematics	Common Item	% Exact Agreement	% Adjacent Agreement	% Exact + Adjacent Agreement	% Exact Validity Agreement
Grade 3	1	90	10	100	92
Grade 3	2	87	13	100	91
Grade 3	3	94	6	100	94
Grade 4	1	85	15	100	89
Grade 4	2	87	13	100	88
Grade 4	3	95	5	100	95
Grade 5	1	91	9	100	95
Grade 5	2	84	15	99	91
Grade 5	3	90	10	100	88
Grade 6	1	80	20	100	88
Grade 6	2	90	9	99	90
Grade 6	3	85	14	99	91
Grade 7	1	88	12	100	89
Grade 7	2	95	5	100	95
Grade 7	3	94	6	100	91
Grade 8	1	88	12	100	94
Grade 8	2	88	12	100	87
Grade 8	3	88	12	100	90

Note. 0–4 possible score points

Table 8–5. Percentages Awarded for Each Possible Score Point 2019 PSSA Mathematics Grades 3–8

Mathematics	Common Item	%0	%1	%2	%3	%4	%B/NS*
Grade 3	1	20	22	20	21	14	2
Grade 3	2	24	29	19	14	9	5
Grade 3	3	16	26	27	17	12	2
Grade 4	1	15	27	24	19	11	4
Grade 4	2	21	32	21	13	3	8
Grade 4	3	28	28	27	7	6	4
Grade 5	1	26	34	18	12	7	3
Grade 5	2	30	23	18	14	8	7
Grade 5	3	20	46	9	19	3	3
Grade 6	1	33	25	17	13	9	4
Grade 6	2	45	20	10	9	7	9
Grade 6	3	19	18	18	13	28	4
Grade 7	1	35	22	16	15	6	6
Grade 7	2	42	28	11	5	4	11
Grade 7	3	31	31	24	7	2	6
Grade 8	1	19	25	16	17	15	8
Grade 8	2	30	33	10	9	5	13
Grade 8	3	25	27	16	16	8	8

Note. *B=blank and NS=non-scoreable

Table 8–6. Inter-rater Agreement for 2019 PSSA Reading Grade 3 Open-Ended Response Items and Validity

Reading	Common Item	% Exact Agreement	% Adjacent Agreement	% Exact + Adjacent Agreement	% Exact Validity Agreement
Grade 3	1	73	27	100	79
Grade 3	2	77	22	99	75

Note. 0–3 possible score points

Table 8–7. Percentages Awarded for Each Possible Score Point 2019 PSSA Reading Grade 3

Reading	Common Item	%0	%1	%2	%3	%B/NS*
Grade 3	1	11	37	36	9	6
Grade 3	2	15	44	26	8	7

Note. *B=blank and NS=non-scoreable

Table 8–8. Inter-rater Agreement for 2019 PSSA ELA Grades 4–8 Text-Dependent Analysis Items and Validity

TDA	Common Item	% Exact Agreement	% Adjacent Agreement	% Exact + Adjacent Agreement	% Exact Validity Agreement
Grade 4	1	85	15	100	83
Grade 5	1	84	15	99	84
Grade 6	1	80	20	100	76
Grade 7	1	81	18	99	77
Grade 8	1	82	17	99	87

Note. 1–4 possible score points

Table 8–9. Percentages Awarded for Each Possible Score Point 2019 PSSA TDA items Grades 4–8

TDA	Common Item	%1	%2	%3	%4	%B/NS*
Grade 4	1	31	42	12	1	14
Grade 5	1	28	46	12	1	13
Grade 6	1	30	45	15	2	8
Grade 7	1	23	41	23	2	10
Grade 8	1	22	41	23	2	12

Note. *B=blank and NS=non-scoreable

Table 8–10. Inter-rater Agreement for 2019 PSSA Science Grades 4 and 8 Open-Ended Response Items and Validity

Science	Common Item	% Exact Agreement	% Adjacent Agreement	% Exact + Adjacent Agreement	% Exact Validity Agreement
Grade 4	1	83	15	98	92
Grade 4	2	87	13	100	93
Grade 4	3	89	11	100	97
Grade 4	4	84	16	100	92
Grade 4	5	90	10	100	96
Grade 8	1	93	7	100	93
Grade 8	2	97	3	100	98
Grade 8	3	97	3	100	97
Grade 8	4	92	8	100	96
Grade 8	5	81	19	100	88

Note. 0–2 possible score points

Table 8–11. Percentages Awarded for Each Possible Score Point 2019 PSSA Science Grades 4 and 8

Science	Common Item	%0	%1	%2	%B/NS*
Grade 4	1	20	34	41	4
Grade 4	2	23	44	28	4
Grade 4	3	52	24	18	6
Grade 4	4	23	51	22	4
Grade 4	5	36	35	24	4
Grade 8	1	34	45	13	8
Grade 8	2	59	28	2	10
Grade 8	3	26	58	6	9
Grade 8	4	43	27	20	10
Grade 8	5	11	48	34	7

Note. *B=blank and NS=non-scoreable

CHAPTER NINE: DESCRIPTION OF DATA SOURCES AND SAMPLING ADEQUACY

This chapter describes the data sources (e.g., *n*-counts, characteristics of students) used for the various analysis procedures discussed in the remaining chapters of this technical report. Psychometric analyses are conducted at several points for the PSSA: 1) early analyses for quality control purposes and key validation; 2) analyses associated with the post-equating validation; 3) analyses used for item banking; and 4) analyses for the technical report. Detailed information regarding the attributes of students is provided in Chapter Ten.

PRIMARY STUDENT FILTERING CRITERIA

For many data files, the primary means of filtering students for inclusion/exclusion from any data analysis are based on the state reporting criteria which are outlined below. Within the state reporting rules are separate attempt criteria for individual subject areas. The attempt criteria are discussed more fully below.

STATE REPORTING CRITERIA

The state reporting criteria are as follows:

- The student must be enrolled for the full academic year.
- The student must be attributed to a public district/school (state).
- The student must receive a score (i.e., met the subject attempt logic—see additional information below).
- The student is not a homeschool student.
- The student is not a foreign exchange student.
- The student is not a first year EL student (mathematics/ELA only).

PSSA ATTEMPT CRITERIA

For all data sources, only students who meet the attempt criteria are included. For mathematics, ELA, and science, the attempt criteria required students to complete a minimum of five items (multiple-choice (MC) or open-ended (OE)) in each respective subject area section of the test booklets. All subjects' counts were based on operational and nonoperational items.

KEY VALIDATION DATA

These data are only mentioned for the sake of completeness, as no formal results from these data are provided in this technical document. An analysis on all operational MC items is conducted early in the scoring process to ensure that the items are performing as expected. This is an important quality check that is always done for the PSSA. This analysis is usually (but not always) done using all students from early-return schools. The sample does not need to be representative of the entire state for these quality checks. Available student data typically suffices if there is reasonable variability in total test scores.

For 2019, this data included all public-school students who 1) had their MC items scanned and scored by early-May and 2) met preliminary attempt criteria (i.e., attempt was determined based on MC items only). Note that the full state reporting criteria were not in effect for this file (only attribution to a public school based on tested site and preliminary attempt criteria were used to filter students).

POST-EQUATING VALIDATION DATA

Post-equating validation data included students who met the preliminary state reporting criteria (including attempt criteria) by May 22nd. The state reporting criteria were preliminary, meaning that attributions and final PIMS[1] information were not complete by this time. No sampling was undertaken in this data (i.e., it included all students who met the above criteria with operational test scores up to this point[2]). This data file was used to analyze differences in the pre-equated solutions and post-equated solutions to make the final decision to proceed with the pre-equated solution.

ITEM BANK DATA

The item bank data included students who met the state reporting criteria by July 8th. No sampling was undertaken in this data (i.e., it included all students who met the above criteria, were administered paper-pencil tests with scored field test data up to this point). The data banked for field test items as well as the updates for operational item parameters were based on this data file.

FINAL DATA

This file included all students who met state reporting criteria by August 6th for all subject areas. The final data reflects update by schools for correction of certain fields (e.g., student ethnicity). All other files contained preliminary data. Most of the results included in this technical report were derived using the final data file.

FINAL *N*-COUNTS FOR ALL DATA SOURCES

The *n*-counts for all data sources are provided in Table 9–1. The post-equating validation count includes students who met the preliminary state reporting criteria, while the final count includes students who met the final state reporting criteria. A computer-based test (CBT) was offered for all subjects. Calibration data shows the number of students in both modes. Students administered a mixed-mode test are counted as CBT administrations. Calibration of item parameters for item banking was conducted using responses from students who took the paper test and administered the Master Core form; however, other analyses conducted for the post-equating validation (see Chapter Twelve) used both paper and CBT students. The *n* counts of item bank data show only the number of students who took a paper test, because values for item banking (e.g., CTT statistics) were obtained with paper students. However, the *n* counts of paper administrations and total are not very different because the proportions of CBT administrations were small (see Table 9–2).

Table 9–1. Data Source *N*-Counts

Subject	Grade	Key Validation (Paper)	Key Validation (CBT)	Post-equating Validation (Paper)	Item Bank (Paper)	Final (Paper/ CBT)
Mathematics	3	47557	4212	79606	116892	120604
Mathematics	4	49097	4714	87922	119066	123286
Mathematics	5	45093	6850	95041	121126	127592
Mathematics	6	47335	6898	96237	120984	127496
Mathematics	7	44576	7215	84786	119003	125808
Mathematics	8	44281	7061	67285	116550	123186
ELA	3	99697	4083	101634	116915	120564
ELA	4	98458	4581	105287	119055	123172
ELA	5	100205	6889	115441	120995	127550
ELA	6	95945	7207	107135	120683	127560
ELA	7	94372	7764	109191	118588	125998
ELA	8	89813	7419	108671	116461	123503
Science	4	15323	5698	78072	117700	123093
Science	8	16414	8414	72712	114494	122654

[1] Pennsylvania Information Management System

[2] Historically, PSSA has retained all students who met the stated criteria in the calibration data set, even those who had testing accommodations.

COMPUTER-BASED TEST (CBT)

Table 9–2 displays the count of students who took the 2019 PSSA broken out by subject, grade, and mode (e.g., paper, CBT) with the final data. For ELA and Mathematics across all grades, an average of five percent of students were enrolled to take the PSSAs online; for Science there was a higher percentage of online administrations. Lower grades had fewer online administrations, whereas grade 8 had highest proportion of online administrations across all subjects and grades (7.07%).

Table 9–2. Final *N*-Counts and Proportion by Mode

Subject	Grade	*N*-Counts Paper	*N*-Counts CBT	Proportion (%) Paper	Proportion (%) CBT
Mathematics	3	116402	4202	96.52	3.48
Mathematics	4	118522	4764	96.14	3.86
Mathematics	5	120699	6893	94.60	5.40
Mathematics	6	120540	6956	94.54	5.46
Mathematics	7	118520	7288	94.21	5.79
Mathematics	8	115991	7195	94.16	5.84
ELA	3	116472	4092	96.61	3.39
ELA	4	118530	4642	96.23	3.77
ELA	5	120607	6943	94.56	5.44
ELA	6	120291	7269	94.30	5.70
ELA	7	118148	7850	93.77	6.23
ELA	8	115927	7576	93.87	6.13
Science	4	117178	5915	95.19	4.81
Science	8	113977	8677	92.93	7.07

SPIRALING OF FORMS

PSSA forms were spiraled during test administration for all grades and subjects. Appendix H provides summary statistics for scaled scores disaggregated by mode, test form, for each subject and grade. The mean scaled scores across forms are similar, indicating the student populations taking each form are of approximately equal ability and item scrambling are appropriate. This equivalence of ability distributions across forms is the desired outcome of spiraling and allows for optimum analysis of the embedded field-test items.

SCRAMBLING OF FORMS

PSSA forms were scrambled during form construction in response to test security issues raised in prior PSSA administrations. Eight scrambled patterns of operational forms were constructed for each mathematics, ELA, and science assessment. The core form was constructed following the prior test development and psychometric guidelines and will be referred to as the Master Core throughout the remainder of this document. Based on previous TAC recommendation, the Master Core is the pattern of the test that would have been administered to all students in the absence of scrambling. More importantly, the data obtained from administration of the Master Core were used for calibrating MC items for the post-equating validation and item banking (see Chapter Twelve).

Once the Master Core was constructed and approved, DRC and PDE content specialists built seven scrambled patterns of the Master Core for each grade and subject. OE items were not scrambled, meaning each operational OE item appeared in the same position on every form. Some MC items also appear in the same position on multiple forms due to content constraints. In some subjects and grades the number of field-test forms was greater than the number of scrambled patterns. In these instances, the Master Core and scrambled patterns were repeated with no specific pattern appearing more than two times. Due to the limited enrollment for the PSSA CBT, only three forms were offered for CBT. These forms included the accommodation form, a Master Core form, and one additional scrambled form (scrambled patterns A, B, and C, respectively); therefore, these forms have slightly higher participation than other forms when paper and CBT counts are combined.

When the Master Core was built, the linking position rules were observed for all core-linking and equating block items. The Master Core was used at least as often, or more often, than any scrambled version of the core form. Since form 1 was used for all accommodated forms (e.g., Braille, Large Print, Audio, and Spanish) it was never designated as a Master Core. The specific forms presenting the Master Core vary across grades within each content area. Given that all forms were spiraled at the student level, the distribution of forms is reasonably uniform. The exception is Form 1, which had higher participation since it is the only form used for accommodations.

Based on TAC recommendations to minimize possible item position effects, each section of the Master Core was divided into blocks of non-overlapping MC and EBSR items. Recall that other item types were not part of the scrambling. The blocks typically contained six to seven items (or one passage), but the block sizes varied depending on the content and section. Within each block, items were scrambled following general psychometric and content guidelines to create up to five versions of the block in addition to the Master Core sequencing. The blocks were assembled to create seven scrambled versions of the Master Core (named A, B, C, D, E, F, and G) in addition to the Master Core.

Prior to scrambling the Master Core, DRC and PDE content specialists developed the following general psychometric and content guidelines:

- Items cannot move between blocks.
- DRC and PDE content specialists will work to ensure that the scrambling does not result in making content more difficult than the Master Core item sequence. For example, items of similar cognitive complexity will be swapped rather than random scrambling.
- A block scramble pattern is only valid if it does not contain an invalid key distribution within the block. Additional checks for an invalid key distribution across blocks must be made when combining block scramble patterns to create forms. For example, scrambling must not create more than three (3) of the same key positions in a row.
- A block scramble pattern is only valid if it does not contain an invalid standard (AA/EC) distribution within a block. Additional checks for standard distribution across blocks must be made when combining block scramble patterns to create forms. An exception was made for one mathematics scramble for each grade which ordered items within block by eligible content per PDE request.
- Scrambling should not place a difficult item as the first item in a section or a passage set; however, the first item in a block that does NOT begin a section may be a difficult item since blocks are invisible to the student.
- For passage-based items, a block scramble pattern is only valid if it does not create dissonance between the items and passage(s).
- Within a set of items connected to a paired set of passages, an item associated with both passages can be swapped only with another item associated with both passages. (These items must remain at the end of the set of items associated with the passage set.)

Table 9–3 shows a summary of the scrambling strategy employed for the 2019 PSSAs. Each grade and subject used a total of eight different patterns of the core including the Master Core.

Table 9–3. Form Scrambling

Content	Grade	Forms	Total Patterns	Master Cores
Mathematics	3	9	8	2
Mathematics	4	9	8	2
Mathematics	5	9	8	2
Mathematics	6	9	8	2
Mathematics	7	9	8	2
Mathematics	8	9	8	2
ELA	3	9	8	2
ELA	4	9	8	2
ELA	5	9	8	2
ELA	6	9	8	2
ELA	7	9	8	2
ELA	8	9	8	2
Science	4	12	8	2
Science	8	12	8	2

An important assumption for effectively collapsing forms into pattern groups is that the form spiraling yielded randomly equivalent groups. Table 9-4 provides the count of paper-pencil and online administrations, the mean raw score, the standard deviation by each scramble pattern, form, and mode. Please note that online Form 1 is used for all accommodated administrations and as such reflects different performance than performance on other forms.

Table 9-4E. ELA Mean Scores by Form

Subject	Grade	Form	Count (Paper)	Raw Score Mean (Paper)	Raw Score SD (Paper)	Count (CBT)	Raw Score Mean (CBT)	Raw Score SD (CBT)
ELA	3	01A	13007	24.54	9.15	1849	21.40	9.35
ELA	3	02M	12962	24.59	9.12	1116	26.54	8.50
ELA	3	03B	12921	24.62	9.12	1127	26.22	7.86
ELA	3	04M	12927	24.75	9.09			
ELA	3	05C	12961	24.78	9.15			
ELA	3	06D	12968	24.67	9.15			
ELA	3	07E	12879	24.54	9.16			
ELA	3	08F	12918	24.78	9.09			
ELA	3	09G	12929	24.56	9.18			
ELA	4	01A	13221	35.03	12.16	2184	30.28	13.20
ELA	4	02M	13163	35.42	12.34	1221	38.18	11.15
ELA	4	03B	13150	35.38	12.27	1237	38.07	11.19
ELA	4	04C	13182	35.53	12.24			
ELA	4	05D	13210	35.24	12.07			
ELA	4	06M	13098	35.47	12.35			
ELA	4	07E	13141	35.43	12.27			
ELA	4	08F	13162	35.64	12.24			
ELA	4	09G	13203	35.44	12.15			
ELA	5	01A	13450	33.11	11.35	3108	29.33	12.21
ELA	5	02M	13358	33.32	11.38	1930	35.33	10.88
ELA	5	03B	13426	33.15	11.45	1905	35.12	10.95
ELA	5	04C	13405	33.14	11.25			
ELA	5	05D	13446	33.26	11.50			
ELA	5	06E	13464	33.27	11.28			
ELA	5	07M	13327	33.20	11.39			
ELA	5	08F	13339	33.10	11.37			
ELA	5	09G	13392	33.25	11.20			
ELA	6	01A	13439	34.04	11.64	3308	29.62	12.21
ELA	6	02M	13391	33.70	11.52	1972	35.38	11.00
ELA	6	03B	13381	34.04	11.50	1989	35.00	11.19
ELA	6	04M	13326	33.93	11.64			
ELA	6	05C	13370	33.92	11.50			

Table 9-4E (continued). ELA Mean Scores by Form

Subject	Grade	Form	Count (Paper)	Raw Score Mean (Paper)	Raw Score SD (Paper)	Count (CBT)	Raw Score Mean (CBT)	Raw Score SD (CBT)
ELA	6	06D	13362	33.79	11.55			
ELA	6	07E	13339	33.93	11.43			
ELA	6	08F	13319	34.01	11.61			
ELA	6	09G	13364	33.95	11.45			
ELA	7	01A	13245	34.30	10.53	3430	29.70	10.98
ELA	7	02M	13056	34.08	10.67	2183	34.08	10.30
ELA	7	03B	13166	33.93	10.40	2237	33.82	10.30
ELA	7	04C	13135	34.16	10.48			
ELA	7	05D	13140	34.01	10.52			
ELA	7	06E	13061	34.32	10.56			
ELA	7	07F	13126	34.14	10.59			
ELA	7	08G	13144	34.18	10.49			
ELA	7	09M	13075	34.11	10.65			
ELA	8	01A	12934	36.75	12.33	3283	31.59	13.13
ELA	8	02M	12869	36.64	12.38	2124	36.34	12.07
ELA	8	03B	12889	37.08	12.25	2169	37.01	11.81
ELA	8	04C	12869	36.79	12.34			
ELA	8	05D	12800	36.80	12.20			
ELA	8	06E	12887	36.94	12.37			
ELA	8	07F	12915	36.61	12.32			
ELA	8	08M	12883	37.05	12.37			
ELA	8	09G	12881	36.87	12.14			

Table 9-4M. Mathematics Mean Scores by Form

Subject	Grade	Form	Count (Paper)	RS Mean (Paper)	RS SD (Paper)	Count (CBT)	RS Mean (CBT)	RS SD (CBT)
Mathematics	3	01E	13328	27.95	11.90	2035	24.51	12.10
Mathematics	3	02M	12861	28.36	11.78	1093	32.15	10.67
Mathematics	3	03A	12906	28.36	11.75	1074	31.51	10.53
Mathematics	3	04B	12913	28.55	11.66			
Mathematics	3	05C	12912	28.43	11.75			
Mathematics	3	06D	12900	28.56	11.64			
Mathematics	3	07M	12877	28.67	11.66			
Mathematics	3	08F	12887	28.58	11.73			
Mathematics	3	09G	12818	28.71	11.66			
Mathematics	4	01D	13657	26.25	11.40	2392	22.99	11.20
Mathematics	4	02M	13136	26.76	11.36	1176	29.83	10.67
Mathematics	4	03A	13084	26.73	11.33	1196	29.13	10.44
Mathematics	4	04B	13084	27.02	11.33			
Mathematics	4	05C	13080	26.85	11.43			
Mathematics	4	06E	13120	26.88	11.36			
Mathematics	4	07F	13062	26.71	11.31			
Mathematics	4	08G	13127	26.73	11.24			
Mathematics	4	09M	13172	26.96	11.20			
Mathematics	5	01G	13896	24.06	11.25	3320	20.62	10.97
Mathematics	5	02M	13327	24.45	11.21	1790	26.50	10.62
Mathematics	5	03A	13351	24.47	11.08	1783	27.03	10.80
Mathematics	5	04B	13329	24.48	11.07			
Mathematics	5	05M	13333	24.44	11.22			
Mathematics	5	06C	13313	24.58	11.19			
Mathematics	5	07D	13412	24.79	11.11			
Mathematics	5	08E	13374	24.44	11.25			
Mathematics	5	09F	13364	24.33	11.21			
Mathematics	6	01G	14035	25.40	11.46	3336	22.36	11.51
Mathematics	6	02M	13289	25.99	11.43	1807	28.53	11.51
Mathematics	6	03A	13332	26.00	11.45	1813	27.73	11.73
Mathematics	6	04B	13370	25.91	11.43			
Mathematics	6	05C	13334	25.99	11.47			
Mathematics	6	06M	13316	26.03	11.37			
Mathematics	6	07D	13271	25.99	11.37			
Mathematics	6	08E	13307	25.92	11.53			
Mathematics	6	09F	13286	26.03	11.50			
Mathematics	7	01A	13822	23.76	11.24	3295	20.27	10.20

Table 9-4M (continued). Mathematics Mean Scores by Form

Subject	Grade	Form	Count (Paper)	RS Mean (Paper)	RS SD (Paper)	Count (CBT)	RS Mean (CBT)	RS SD (CBT)
Mathematics	7	02M	13089	24.42	11.16	1979	24.93	10.69
Mathematics	7	03B	13122	24.38	11.19	2014	24.73	10.54
Mathematics	7	04M	13057	24.43	11.20			
Mathematics	7	05C	13097	24.17	11.19			
Mathematics	7	06D	13077	24.41	11.12			
Mathematics	7	07E	13079	24.44	11.25			
Mathematics	7	08F	13107	24.36	11.20			
Mathematics	7	09G	13070	24.57	11.26			
Mathematics	8	01F	13471	24.99	11.55	3152	21.99	11.20
Mathematics	8	02M	12873	26.17	11.65	2025	26.69	11.10
Mathematics	8	03A	12828	25.66	11.51	2018	26.50	11.12
Mathematics	8	04B	12795	25.84	11.51			
Mathematics	8	05C	12823	25.68	11.49			
Mathematics	8	06D	12858	25.54	11.63			
Mathematics	8	07E	12797	25.64	11.45			
Mathematics	8	08M	12760	25.76	11.51			
Mathematics	8	09G	12786	25.68	11.57			

Table 9-4S. Science Mean Scores by Form

Subject	Grade	Form	Count (Paper)	RS Mean (Paper)	RS SD (Paper)	Count (CBT)	RS Mean (CBT)	RS SD (CBT)
Science	4	01A	10272	25.09	9.54	2831	24.06	9.62
Science	4	02M	9706	25.99	9.42	1548	28.73	9.02
Science	4	03B	9715	26.00	9.35	1536	28.47	8.65
Science	4	04C	9812	26.11	9.35			
Science	4	05D	9733	25.91	9.43			
Science	4	06E	9675	26.00	9.40			
Science	4	07F	9734	25.94	9.33			
Science	4	08G	9679	25.88	9.48			
Science	4	09A	9738	26.10	9.44			
Science	4	10M	9706	26.15	9.44			
Science	4	11D	9683	25.93	9.36			
Science	4	12F	9725	25.91	9.40			
Science	8	01A	10085	24.33	9.06	3724	23.39	8.85
Science	8	02M	9466	25.24	8.82	2476	26.35	8.42
Science	8	03B	9475	25.09	8.72	2477	26.58	8.19
Science	8	04C	9500	25.07	8.87			
Science	8	05D	9384	25.12	8.80			
Science	8	06E	9462	25.25	8.81			
Science	8	07F	9440	25.23	8.78			
Science	8	08G	9424	25.20	8.85			
Science	8	09D	9421	25.28	8.76			
Science	8	10B	9442	25.32	8.73			
Science	8	11F	9430	25.33	8.83			
Science	8	12M	9448	25.15	8.73			

Table 9–5 shows the number of students who took each form pattern (recall that pattern M is the Master Core version), and Table 9–6 shows the form to scramble pattern conversion.

Table 9–5. Form Pattern Administration Counts

Subject	Grade	A	B	C	D	E	F	G	M
Mathematics	3	13980	12913	12912	12900	15363	12887	12818	26831
Mathematics	4	14280	13084	13080	16049	13120	13062	13127	27484
Mathematics	5	15134	13329	13313	13412	13374	13364	17216	28450
Mathematics	6	15145	13370	13334	13271	13307	13286	17371	28412
Mathematics	7	17117	15136	13097	13077	13079	13107	13070	28125
Mathematics	8	14846	12795	12823	12858	12797	16623	12786	27658
ELA	3	14856	14048	12961	12968	12879	12918	12929	27005
ELA	4	15405	14387	13182	13210	13141	13162	13203	27482
ELA	5	16558	15331	13405	13446	13464	13339	13392	28615
ELA	6	16747	15370	13370	13362	13339	13319	13364	28689
ELA	7	16675	15403	13135	13140	13061	13126	13144	28314
ELA	8	16217	15058	12869	12800	12887	12915	12881	27876
Science	4	22841	11251	9812	19416	9675	19459	9679	20960
Science	8	13809	21394	9500	18805	9462	18870	9424	21390

Note. Final data was used

Table 9–6. Form to Pattern Conversion Table

Content	Grade	1	2	3	4	5	6	7	8	9	10	11	12
ELA	3	A*	M*	B*	M	C	D	E	F	G			
ELA	4	A*	M*	B*	C	D	M	E	F	G			
ELA	5	A*	M*	B*	C	D	E	M	F	G			
ELA	6	A*	M*	B*	M	C	D	E	F	G			
ELA	7	A*	M*	B*	C	D	E	F	G	M			
ELA	8	A*	M*	B*	C	D	E	F	M	G			
Mathematics	3	E*	M*	A*	B	C	D	M	F	G			
Mathematics	4	D*	M*	A*	B	C	E	F	G	M			
Mathematics	5	G*	M*	A*	B	M	C	D	E	F			
Mathematics	6	G*	M*	A*	B	C	M	D	E	F			
Mathematics	7	A*	M*	B*	M	C	D	E	F	G			
Mathematics	8	F*	M*	A*	B	C	D	E	M	G			
Science	4	A*	M*	B*	C	D	E	F	G	A	M	D	F
Science	8	A*	M*	B*	C	D	E	F	G	D	B	F	M

Note. * indicates the form was offered online

SCRAMBLING ANALYSIS

FORM LEVEL

The test-level and item-level effects of scrambling are presented in the following section. Table 9–6 shows the mean raw score difference from the Master Core for each scramble pattern (scramble pattern mean minus Master Core mean). The highlighted mean differences are statistically significant at family-wise Type I error rate (alpha) 0.01 with two-sample t-test. For example, with grade 3 math, seven two sample t-tests are conducted (Master Core vs. A, B, C, D, E, F, and G) and each test had Type I error rate (alpha) of 0.001428571 to keep the family-wise Type I error rate 0.01. Form 1, the form designated for use with accommodations was included in these analyses and as expected, a statistically significant difference was found wherever a pattern corresponds to Form 1. This difference, however, is likely attributable to the general pattern of lower item and test level scores for examinees using accommodations, and not to scrambling effects. Form 1 for all mathematics, ELA, and science grades followed pattern A. For science grade 4, form 5 followed pattern A as well.

Table 9–7 shows that, aside from results that are likely influenced by examinees receiving accommodations, 7 of 42, and 5 of 14 scramble pattern raw score means showed a statistically significant difference from the Master Core in mathematics, and science, respectively. There were no statistical differences in raw scores for any ELA scramble patterns aside from the accommodation form. Science Grade 4 showed statistical differences for 4 of the 8 scramble patterns, and Mathematics Grade 8 showed statistical differences for 2 of the scramble patterns.

Table 9–7. Mean Raw Score Differences from the Master Core

Subject	Grade	A	B	C	D	E	F	G
Mathematics	3	-0.06	-0.11	-0.23	-0.10	-1.17	-0.08	0.05
Mathematics	4	-0.06	0.03	-0.14	-1.23	-0.11	-0.28	-0.26
Mathematics	5	0.19	-0.10	0.00	0.21	-0.14	-0.24	-1.18
Mathematics	6	0.03	-0.26	-0.18	-0.18	-0.25	-0.15	-1.36
Mathematics	7	-1.37	-0.03	-0.29	-0.05	-0.02	-0.10	0.11
Mathematics	8	-0.25	-0.18	-0.34	-0.48	-0.38	-1.60	-0.34
ELA	3	-0.60	0.00	0.04	-0.08	-0.21	0.04	-0.18
ELA	4	-1.21	0.04	-0.04	-0.33	-0.14	0.07	-0.13
ELA	5	-0.99	0.00	-0.25	-0.13	-0.13	-0.30	-0.15
ELA	6	-0.76	0.24	-0.01	-0.13	0.01	0.09	0.03
ELA	7	-0.74	-0.18	0.06	-0.08	0.22	0.05	0.09
ELA	8	-1.10	0.27	-0.01	0.00	0.14	-0.20	0.06
Science	4	-0.87	0.07	-0.15	-0.35	-0.26	-0.34	-0.38
Science	8	-1.25	0.03	-0.26	-0.13	-0.08	-0.05	-0.13

Note. Highlighted cells indicate the scramble pattern is statistically significantly different from the Master Core form at family-wise α = 0.01 (corrected for 7 pairwise comparisons) for each subject and grade.

ITEM LEVEL

The item level scrambling was examined using differential item functioning (DIF) described in Chapter Five. The *Mantel-Haenszel* procedure (Mantel & Haenszel, 1959) for detecting differential item functioning is a commonly used technique for MC items in educational testing and contrasts a focal group with a reference group.

In this section, master core form is reference group and non-master core form was focal groups. The items are assigned a severity code based on the magnitude of the effect sizes. Items classified as A+ or A- have little or no statistical indication of DIF. Items classified as B+ or B- have some indication of DIF but may be judged to be acceptable for future use. Items classified as C+ or C- have strong evidence of DIF and should be reviewed. Table 9–8 shows the number of items with C DIF items. There were 0 items exhibiting C DIF across forms; moreover, there were only 2 items exhibiting B DIF, one in ELA grade 5 and one in ELA grade 8.

Table 9–8. The Number of Items with C DIF for Scrambling Effect

Subject	Item Type	Grade	A	B	C	D	E	F	G
Mathematics	MC	3	0	0	0	0	0	0	0
Mathematics	MC	4	0	0	0	0	0	0	0
Mathematics	MC	5	0	0	0	0	0	0	0
Mathematics	MC	6	0	0	0	0	0	0	0
Mathematics	MC	7	0	0	0	0	0	0	0
Mathematics	MC	8	0	0	0	0	0	0	0
ELA	MC	3	0	0	0	0	0	0	0
ELA	MC	4	0	0	0	0	0	0	0
ELA	MC	5	0	0	0	0	0	0	0
ELA	MC	6	0	0	0	0	0	0	0
ELA	MC	7	0	0	0	0	0	0	0
ELA	MC	8	0	0	0	0	0	0	0
Science	MC	4	0	0	0	0	0	0	0
Science	MC	8	0	0	0	0	0	0	0

CHAPTER TEN: SUMMARY DEMOGRAPHIC, PROGRAM, AND ACCOMMODATION DATA FOR THE 2019 PSSA

ASSESSED STUDENTS

The PSSA assessed students include those from public schools who are required to participate as well as those from a small number of non-public schools (fewer than 500 students per grade level) that elected to participate. Also included were home-schooled students (fewer than 100 students per grade) and a small number of foreign exchange students (generally fewer than 30 students per grade through Grade 8). An exception was granted for those IEP students with quite significant cognitive impairments who met each of the following criteria, making them eligible to participate in the Pennsylvania Alternate System of Assessment (PASA) for mathematics, reading, and science: 1) was enrolled in the assessed grade level for the subject area, 2) had a very severe cognitive disability, 3) required very intensive instruction, 4) required very extensive adaptation and support to perform or participate meaningfully, 5) required very substantial modification of the general education curriculum, and 6) participated in the general education curriculum that differed markedly in form and substance from that of other students. (See the *2019 Pennsylvania System of School Assessment: Handbook for Assessment Coordinators*.)

Results for this chapter are presented in tables for the three PSSA subject areas (mathematics, ELA, and science). Accompanying each numbered table is a letter (M, E, or S) to designate the subject area. Mathematics results are indicated by "M," ELA results are indicated by "E," and science results are indicated by "S." Tables 10–1E through 10–1S provide a summary of the assessed students for each subject. The last line combines the number of paper and online tests that are processed. This number is typically less than the "Used Answer Booklets Received" column shown in Table 8-1. The reason for the difference is that completely blank answer booklets (no student name and no items responded to) are removed from the initial batch of materials scanned. See Chapter Eight for more details on processing. Some processed booklets have student identifying information but will not receive a score. These results are presented within the 10-1 tables. Explanations for non-assessed students are provided later in this chapter.

Table 10–1E. Students Assessed on the 2019 PSSA: ELA

Description	Gr. 3	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Total number of PPT processed	120,931	123,442	125,407	125,642	124,274	122,893
Total number of CBT processed	4,363	4,923	7,322	7,675	8,349	8,058
Total number of tests processed	125,294	128,365	132,729	133,317	132,623	130,951
Total number of tests processed with a score	122,677	125,248	129,515	129,588	128,152	125,419
Total percent of tests processed with a score	97.9	97.6	97.6	97.2	96.6	95.8
Total number of tests processed without a score	2,617	3,117	3,214	3,729	4,471	5,532
Total percent of tests processed without a score	2.1	2.4	2.4	2.8	3.4	4.2
Students with an English Language Arts score used in state summaries	120,564	123,172	127,550	127,560	125,998	123,503

Notes. PPT = Paper/Pencil Test
CBT = Computer-Based Test

Table 10–1M. Students Assessed on the 2019 PSSA: Mathematics

Description	Gr. 3	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Total number of PPT processed	120,892	123,413	125,576	126,052	124,933	123,355
Total number of CBT processed	4,442	5,008	7,263	7,376	7,770	7,673
Total number of tests processed	125,334	128,421	132,839	133,428	132,703	131,028
Total number of tests processed with a score	123,294	125,960	130,052	129,976	128,408	125,484
Total percent of tests processed with a score	98.4	98.1	97.9	97.4	96.8	95.8
Total number of tests processed without a score	2,040	2,461	2,787	3,452	4,295	5,544
Total percent of tests processed without a score	1.6	1.9	2.1	2.6	3.2	4.2
Students with a Mathematics score used in state summaries	120,604	123,286	127,592	127,496	125,808	123,186

Notes. PPT = Paper/Pencil Test
CBT = Computer-Based Test

Table 10–1S. Students Assessed on the 2019 PSSA: Science

Description	Gr. 4	Gr. 8
Total number of PPT processed	122,188	121,705
Total number of CBT processed	6,196	9,222
Total number of tests processed	128,384	130,927
Total number of tests processed with a score	125,751	124,929
Total percent of tests processed with a score	97.9	95.4
Total number of tests processed without a score	2,633	5,998
Total percent of tests processed without a score	2.1	4.6
Students with a Science score used in state summaries	123,093	122,654

Notes. PPT = Paper/Pencil Test
CBT = Computer-Based Test

NON-ASSESSED STUDENTS

As may be observed from Tables 10–1E through 10–1S, not all students were assessed. Although there are a variety of reasons for this, the major ones pertain to the following:

- Extended absence from school that continued beyond the assessment window.
- Failure to meet the attempt criteria on one or more subject-area test sections and no exclusion code was marked by school personnel. For mathematics, ELA, and science, the attempt criteria required a minimum of five items to be completed in each subject area section.
- EL students in their first year in U.S. schools (ELA only).
- Medical emergency.
- Parental request in which the student's parent/guardian reviewed the assessment, found it to be in conflict with his/her religious belief, and requested in writing that the student be excluded from participation.
- Parental request in which the student's parent/guardian chose to have his/her child excluded from participation based on reasons other than conflict with religious belief, even though there is no provision for this exclusion in Pennsylvania regulation.
- Other reasons.

The numbers of students without test scores for these reasons are presented in Tables 10–2E through 10–2S.

Table 10–2E. Counts of Students without Scores on the 2019 PSSA: ELA

Reason for Non-Assessment	Gr. 3	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Extended absence from school (Number)	81	88	102	219	340	416
Extended absence from school (Percent)	3.1	2.8	3.2	5.9	7.6	7.5
Non-attempt (Number)	475	645	529	529	660	751
Non-attempt (Percent)	18.2	20.7	16.5	14.2	14.8	13.6
EL in first year in U.S. schools (Number)	403	415	348	277	262	237
EL in first year in U.S. schools (Percent)	15.4	13.3	10.8	7.4	5.9	4.3
Medical emergency (Number)	100	119	178	244	278	401
Medical emergency (Percent)	3.8	3.8	5.5	6.5	6.2	7.2
Parental request - Chapter 4 (Number)	862	1,031	1,167	1,425	1,610	1,934
Parental request - Chapter 4 (Percent)	32.9	33.1	36.3	38.2	36	35
Parental request - Other reasons (Number)	565	657	698	793	1,007	1,435
Parental request - Other reasons (Percent)	21.6	21.1	21.7	21.3	22.5	25.9
Other reasons (Number)	131	162	192	242	314	358
Other reasons (Percent)	5	5.2	6	6.5	7	6.5
Total not assessed	2,617	3,117	3,214	3,729	4,471	5,532

Table 10–2M. Counts of Students without Scores on the 2019 PSSA: Mathematics

Reason for Non-Assessment	Gr. 3	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8
Extended absence from school (Number)	139	171	193	302	458	567
Extended absence from school (Percent)	6.8	6.9	6.9	8.7	10.7	10.2
Non-attempt (Number)	284	354	360	409	517	587
Non-attempt (Percent)	13.9	14.4	12.9	11.8	12	10.6
Medical emergency (Number)	120	143	200	280	322	476
Medical emergency (Percent)	5.9	5.8	7.2	8.1	7.5	8.6
Parental request - Chapter 4 (Number)	810	979	1,175	1,423	1,651	2,011
Parental request - Chapter 4 (Percent)	39.7	39.8	42.2	41.2	38.4	36.3
Parental request - Other reasons (Number)	556	652	681	787	1,001	1,506
Parental request - Other reasons (Percent)	27.3	26.5	24.4	22.8	23.3	27.2
Other reasons (Number)	131	162	178	251	346	397
Other reasons (Percent)	6.4	6.6	6.4	7.3	8.1	7.2
Total not assessed	2,040	2,461	2,787	3,452	4,295	5,544

Table 10–2S. Counts of Students without Scores on the 2019 PSSA: Science

Reason for Non-Assessment	Gr. 4	Gr. 8
Extended absence from school (Number)	274	778
Extended absence from school (Percent)	10.4	13
Non-attempt (Number)	405	782
Non-attempt (Percent)	15.4	13
Medical emergency (Number)	169	505
Medical emergency (Percent)	6.4	8.4
Parental request - Chapter 4 (Number)	1,005	1,988
Parental request - Chapter 4 (Percent)	38.2	33.1
Parental request - Other reasons (Number)	624	1,499
Parental request - Other reasons (Percent)	23.7	25
Other reasons (Number)	156	446
Other reasons (Percent)	5.9	7.4
Total not assessed	2,633	5,998

COMPOSITION OF SAMPLE USED IN SUBSEQUENT TABLES

Students included in the following demographic analyses were those who contributed to state summary statistics, using the final individual student data file provided to the Pennsylvania Department of Education in August 2019. Students not included in the state summary data were those who were 1) enrolled in a Pennsylvania school after October 1, 2018, 2) coded as EL and enrolled after May 4, 2018, 3) foreign exchange students, 4) home schooled, 5) enrolled in a non-public school, or 6) without a subject-area test score.

Demographic data for students taking the PSSA is presented separately for each subject area in Appendix I. Results for accommodations received were collected separately by subject area and are presented in separate tables as well.

COLLECTION OF STUDENT DEMOGRAPHIC INFORMATION

Data for analyses involving demographic characteristics were obtained primarily from information supplied by school district personnel through the Pennsylvania Information Management System (PIMS) and subsequently transmitted to DRC. Updates of attribution data were carried out through the DRC Attribution System. Some data such as accommodation information is marked directly on the student answer document at the time the PSSA is administered.

PARTICIPATION BY ADMINISTRATION MODE

Online (CBT) testing was available for the PSSA. As anticipated the vast majority of students were assessed utilizing paper/pencil tests (PPT). The bottom row of the tables presented in Appendix I present the number of students involved in the PPT and CBT administrations as well as Table 9–2 in Chapter Nine. Overall, the percent of students responding by CBT was approximately 3.39 to 7.07 percent for mathematics and ELA, and science. There was an increase of about 1.3 percent across each subject and grade levels from 2018 to 2019. In general for ELA and math, higher grade levels tend to administer more computer-based tests.

DEMOGRAPHIC CHARACTERISTICS

Frequency data for each demographic category is presented in Appendix I. Percentages are based on students with scores in a subject area, which are shown at the bottom of the appropriate table. Included are students receiving education in a non-traditional setting, such as a court-agency placement.

TEST ACCOMMODATIONS PROVIDED

School personnel supplied information regarding accommodations that a student may have received while taking the PSSA. Accommodations are classified in terms of presentation, response, setting, and timing to enable students to better manage disabilities that hinder their ability to learn and respond to assessments. An accommodations manual entitled, 2019 *Accommodations Guidelines: Keystone Exams and PSSA* guides the development and analysis of the PSSA. This manual may be found on the PDE website at www.education.pa.gov. A glossary of accommodation terms as applied to the PSSA is provided in Table 10–3 at the end of this chapter.

The frequency with which accommodations were utilized for PPT and CBT formats is summarized separately for each subject area in Appendix J. Tabled values are based on all students whose score contributed to state summary statistics in a given subject area. Because of the very small number of students utilizing CBT, combined with the fact that a number of accommodations are primarily accessed by only one of the two administration modes, meaningful comparisons with PPT are rather limited. In the tables an NA denotes those instances in which a particular accommodation does not apply to one of the testing modes.

PRESENTATION ACCOMMODATIONS RECEIVED

Presentation Accommodations are those that provide alternate ways for students to access and process printed instructional material and assessments. These include auditory, tactile, visual, and combined auditory/visual modes of presentation. The number of presentation accommodations provided in the 2019 PSSA varied by subject and testing mode and are presented in Appendix J.

As depicted in Appendix J, the actual frequencies were low, with all but the read-aloud, audio, and other accommodation being used by less than one percent of assessed students statewide. Among accommodations specific to CBT the use of audio was the most frequent. For CBT administration, there were unique accommodations, audio, color chooser, contrasting text chooser, and refreshable Braille, available for mathematics, ELA, and science. Video sign language was also available for mathematics and science.

RESPONSE ACCOMMODATIONS RECEIVED

Response Accommodations permit students to complete assignments, tests, and activities in different ways to solve or organize problems using some type of assistive device or organizer. The number of response accommodations provided on the 2019 PSSA varied by subject and testing mode and are presented in Appendix J. Very few response accommodations were coded as being utilized by students responding by CBT.

SETTING ACCOMMODATIONS RECEIVED

Setting Accommodations permit a change in location in which a student receives instruction or participates in an assessment. There were four categories of setting accommodations for mathematics, ELA, and science on the 2019 PSSA. As depicted in Appendix J, the most common accommodation across subject areas was small group setting. This was true for PPT and CBT modes of administration.

TIMING ACCOMMODATIONS RECEIVED

Timing Accommodations involve a change in the allowable length of time to complete assignments or assessments, including the way in which time is organized. There were four categories of timing accommodations for mathematics, ELA, and science on the 2019 PSSA. As depicted in Appendix J, the most commonly used accommodation was extended time, followed by frequent breaks. One consistent finding was that students responding by CBT had a higher usage of frequent breaks than observed for students taking a PPT.

ACCOMMODATION RATE FOR NON-IEP AND IEP STUDENTS

A comparison between students without an IEP (non-IEP students) and those with an IEP (IEP students) with regard to having received an accommodation is provided in Appendix K. In this data, accommodated means that a student received one or more of the total number of accommodations available for a given subject area; however, this also varies with administration mode. The total number of available accommodations for students taking a PPT was as follows: mathematics and science, 31; and ELA, 28. The number of available accommodations for students taking a CBT was as follows: mathematics and science, 29; and ELA, 25. The category of non-accommodated indicates that a student did not receive any accommodation during testing.

The general pattern of findings reveals a consistent and substantially higher percentage of IEP students receiving an accommodation in contrast to non-IEP students. This same pattern holds true regardless of test administration mode and PSSA test.

THE INCIDENCE OF ACCOMMODATIONS AND IEP AND EL STATUS

As noted in Appendix L, students with an IEP received an accommodation of some type far more often than non-IEP students, with the exception of the extended time accommodation. As the PSSA is designed as having no time limit, any student may opt for extended time. Certain accommodations with very low frequencies are specific to particular disabilities while others, such as extended time are far more common and may also apply to any student. Accommodations having the largest frequencies can potentially supply the most stable data when separated out for subgroup analysis. Listed below are the most commonly used accommodations, which were chosen for display.

- Some test items/questions read aloud (mathematics, science)
- All test items/questions read aloud (mathematics, science)
- Small group setting (mathematics, ELA, science)
- Extended time (mathematics, ELA, science)
- Frequent breaks (mathematics, ELA, science)
- Some language questions/text-dependent analysis questions read aloud (ELA)
- All language questions/text-dependent analysis questions read aloud (ELA)

Coding for IEP is dichotomous, as students are classified IEP and non-IEP. For purposes of this analysis, an English Learner (EL) is a student classified EL and enrolled in a U.S. school on or before May 4, 2018. All other assessed students, including those who have exited an ESL/bilingual program and are in the first or second year of monitoring, are regarded as non-EL. Students coded as EL and enrolled in a U.S. school after May 4, 2018, are excluded from state summary statistics as stated earlier in this chapter.

Customarily, a considerably larger percentage of IEP students receive a given accommodation than non-IEP students. Although less frequent, certain accommodations also have a high frequency rate for EL students. To separate out the effect of being classified IEP or EL, four possible combinations are presented in the Appendix L. These include general education students who are neither IEP nor EL, students who are IEP but non-EL, students who are EL but non-IEP, and students who are both IEP and EL. The bottom row for each grade provides the total number of assessed students in each of the four classifications.

GLOSSARY OF ACCOMMODATION TERMS

Table 10–3 provides a brief description of accommodation terms as used in the PSSA. Accommodation data was supplied by school personnel as noted in the left column of the table. The right column contains an explanation derived from the PDE publication, 2019 *Accommodations Guidelines: Keystone Exams and PSSA*. This manual may be found on the PDE website at www.education.pa.gov.

Table 10–3. Glossary of Accommodation Terms as Applied in the 2019 PSSA

Type of Testing Accommodation	Explanation
Student used the following Presentation Accommodations	
Braille format	Students may use a Braille format of the test. Answers must then be transcribed into the answer booklet without alteration.
Large print format	Students with visual impairments may use a large print format. Answers must then be transcribed into the answer booklet without alteration.
Magnification device	Devices to magnify print may be used for students with visual impairments and/or print disabilities.
Color overlay	Students with visual impairments may place a color overlay on a printed page of the test document to make text more readable.
Computer assistive technology (e.g., electronic screen reader) (PDE approval required)	Students with severe visual disabilities that prevent them from accessing instructional material or performing the skill may use computer assistive technology; however, PDE must approve the program and functions prior to the test window.
Test items/questions/text-dependent analysis signed	Deaf/hearing impaired students may receive test directions from a qualified interpreter. Signing is also permitted for PSSA ELA writing section multiple choice items, and text-dependent analysis questions and all items in PSSA mathematics and science and for Keystone Algebra and Biology.
Test items/questions/text-dependent analysis interpreted for EL	A qualified interpreter may translate directions or clarify instructions for the assessments. The interpreter may translate but not define specific words or test questions on the PSSA mathematics, science, ELA writing section multiple choice items, and text-dependent analysis questions and Keystone Algebra and Biology exams.
Some or all test items/questions/text-dependent analysis read aloud	Students unable to decode text visually may have items/questions read aloud for PSSA ELA writing section multiple choice items, and text-dependent analysis questions and all items in PSSA mathematics and science and for Keystone Algebra and Biology; however, words may not be defined.
Amplification device	In addition to using hearing aids, an amplification device to enhance clarity may be required.
Other (PDE approval required)	Other presentation accommodations indicated in the *Accommodation Guidelines* may be provided; however, PDE approval is required prior to the test window.
Spanish version for PSSA (Math and Science) and Keystone (Algebra and Biology)	Students whose first language is Spanish and who have been enrolled in U.S. schools for fewer than three years may take this version.
Student used the following Online Presentation Accommodations	
Audio	The online test form reads permissible test directions and items for a student unable to decode text. The accommodation must be marked within the test engine system. The accommodation is available on PSSA mathematics, science, ELA writing section multiple choice items, and text-dependent analysis questions and Keystone Algebra and Biology exams.
Video sign language (per accommodations guidelines)	Eligible students who use a sign language accommodation during instructional periods may use VSL on the PSSA mathematics and science and Keystone Algebra and Biology assessments.
Color chooser or contrasting text chooser	The use of this accommodation enables a visually impaired student to change the background color or text color to make text more readable.
Refreshable Braille	This accommodation allows students to use a screen reader to produce a Braille translation output.

Table 10–3 (continued). Glossary of Accommodation Terms as Applied in the 2019 PSSA

Type of Testing Accommodation	Explanation
Student used the following Response Accommodations	
Brailler/Note taker (per *Accommodations Guidelines*)	Students using this device as part of their regular instructional program may use it on the assessments; however, without thesaurus, spelling, or grammar checker.
Test administrator scribed **open-ended** responses at student's direction	A test administrator may record word-for-word exactly what a student dictated directly into the test booklet. This includes MC and OE responses Keystone Algebra, Biology, and Literature tests and PSSA mathematics, ELA, and science.
Test administrator marked **multiple-choice** responses at student's direction	A test administrator may mark an answer booklet at the direction of a student (e.g., a student may point to an MC answer with the test administrator marking the response in the answer booklet).
Test administrator transcribed student responses (per **Accommodations Guidelines**)	A test administrator may transcribe (copy) a student's written, typed, or keyed response into a standard answer booklet.
Qualified Interpreter translated, transcribed, and/or scribed student's **signed** responses	A qualified interpreter may interpret a student's **signed** responses into written English for Keystone Algebra and Biology exams, and PSSA mathematics and science assessments. Interpreters are not permitted to make corrections or change the meaning of the response.
Qualified Interpreter translated, transcribed, and/or scribed EL student responses	A qualified interpreter may interpret a student's non-English oral responses into written English for Keystone Algebra and Biology exams, and PSSA mathematics and science assessments. Interpreters are not permitted to make corrections or change the meaning of the response.
Mixed-mode test administration	Examinee taking the PSSA in computer-based mode provides handwritten responses to constructed-response items in paper answer booklet.
Augmentative communication device	Students with severe communication difficulties may use a special device to convey responses, which must be transcribed into the answer booklet by the test administrator.
Keyboard, word processor, or computer (per *Accommodations Guidelines*)	This is an allowable accommodation as a typing function only for students with the identified need. Supports such as dictionaries, thesauri, spell checkers, and grammar checkers must be turned off. Answers must then be transcribed into the answer booklet without alteration.
Translation dictionary for EL student	A word-to-word dictionary that translates native language to English (or vice versa) without word definitions or pictures is allowed on any portion of the Keystone Algebra and Biology exams, and PSSA mathematics and science tests.
Computer assistive technology e.g., electronic screen reader) (PDE approval required)	Students with blindness or extremely low vision may use dictate text into a computer. Responses must be transcribed verbatim into student's regular answer booklet.
Other (per *Accommodations Guidelines* or PDE approval)	Other accommodations may be appropriate and available if they do not compromise the integrity of the assessment. Documentation must be provided to PDE.

Table 10–3 (continued). Glossary of Accommodation Terms as Applied in the 2019 PSSA

Type of Testing Accommodation	Explanation
Student used the following Setting Accommodations	
Hospital/home testing	A student who is confined to a hospital or to home during the testing window may be tested in that environment.
One-on-one setting	One-on-one settings are necessitated in certain instances, such as to reduce distraction or in the use of certain devices. A separate room may be used to reduce distraction.
Small group setting	Some students may require a test setting with fewer students or a setting apart from all other students to minimize distraction.
Other (per *Accommodations Guidelines* or PDE approval)	Other accommodations may be appropriate and available if they do not compromise the integrity of the assessment. Documentation must be provided to PDE.
Student used the following Timing Accommodations	
Extended time	Extended time may be allotted for each section of the test as a planned accommodation to enable students to finish.
Frequent breaks	Frequent breaks (breaks within a test section) may be scheduled for the completion of each test section; however, a test section must be completed within one school day.
Changed test schedule	Students whose disabilities prevent them from following a regular, planned test schedule may follow an individual schedule that enables test completion.
Other (per *Accommodations Guidelines* or PDE approval)	Other accommodations may be appropriate and available if they do not compromise the integrity of the assessment. Documentation must be provided to PDE.

CHAPTER ELEVEN: CLASSICAL ITEM STATISTICS

This chapter provides an overview of the two most familiar item-level statistics obtained from any classical (traditional) item analysis: item difficulty and item discrimination. The following results pertain only to operational PSSA items (i.e., those items that contributed to a student's total test score) and were estimated using final data. Rasch item statistics are discussed in Chapter Twelve, and test-level statistics are found in Chapter Seventeen.

ITEM-LEVEL STATISTICS

Appendix F provides classical item statistics and Rasch parameters for all PSSA items. Results are organized by subject and grade. These statistics represent the item characteristics most often used to determine whether an item functioned properly and/or how a group of students performed on a particular item. The item statistics in the appendices include *p*-values for multiple-choice (MC) items and item means for open-ended (OE)[1] items (indicators of item difficulty); point-biserial correlations for MC items and item-test correlations for OE items (indicators of item discrimination); and the proportion of students selecting each MC item option or earning each OE item score point.

ITEM DIFFICULTY

At the most general level, an item's difficulty is indicated by its mean score in some specified group (e.g., grade level).

$$\bar{x} = \frac{1}{n} \cdot \sum_{i=1}^{n} x_i$$

In the mean score formula above, the individual item scores (x_i) are summed and then divided by the total number of students (*n*). For multiple-choice items, student scores are represented by 0s and 1s (0 = wrong, 1 = right). With 0–1 scoring, the equation above also represents the number of students correctly answering the item divided by the total number of students. Therefore, this is also the proportion correct for the item, or the *p*-value. In theory, *p*-values can range from 0.00[2] to 1.00 on the proportion-correct scale. For example, if an item has a *p*-value of 0.89, it means 89 percent of the students answered the item correctly. Additionally, this value might also suggest that the item was relatively easy and/or the students who attempted the item were relatively high achievers. In other words, item difficulty and student ability are somewhat confounded.

For OE items, mean scores can range from the minimum possible score (usually zero) to the maximum possible score (e.g., four points in the case of some mathematics, ELA, and science items). Sometimes a pseudo *p*-value is provided for an OE item. This is done by dividing the mean item score by the maximum possible item score.

The minimum and maximum extremes of the difficulty scale are typically not seen in applied practice. However, understanding the extremes helps illustrate that relatively lower values correspond to more difficult items, and that relatively higher values correspond to easier items. (As a result,, some assert that this index would be more accurately referred to as the item's easiness.)

Item difficulty is an important consideration for the PSSA tests because of the ranging achievement levels of students in Pennsylvania (Below Basic, Basic, Proficient, and Advanced). Items that are either very hard or very easy provide little information about student differences in achievement. However, an item answered correctly by a high percentage of students would suggest that the knowledge or skill the item taps has been mastered by most students. Conversely, an item answered incorrectly by a low percentage of students would suggest few students have mastered the knowledge or skill the item taps. On a standards-referenced test like the PSSA, a test development goal is to include a wide range of item difficulties.

[1] OE items for ELA include Short Answer (SA), Evidence Based Selected Response (EBSR), Text Dependent Analysis (TDA).
[2] For MC items with four response options, pure random guessing would lead to an expected *p*-value of 0.25.

ITEM DISCRIMINATION

At the most general level, item discrimination[3] indicates an item's ability to differentiate between high and low achievers. It is expected that students with high ability (i.e., those who perform well on the PSSA overall) would be more likely to answer any given PSSA item correctly, while students with low ability (i.e., those who perform poorly on the PSSA overall) would be less likely to answer the same item correctly. For the PSSA tests, Pearson's product-moment correlation coefficient between item scores and test scores is used to indicate discrimination. (As commonly practiced, DRC removes the item score from the total score such that the resulting correlations will not be spuriously high.) The correlation coefficient can range from -1.0 to +1.0. If the this expectation is met (high-scoring students tend to answer the item correctly while low-scoring students answer the item incorrectly), the correlation between the item score and the total test score will be both positive and noticeably large in its magnitude (i.e., well above zero), meaning the item is a good discriminator between high and low ability students. This should be the case for all PSSA operational test items.

In summary, the correlation will be positive in value when the mean test score of the students answering the item correctly is higher than the mean test score of the students answering the item incorrectly.[4] In other words, this indicates that students who did well on the total test tended to do well on the item as well. However, an interaction can exist between item discrimination and item difficulty. Items answered correctly (or incorrectly) by a large proportion of examinees (i.e., the items have extreme *p*-values) can have reduced power to discriminate, and thus, can have lower correlations.

Discrimination is an important consideration for the PSSA because the use of more discriminating items on a test is associated with more reliable test scores. This in turn means that score estimates will be more precise (i.e., there will be smaller confidence intervals around the scores) and, perhaps more importantly, that more accurate performance level placements will be made. The issues of reliability, confidence intervals, and performance level classifications are further discussed in Chapter Eighteen.

[3] As noted earlier, the discrimination index for PSSA dichotomous MC items is typically referred to as the point-biserial correlation coefficient. For OE items, the term item-test correlation is sometimes used.

[4] It is legitimate to view the point-biserial correlation as a standardized mean difference. A positive value indicates students who chose that response had a higher mean score than the average student; a negative value indicates students who chose that response had a lower than average mean score.

CLASSICAL ITEM ANALYSIS RESULTS

Table 11-1 provides the summary statistics for the difficulty and discrimination with respect to each subject and grade. The spread of item difficulties and discriminations can be seen in both Table 11-1 and Figure 11-1. There is a wide range of difficulties across all subjects, where *p*-values typically range from approximately 0.30 to approximately 0.85. Average *p*-values are consistent with test specifications. The item-total correlations range from about 0.20 to 0.68, where higher item-total correlations are often observed for OE items (see Table 11-2).

Table 11-1. Summary Statistics of Difficulty and Discrimination by Subject and Grade

Subject	Grade	Mean *P*-val.	Min *P*-val.	Q1 *P*-val.	Median *P*-val.	Q3 *P*-val.	Max *P*-val.	Mean I-T Corr.	Min I-T Corr.	Q1 I-T Corr.	Median I-T Corr.	Q3 I-T Corr.	Max I-T Corr.
Mathematics	3	0.57	0.37	0.46	0.56	0.69	0.81	0.45	0.25	0.37	0.44	0.50	0.74
Mathematics	4	0.54	0.29	0.43	0.54	0.65	0.89	0.44	0.14	0.37	0.43	0.50	0.70
Mathematics	5	0.50	0.32	0.38	0.47	0.61	0.74	0.42	0.18	0.34	0.42	0.49	0.75
Mathematics	6	0.52	0.24	0.41	0.53	0.62	0.89	0.42	0.22	0.36	0.40	0.49	0.74
Mathematics	7	0.51	0.21	0.40	0.49	0.59	0.85	0.43	0.22	0.33	0.43	0.51	0.76
Mathematics	8	0.52	0.26	0.41	0.53	0.59	0.84	0.43	0.23	0.36	0.42	0.50	0.78
ELA	3	0.55	0.34	0.47	0.55	0.65	0.83	0.41	0.28	0.32	0.41	0.47	0.60
ELA	4	0.60	0.37	0.53	0.59	0.68	0.79	0.43	0.20	0.35	0.45	0.54	0.63
ELA	5	0.56	0.27	0.45	0.56	0.65	0.87	0.39	0.15	0.33	0.40	0.44	0.63
ELA	6	0.56	0.30	0.46	0.55	0.67	0.83	0.39	0.20	0.32	0.38	0.45	0.60
ELA	7	0.56	0.31	0.47	0.56	0.67	0.83	0.35	0.16	0.26	0.37	0.45	0.58
ELA	8	0.60	0.28	0.49	0.63	0.71	0.81	0.42	0.16	0.33	0.43	0.48	0.65
Science	4	0.55	0.29	0.46	0.55	0.67	0.80	0.38	0.19	0.32	0.40	0.45	0.59
Science	8	0.54	0.17	0.43	0.55	0.67	0.83	0.36	0.18	0.28	0.35	0.43	0.61

Note. I-T Corr. is the item-test score correlation.

Table 11–2 provides break-out results for the MC and OE items. The mean *p*-values for MC items ranged from about 0.51 to 0.58 for Mathematics and from 0.56 to 0.59 for ELA. The mean *p*-values for MC items for Science grades 4 and 8 was 0.56. Test difficulties of the 2019 tests were similar to that of the 2018 forms, which were intentionally increased in 2018 to align with student performance. On average, OE items were slightly more difficult for mathematics and science, where *p*-values ranged from 0.27 to 0.43 and 0.38 to 0.47, respectively. *P*-values for ELA OE items were similar to that of MC items (0.50 to 0.63).

The mean item-test correlations ranged from roughly 0.34 to 0.43 and 0.40 to 0.77 for the MC and OE items, respectively. These are similar to historic trends. The OE correlations tended to be higher than the MC correlations, which is not surprising because the OE items include more score points. Based on the distribution of the discrimination (correlation) statistics, the overall item quality appears quite good. However, it is difficult to make global conclusions about overall test quality from these item statistics alone. With that caveat in mind, the results presented in this chapter indicate that the PSSA item difficulty and discrimination were in expected and acceptable ranges, and further evidence of the quality of the internal test structure is provided in the chapters that follow.

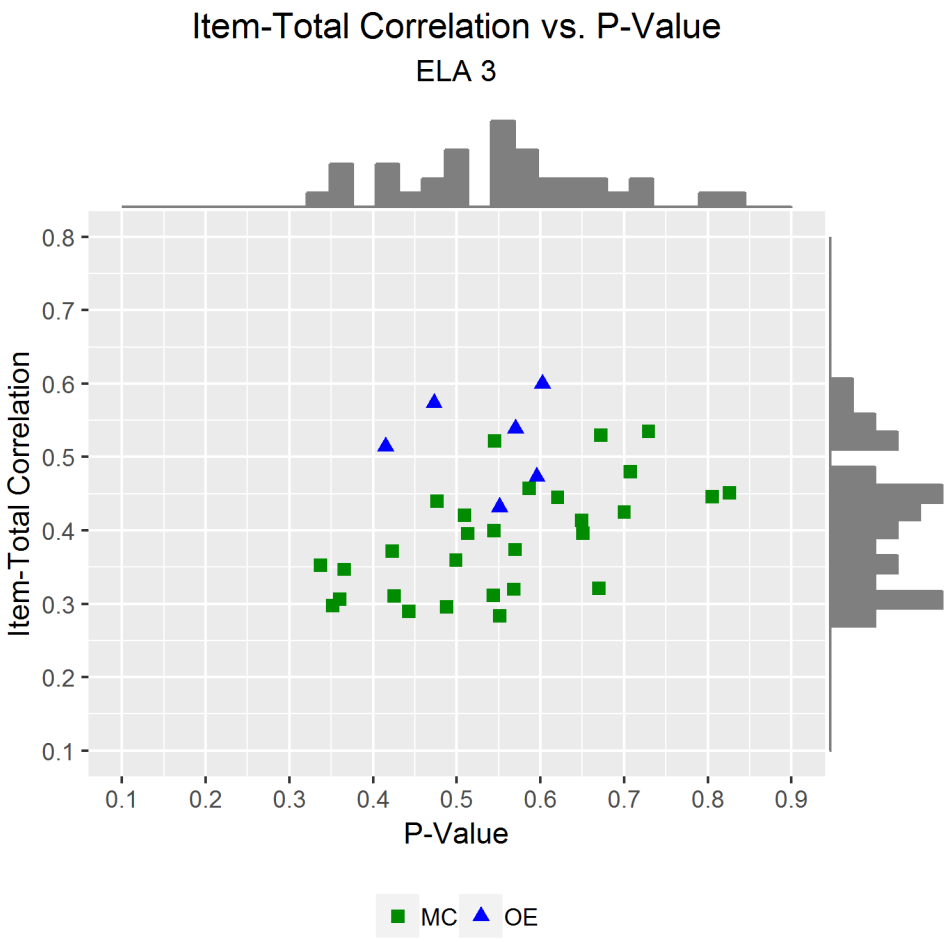
Table 11–2. Sum and Mean Statistics for MC and OE Items

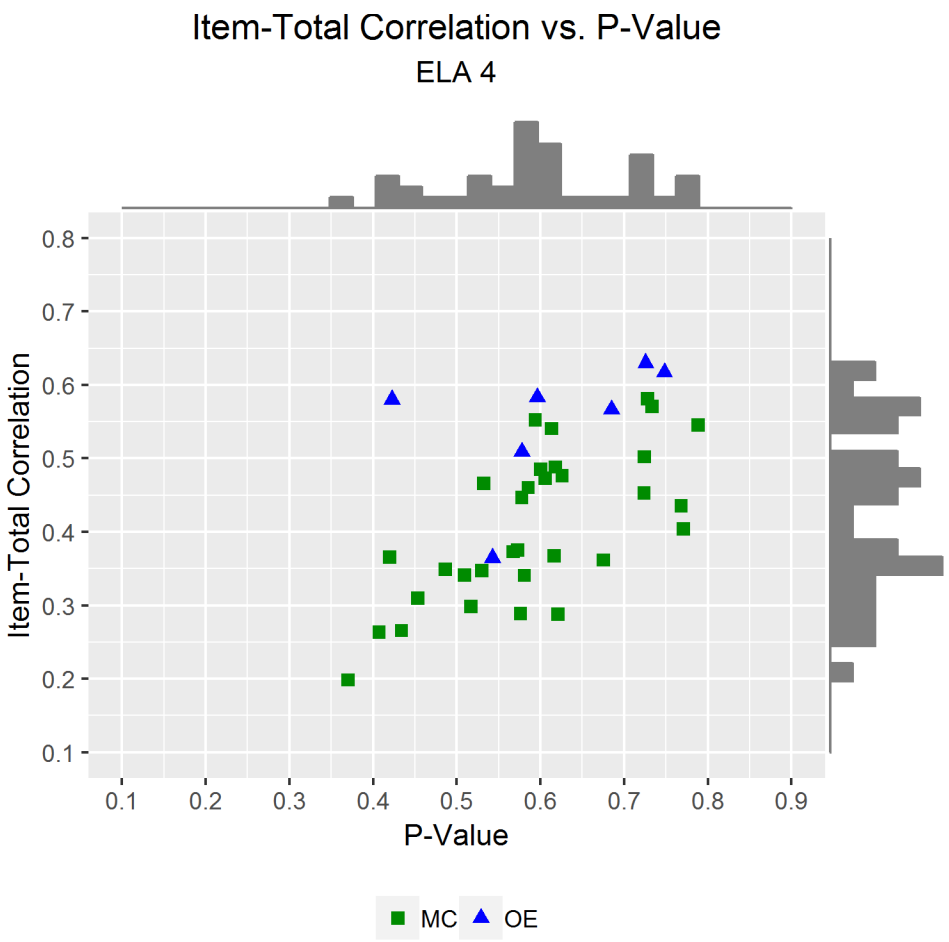
Subject	Grade	MC Points	MC Sum	MC Mean *P*-val.	MC Mean I-T Corr.	OE Points	OE Sum	OE Mean P-val.	OE Mean I-T Corr.
Mathematics	3	40	23.29	0.58	0.43	12	5.17	0.43	0.72
Mathematics	4	40	22.30	0.56	0.42	12	4.45	0.37	0.69
Mathematics	5	40	20.34	0.51	0.40	12	4.08	0.34	0.71
Mathematics	6	40	21.44	0.54	0.40	12	4.44	0.37	0.72
Mathematics	7	40	21.01	0.53	0.41	12	3.22	0.27	0.71
Mathematics	8	40	21.28	0.53	0.40	12	4.31	0.36	0.77
ELA	3	29	16.13	0.56	0.39	16	8.55	0.53	0.52
ELA	4	32	18.93	0.59	0.41	19	11.66	0.61	0.55
ELA	5	32	18.18	0.57	0.37	19	9.96	0.52	0.51
ELA	6	32	17.99	0.56	0.37	19	10.34	0.54	0.47
ELA	7	32	18.39	0.57	0.34	19	9.47	0.50	0.40
ELA	8	32	18.96	0.59	0.39	19	11.94	0.63	0.54
Science	4	38	21.24	0.56	0.36	10	4.70	0.47	0.50
Science	8	38	21.35	0.56	0.35	10	3.78	0.38	0.45

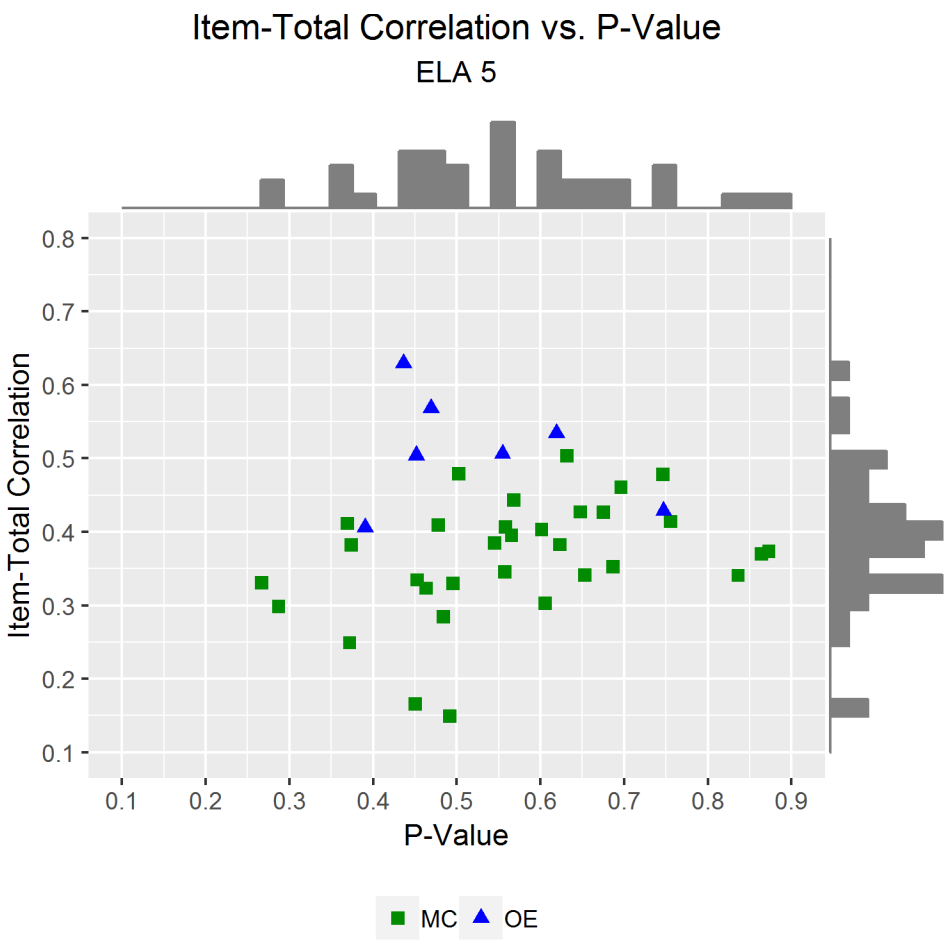
Note. I-T Corr. is the item-test score correlation. OE items for ELA include SA, EBSR, and TDA.

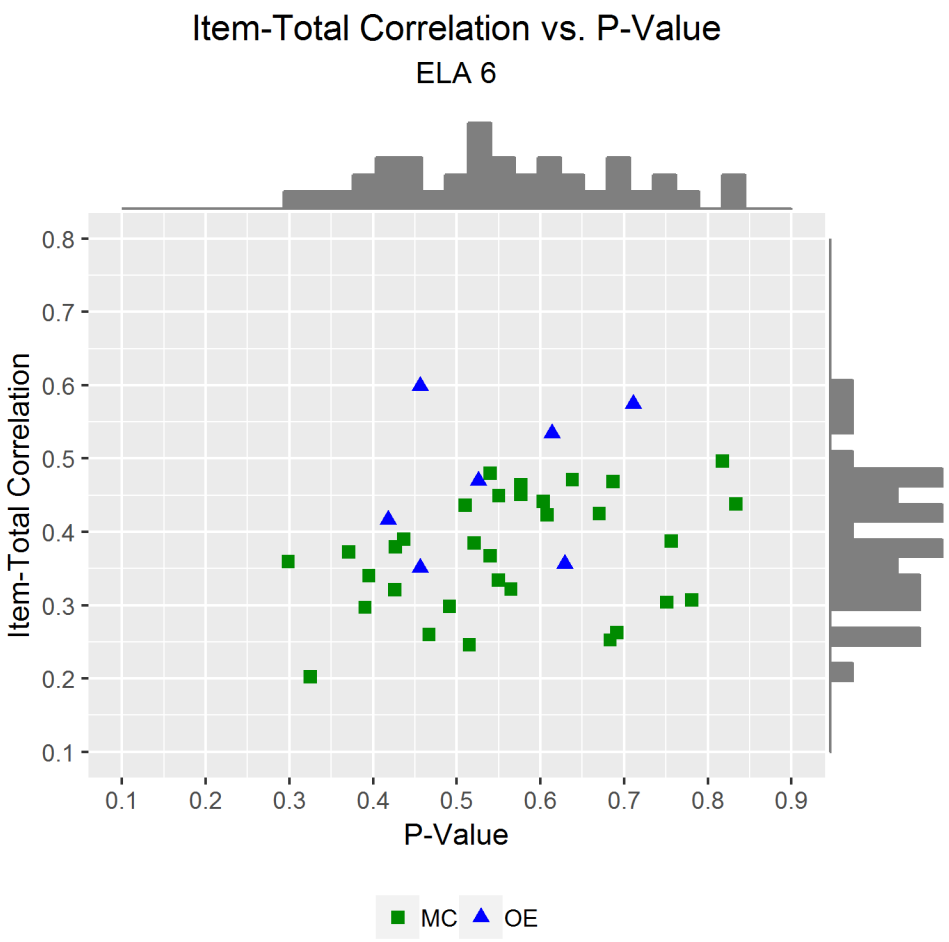
Figure 11–1 presents scatterplots for each subject and grade and displaying each item plotted by its *p*-value on the *x*-axis and its item-total correlation on the *y*-axis. Note that pseudo *p*-values (described above) are used for OE items in these plots. These plots provide information about the distribution of item discrimination and item difficulty in a histogram along the y-axis and x-axis, respectively. Green squares indicate MC items and blue triangles indicate OE items. For ELA, OE items include SA, EBSR, and TDA item types. From the difficulty distributions illustrated in Figure 11–1, a wide range of item difficulties appeared on each exam, which was one test development goal. The bivariate relationship between item discrimination (item-test *correlations*) and difficulty (item *mean* scores) shows a common trend that items with extreme difficulties can have lower discrimination values.

Figure 11-1. Discrimination and Difficulty Scatterplot




Item-Total Correlation vs. P-Value
ELA 4
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
ELA 5
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
ELA 6
Item-Total Correlation
P-Value
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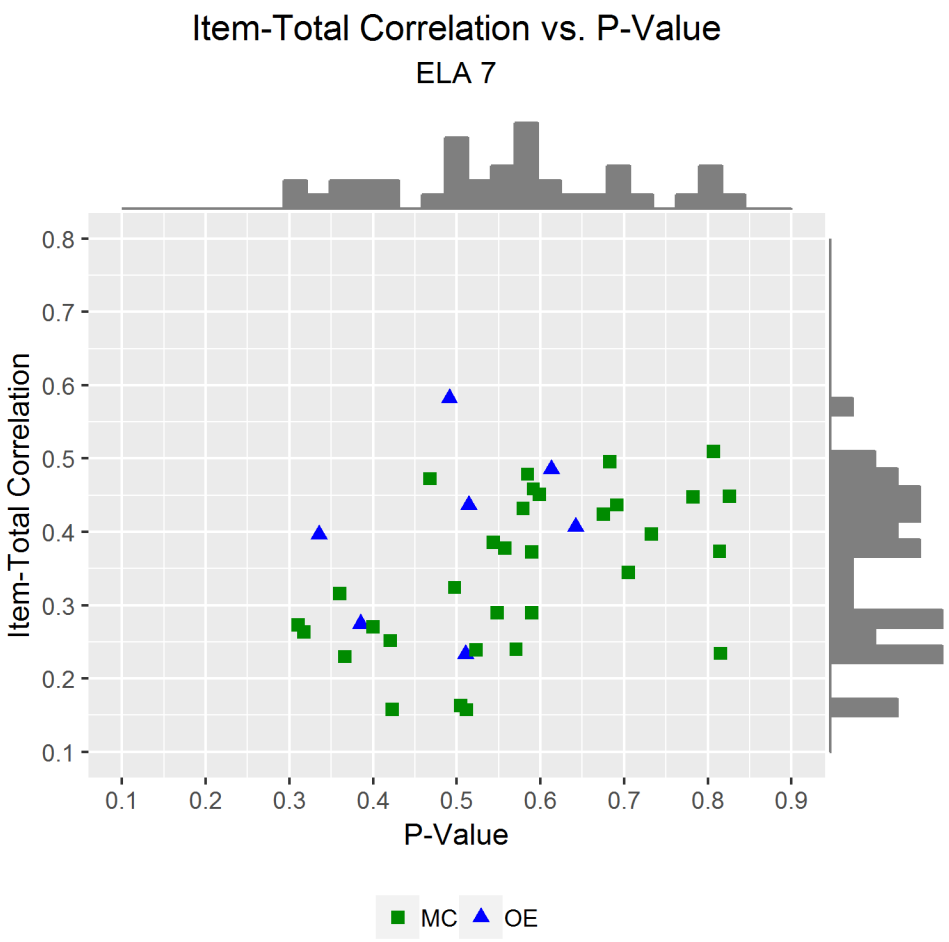
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
ELA 7
Item-Total Correlation
P-Value
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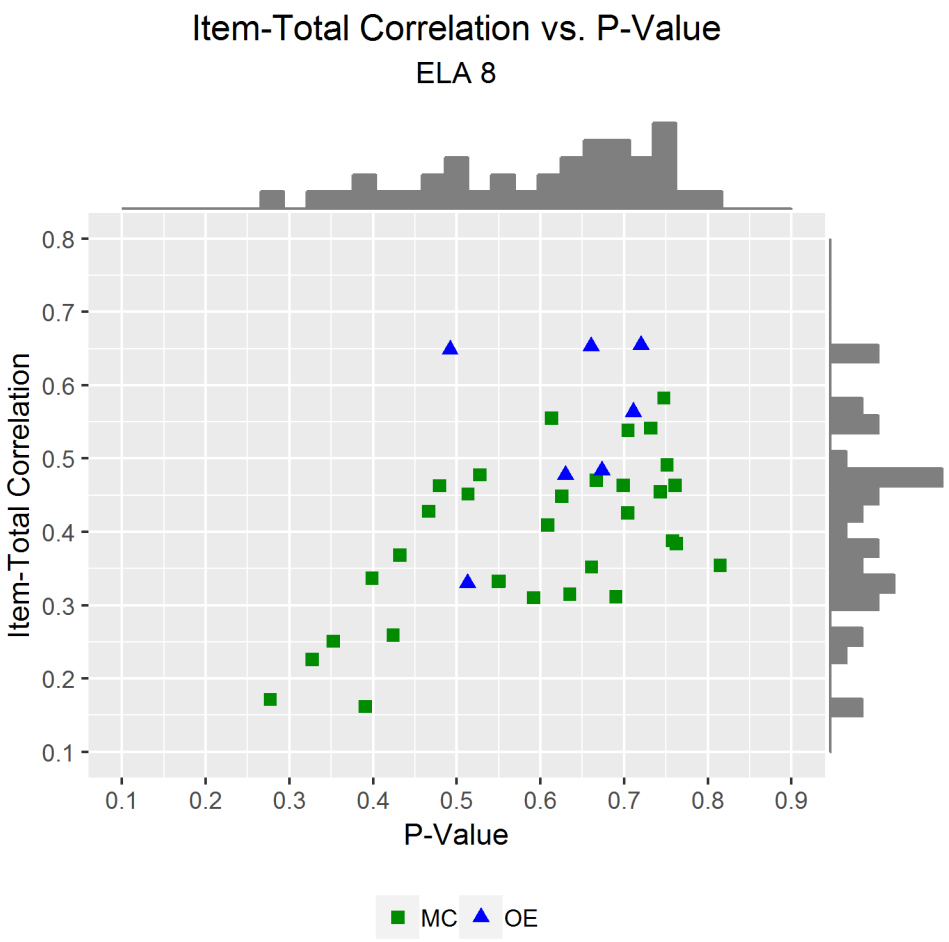
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
ELA 8
Item-Total Correlation
P-Value
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0.3
0.4
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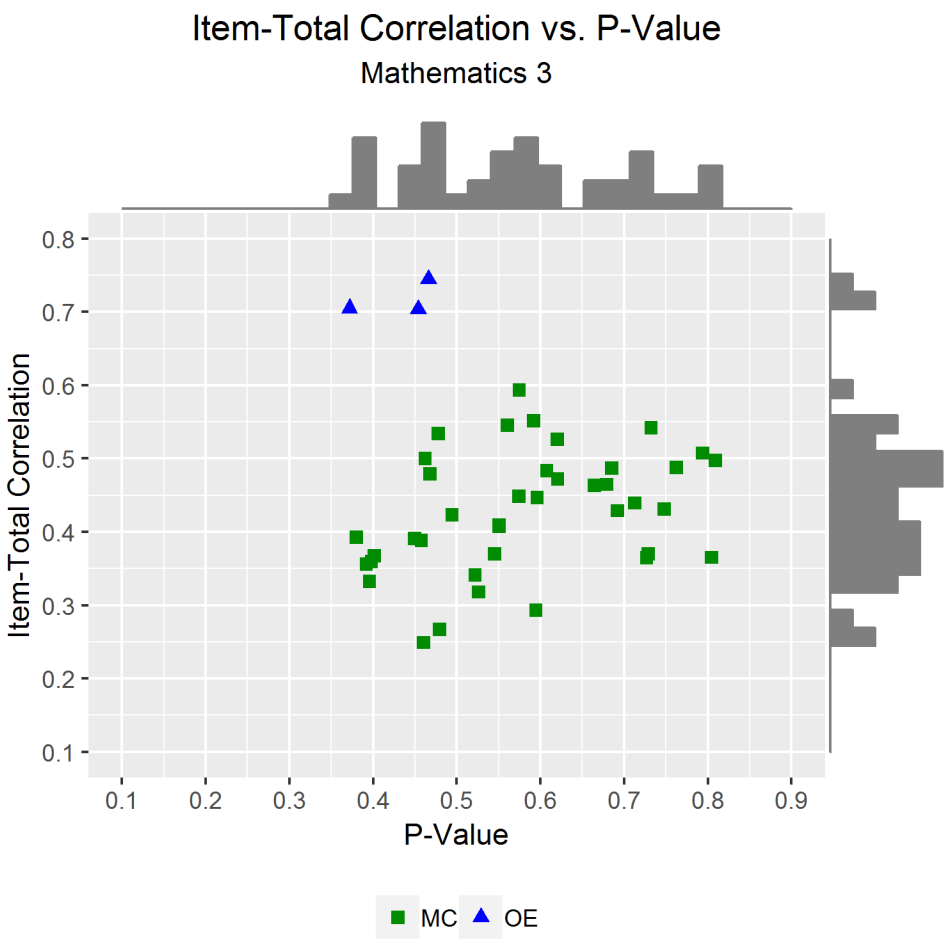
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Mathematics 3
Item-Total Correlation
P-Value
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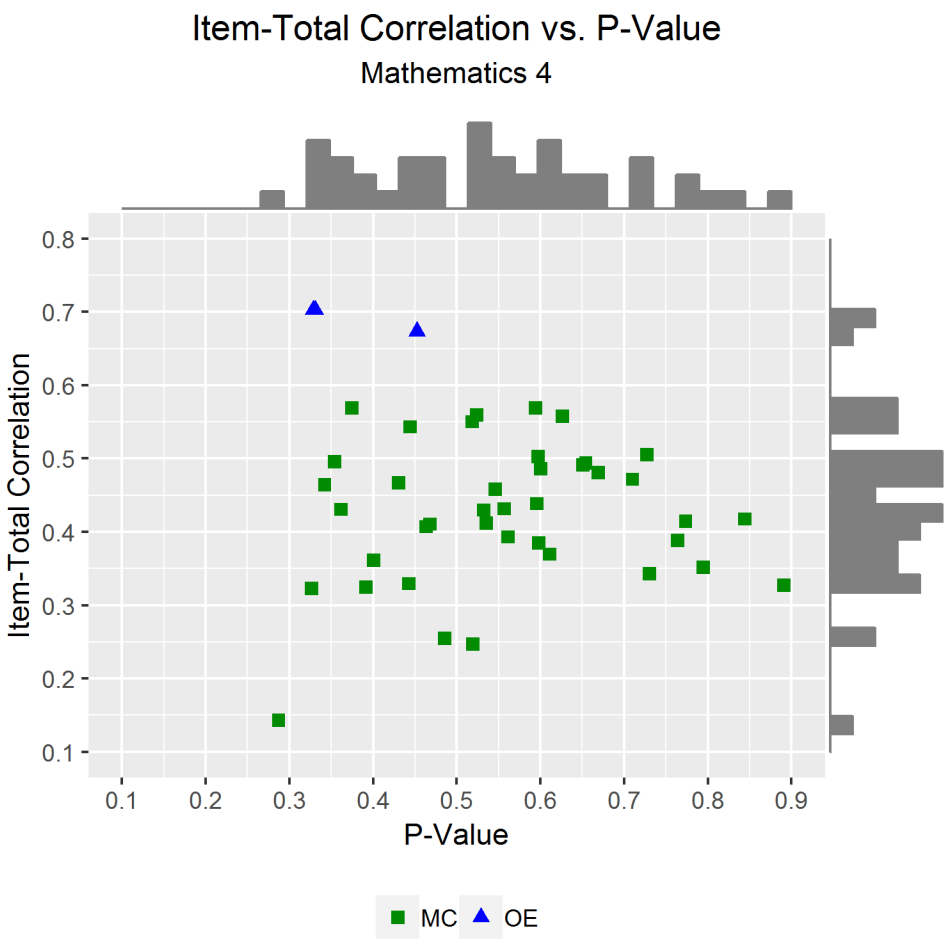
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Mathematics 4
Item-Total Correlation
P-Value
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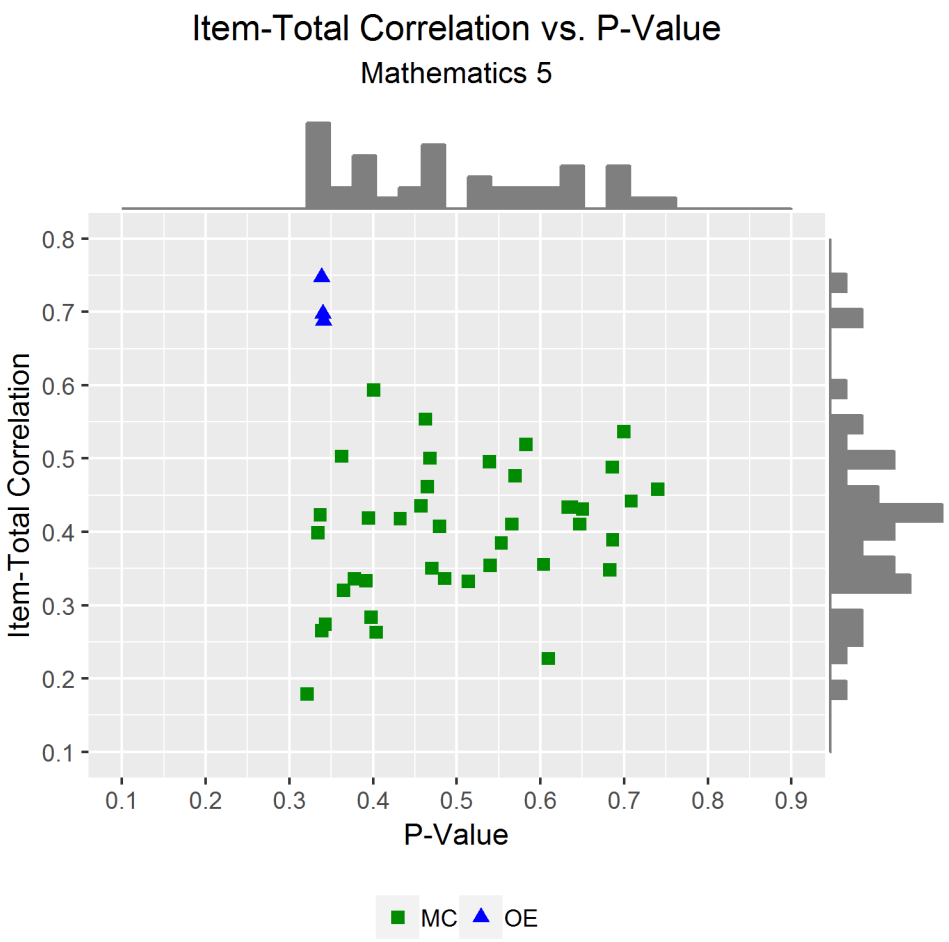
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Mathematics 5
Item-Total Correlation
P-Value
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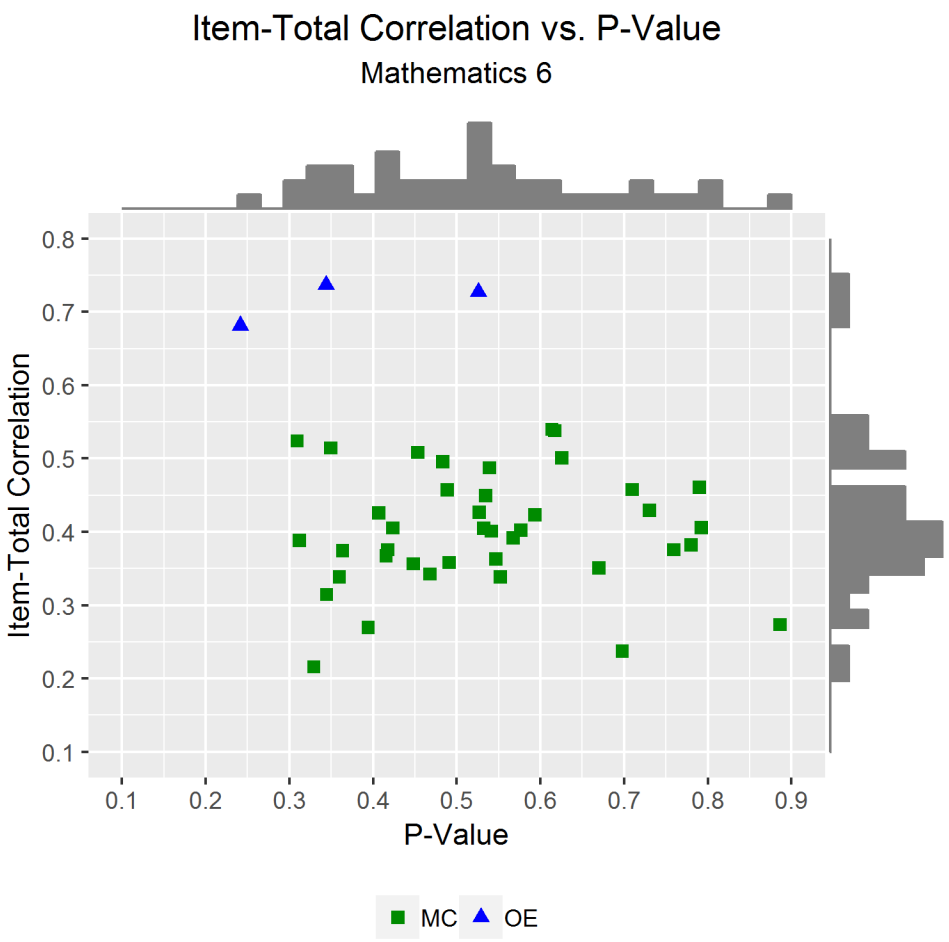
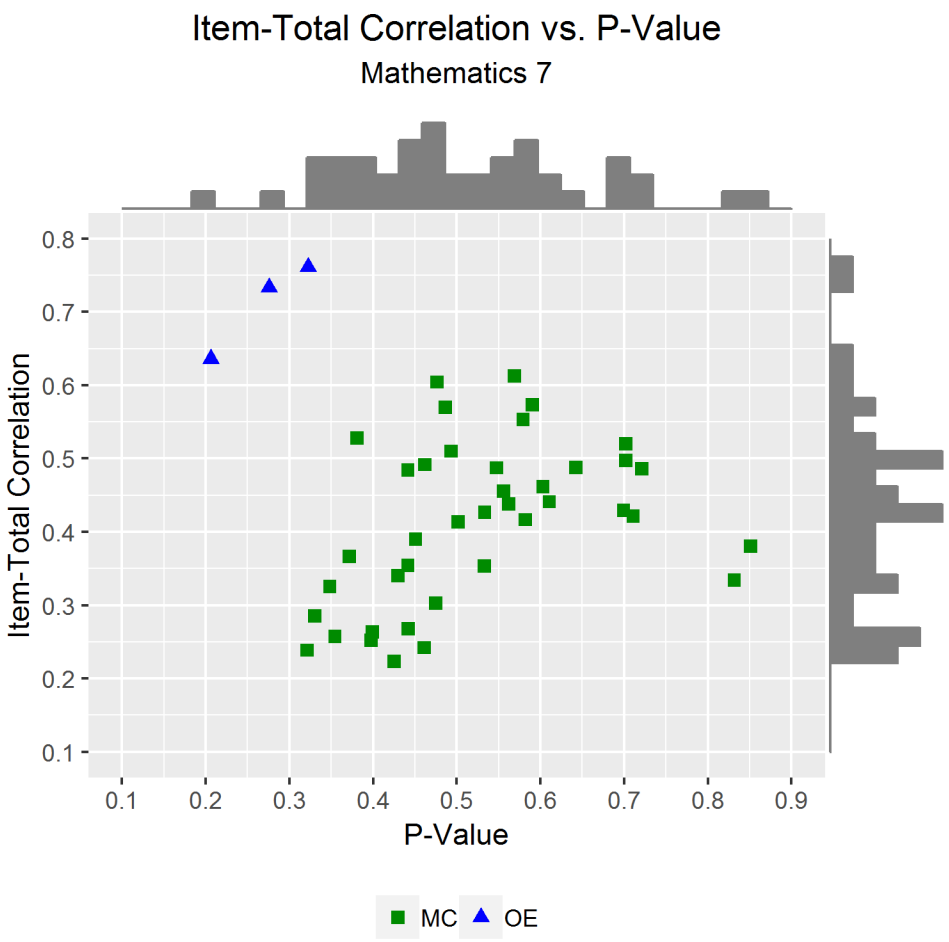
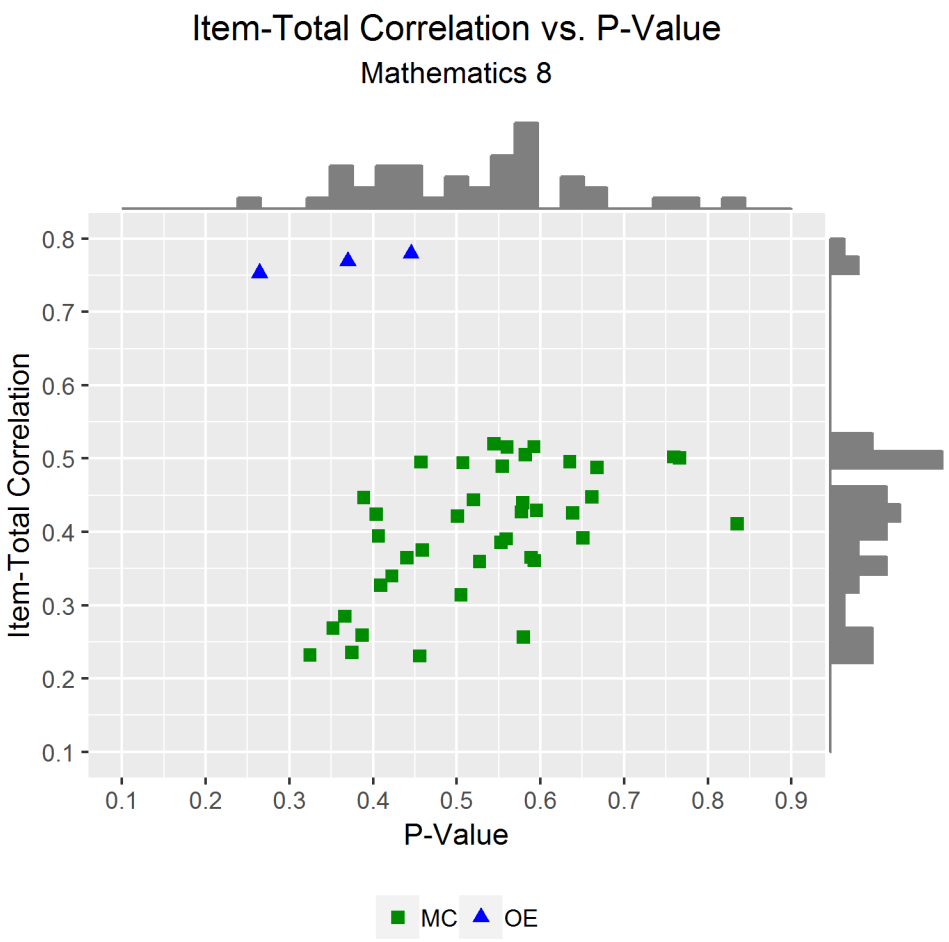
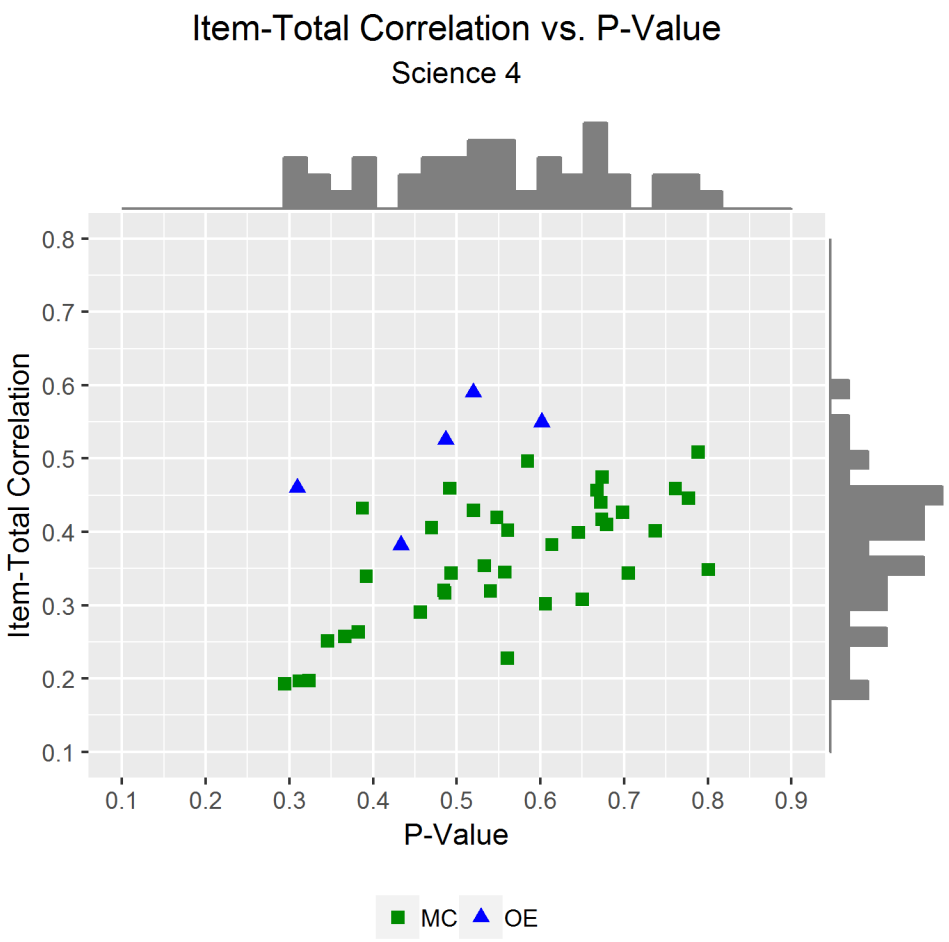
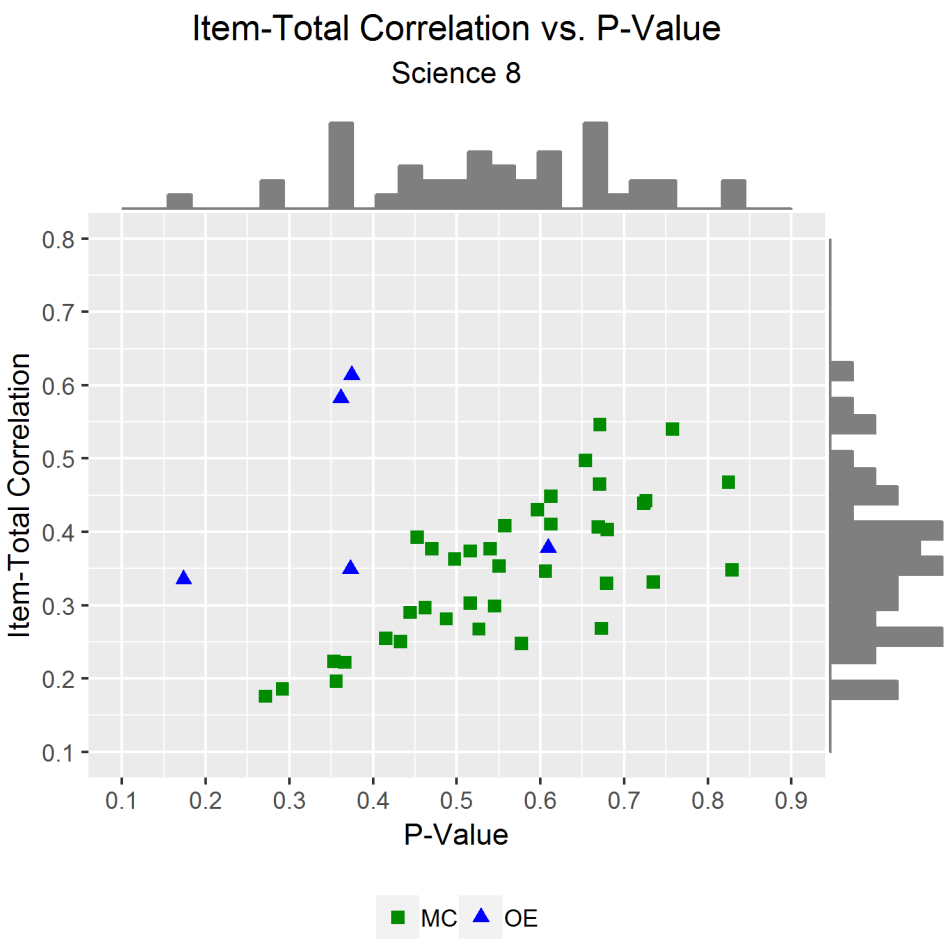
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Mathematics 6
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Mathematics 7
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Mathematics 8
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Science 4
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE


Item-Total Correlation vs. P-Value
Science 8
Item-Total Correlation
P-Value
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
MC
OE

CHAPTER TWELVE: RASCH ITEM CALIBRATION

The item response theory (IRT) model used for the PSSA is based on the work of Georg Rasch. Rasch models have had a long-standing presence in applied testing programs and it has been the methodology continually used to calibrate PSSA items in recent history. IRT has several advantages over classical test theory, so it has become the standard procedure for analyzing item response data in large-scale assessments. However, IRT models make several strong assumptions related to dimensionality, local independence, model-data fit, and item parameter invariance. Resulting inferences derived from any application of IRT rests strongly on the degree to which the underlying assumptions are met.

This chapter outlines the procedures used for calibrating the operational PSSA items. Generally, item calibration is the process of assigning a difficulty-parameter estimate to each item on an assessment so that all items are placed onto a common scale. This chapter briefly introduces the Rasch model, reports the results from evaluations of the adequacy of the Rasch assumptions, and summarizes the Rasch item statistics for the PSSA mathematics, ELA, and science tests. Additional Rasch procedures are discussed with respect to equating in Chapter Fifteen.

DESCRIPTION OF THE RASCH MODEL

The Rasch partial credit model (RPCM; Wright and Masters, 1982) was used to calibrate PSSA items because both multiple-choice (MC) and open-ended (OE) items were part of the assessment. The RPCM extends the Rasch model (Rasch, 1960) for dichotomous (0, 1) items so that it accommodates the polytomous OE item data. Under the RPCM, for a given item *i* with *mi* score categories, the probability of person *n* scoring *x* (*x* = 0, 1, 2,... m_i) is given by:

$$P_{ni}(X = x) = \frac{\exp \sum_{j=0}^{x} (\theta_n - D_{ij})}{\sum_{k=0}^{m_i} \exp \sum_{j=0}^{k} (\theta_n - D_{ij})},$$

where θ_n represents a student's proficiency (ability) level, and D_{ij} is the step difficulty of the j^{th} step on item i. For dichotomous MC items, the RPCM reduces to the standard Rasch model and the single step difficulty is referred to as the item's difficulty. The Rasch model predicts the probability of person n getting item i correct as follows:

$$P_{ni}(X = 1) = \frac{\exp(\theta_n - D_{ij})}{1 + \exp(\theta_n - D_{ij})}.$$

The Rasch model places both student ability and item difficulty (estimated in terms of log-odds or logits) on the same continuum. When the model assumptions are met, the Rasch model provides estimates of a person's ability which are independent of the items employed in the assessment, and conversely, estimates item difficulty independently of the sample of examinees. (As noted in Chapter Eleven, interpretation of item *p*-values confounds item difficulty and student ability.)

SOFTWARE AND ESTIMATION ALGORITHM

Item calibration was implemented via WINSTEPS 3.81.00 computer program (Wright and Linacre, 2014), which employs unconditional (UCON), joint-maximum-likelihood estimation (JMLE).

SAMPLE CHARACTERISTICS

The characteristics of calibration samples are reported in Chapter Nine. These samples only include the students who attempted the tests. All omits (no response) and multiple responses (more than one response selected) were scored as incorrect answers (coded as 0s) for calibration.

CHECKING RASCH ASSUMPTIONS

Since the Rasch model was the basis of all calibration, scoring, and scaling analyses associated with the PSSA, the validity of the inferences from these results depends on the degree to which the assumptions of the model were met and how well the model fits the test data. Therefore, it is important to check these assumptions. This section evaluates the dimensionality of the data, local item independence, and item fit. It should be noted that only operational items were analyzed since they are the basis of student scores.

UNIDIMENSIONALITY

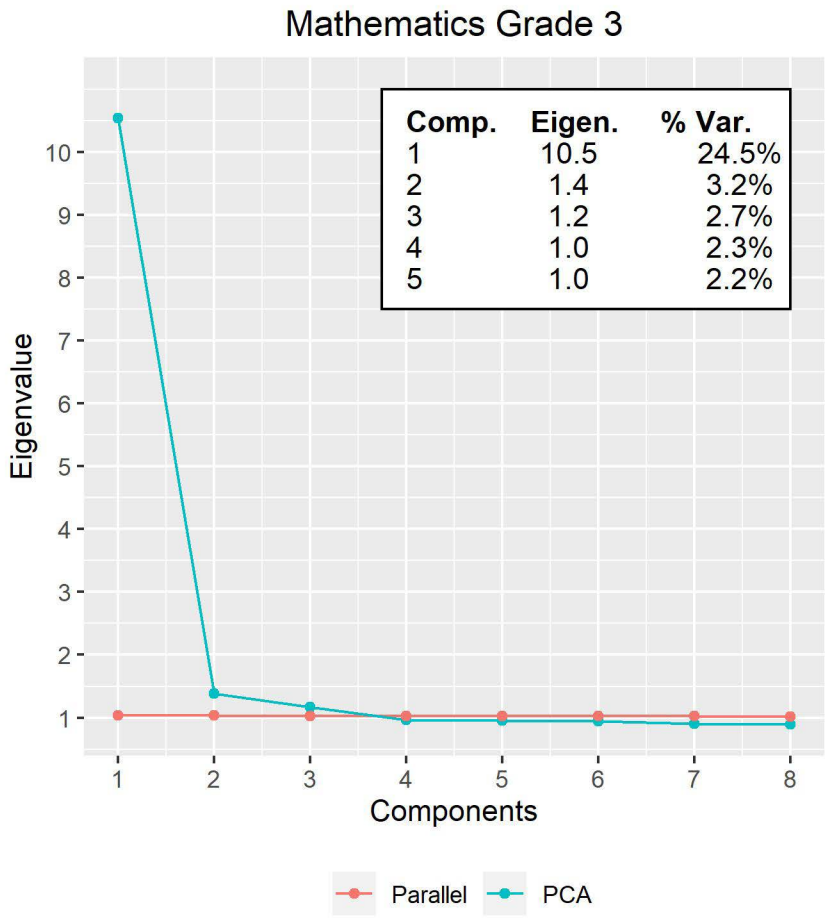
Rasch models assume that one dominant dimension determines the difference among students' performances. Principal Components Analysis (PCA) can be used to assess the unidimensionality assumption. The purpose of the analysis is to verify whether any other dominant component(s) exist among the items. If any other dimensions are found, the unidimensionality assumption would be violated.

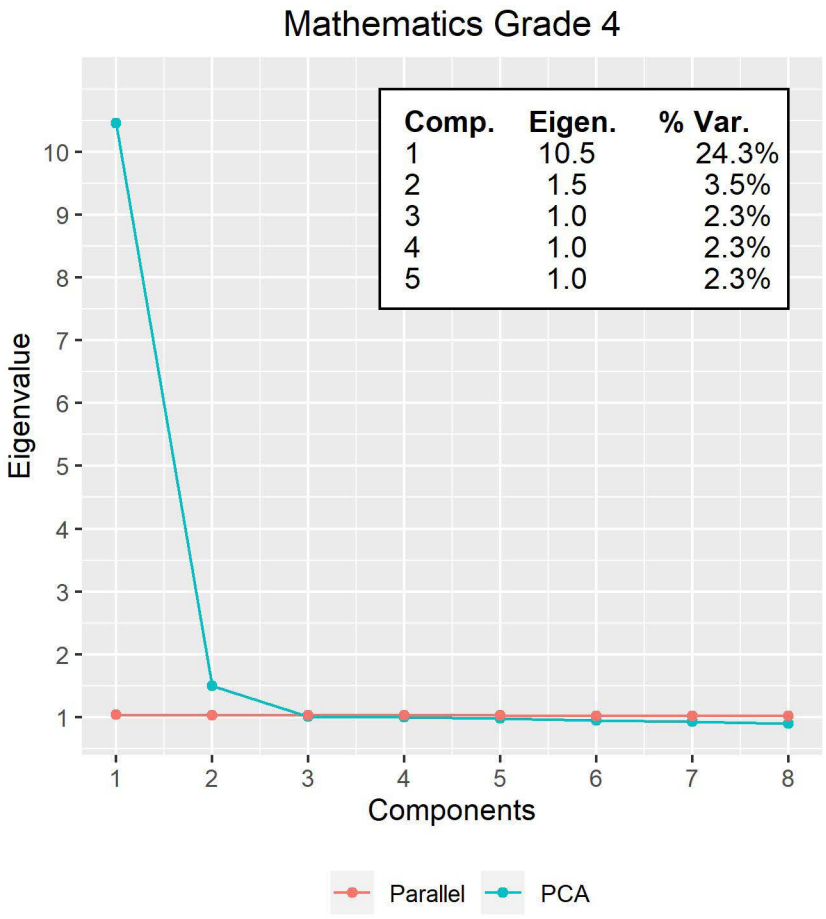
Figure 12–1 shows the PCA results for the mathematics, ELA, and science tests. The results include the eigenvalues and the percentage of variance explained for the first five components as well as the scree plots. The scree plots show the eigenvalues plotted by component number and the results from a parallel analysis. The total number of components in PCA is same as the total number of items in a test; however, Figure 12–1 shows only the first 8 components given that beyond 8th component the additional information would be negligible.

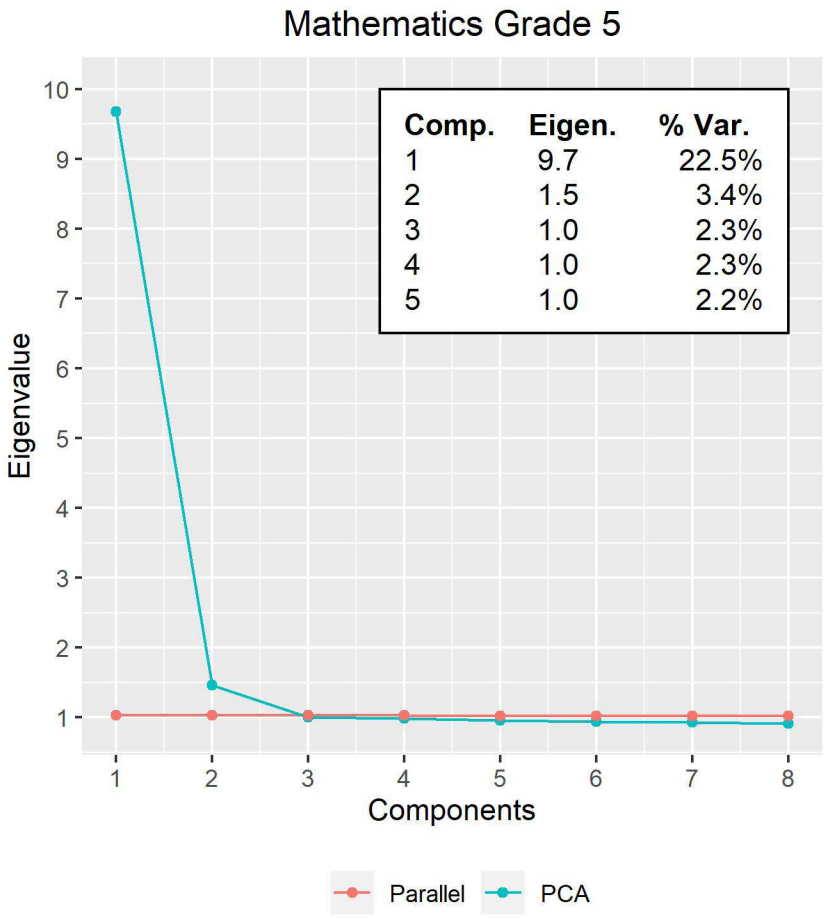
Parallel analysis is a technique to decide how many factors exist in principal components (Horn, 1965). Parallel analysis was also conducted to help distinguish components that are real from components that are random. For the parallel analysis, 100 random data sets were created of size equal to the original data. For each random data set, a PCA was performed and the resulting eigenvalues stored. Then for each component, the upper 95th percentile value of the distribution of the 100 eigenvalues from the random data sets was plotted. Given the size of the data generated for the parallel analysis, the reference line is essentially equivalent to plotting a reference line for an eigenvalue of 1.

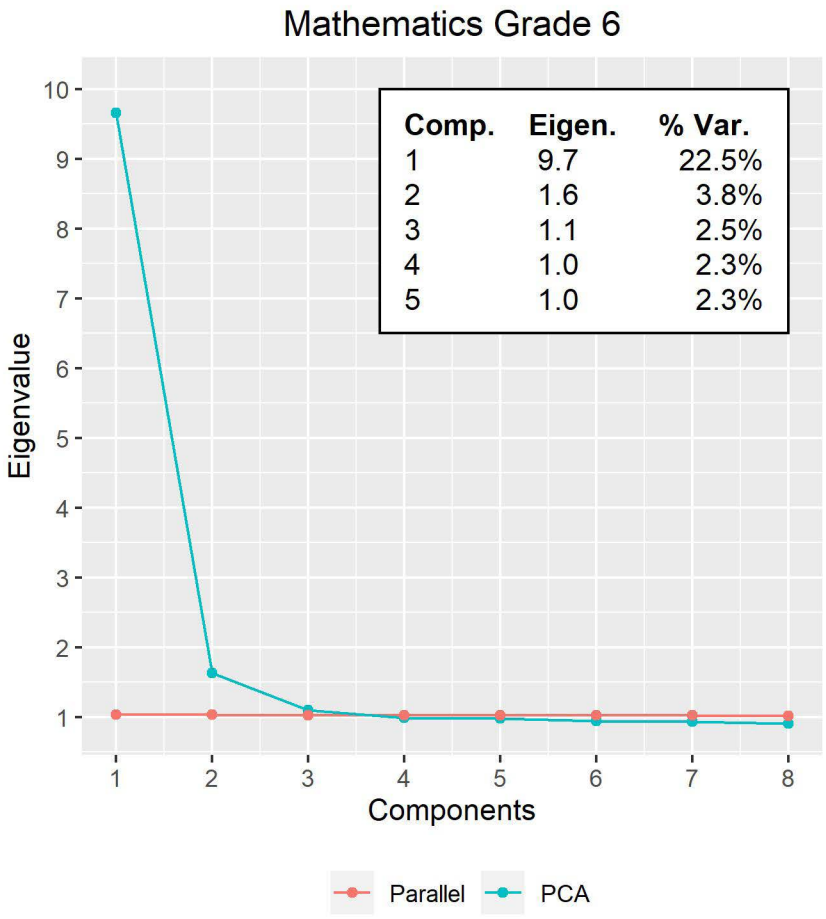
As can been seen in Figure 12–1, for PSSA mathematics forms the primary dimension explained between 22.5 percent (grades 5 and 6) to 24.5 percent (grade 3) of the total variance. The second component accounted for approximately 3.2 to 3.8 percent of the variance, with eigenvalues ranging from 1.4 to 1.6. For ELA, the primary dimension explained 17.9 to 23.8 percent and the second dimension explained 2.9 to 3.8 percent of the variance. For science, the primary dimension explained 17.9 (Grade 8) to 19.0 percent (Grade 4) and the second dimension explained 3.0 (Grade 8) to 3.1 percent (Grade 4) of the variance. Although the eigenvalues for the second or third component may be greater than 1, the percent of variance explained does not support that any of the subjects or grade examinations measure a second or third dominant dimension. Meaning the results from the PCA suggest that there is one clear dominant dimension for all mathematics, ELA, and science tests.

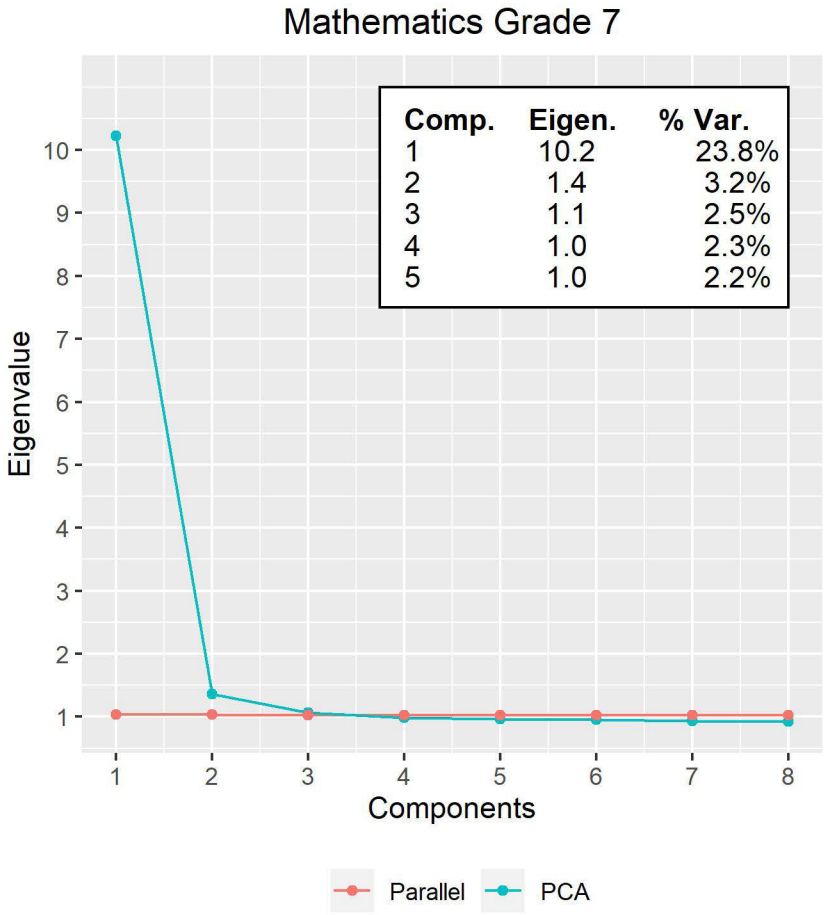
Figure 12–1. Scree Plots Local Independence




Mathematics Grade 4
Comp. Eigen. % Var.
1 10.5 24.3%
2 1.5 3.5%
3 1.0 2.3%
4 1.0 2.3%
5 1.0 2.3%
Eigenvalue
Components
Parallel
PCA


Mathematics Grade 5
Comp. Eigen. % Var.
1 9.7 22.5%
2 1.5 3.4%
3 1.0 2.3%
4 1.0 2.3%
5 1.0 2.2%
Eigenvalue
Components
Parallel
PCA


Mathematics Grade 6
Comp. Eigen. % Var.
1 9.7 22.5%
2 1.6 3.8%
3 1.1 2.5%
4 1.0 2.3%
5 1.0 2.3%
Eigenvalue
Components
Parallel
PCA


Mathematics Grade 7
Comp. Eigen. % Var.
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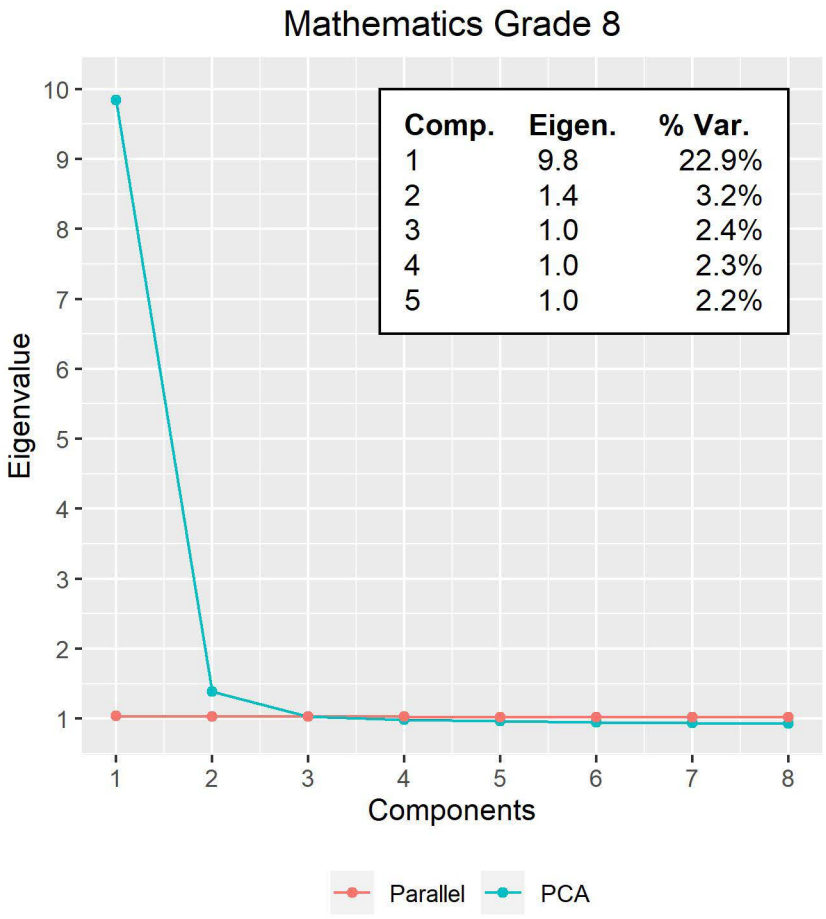
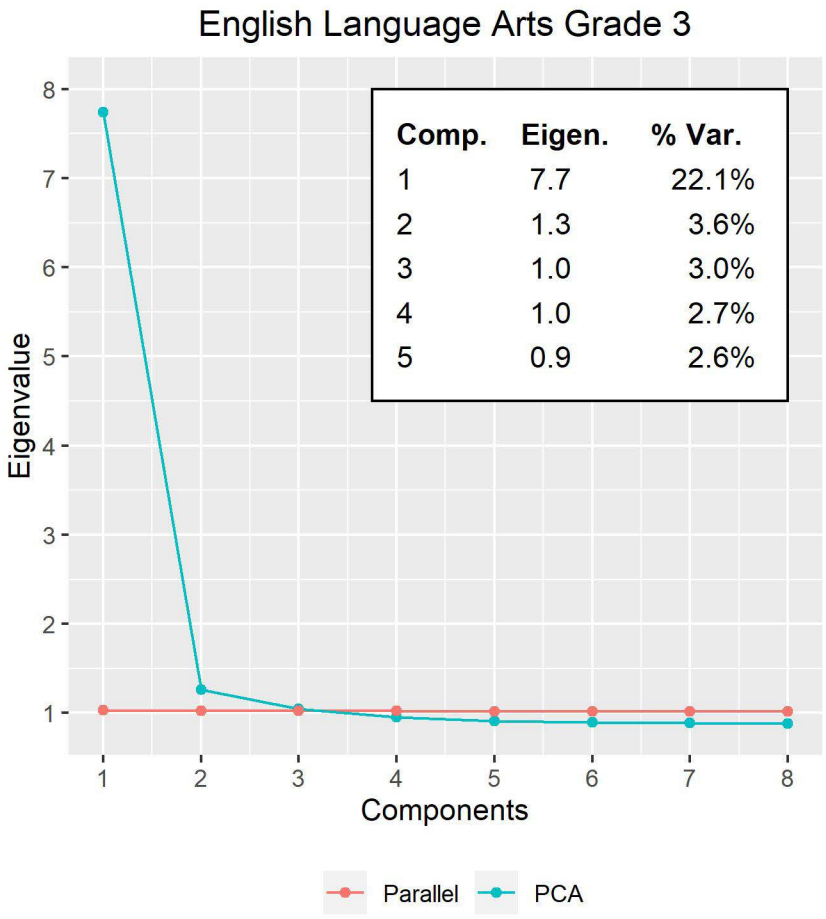
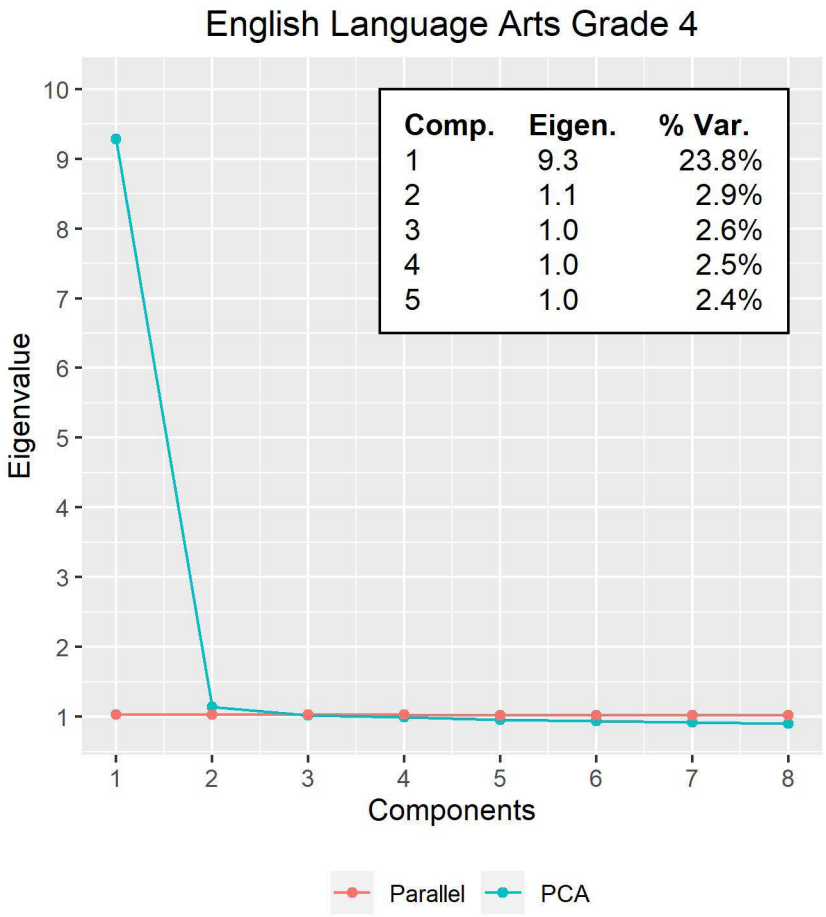
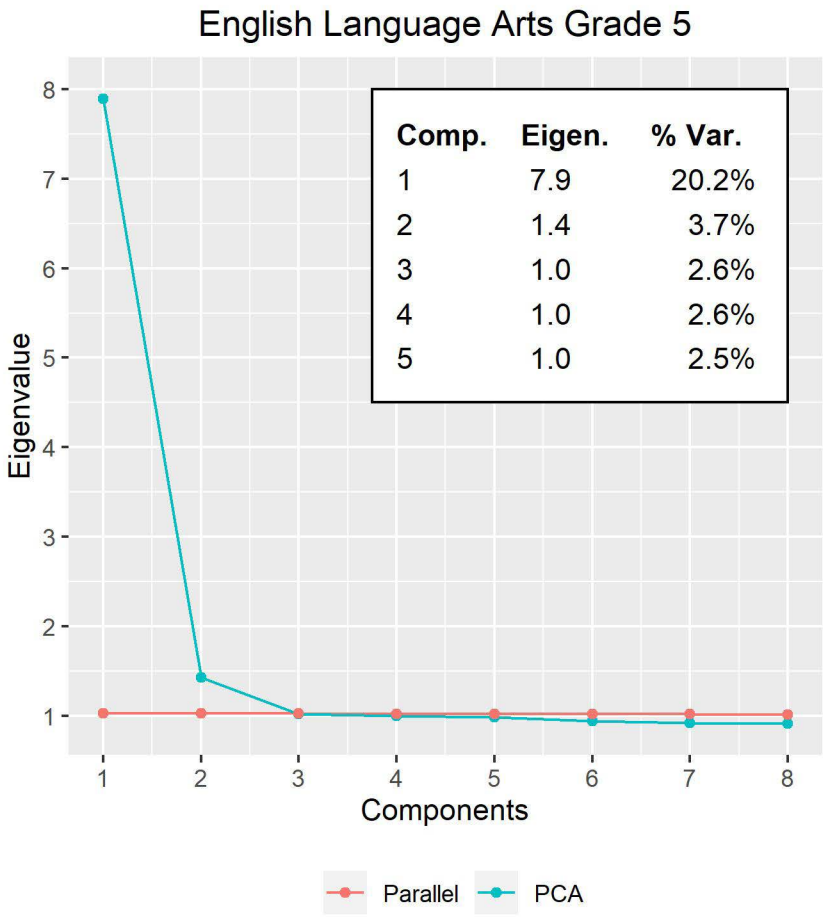
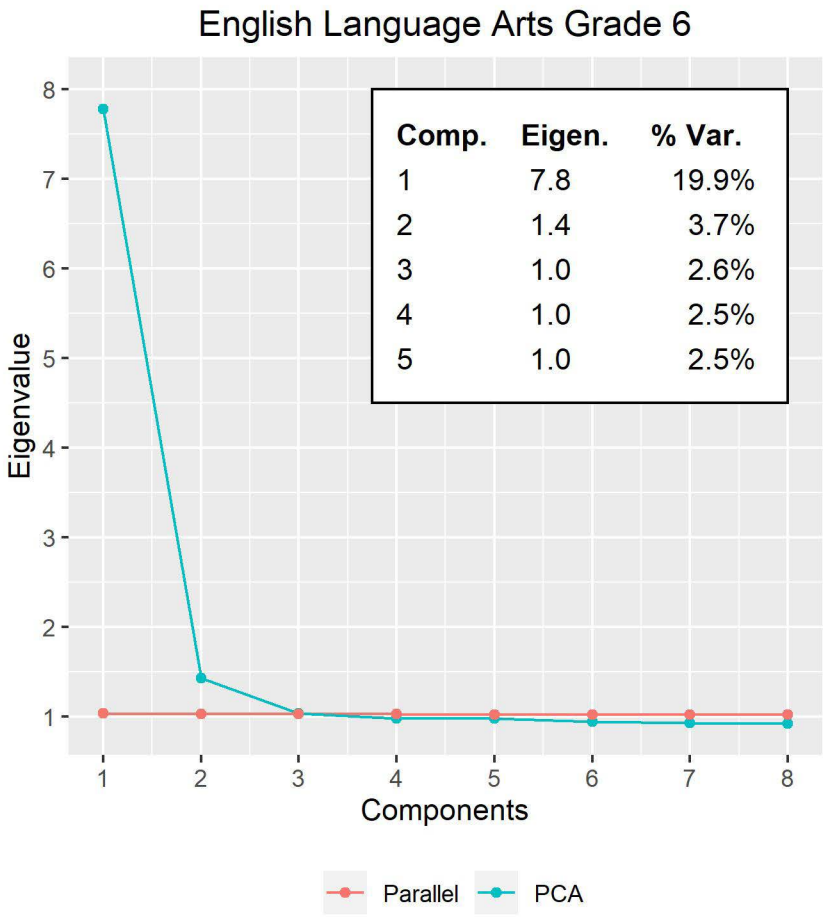
2 1.4 3.2%
3 1.1 2.5%
4 1.0 2.3%
5 1.0 2.2%
Eigenvalue
Components
Parallel
PCA

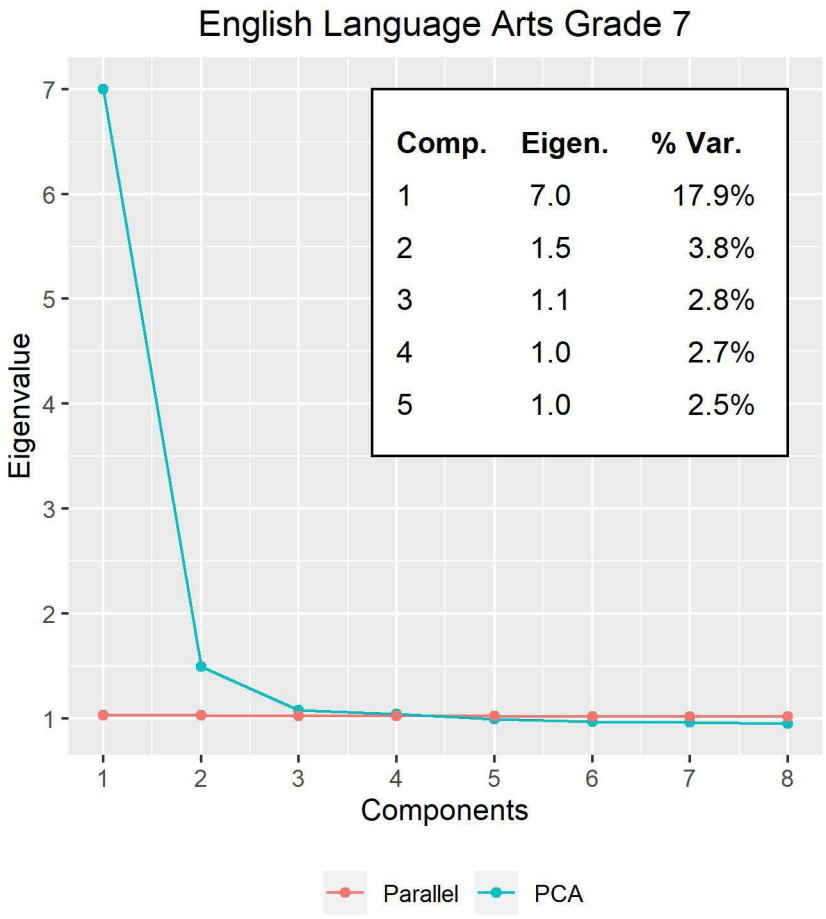

Mathematics Grade 8
Comp. Eigen. % Var.
1 9.8 22.9%
2 1.4 3.2%
3 1.0 2.4%
4 1.0 2.3%
5 1.0 2.2%
Eigenvalue
Components
Parallel
PCA

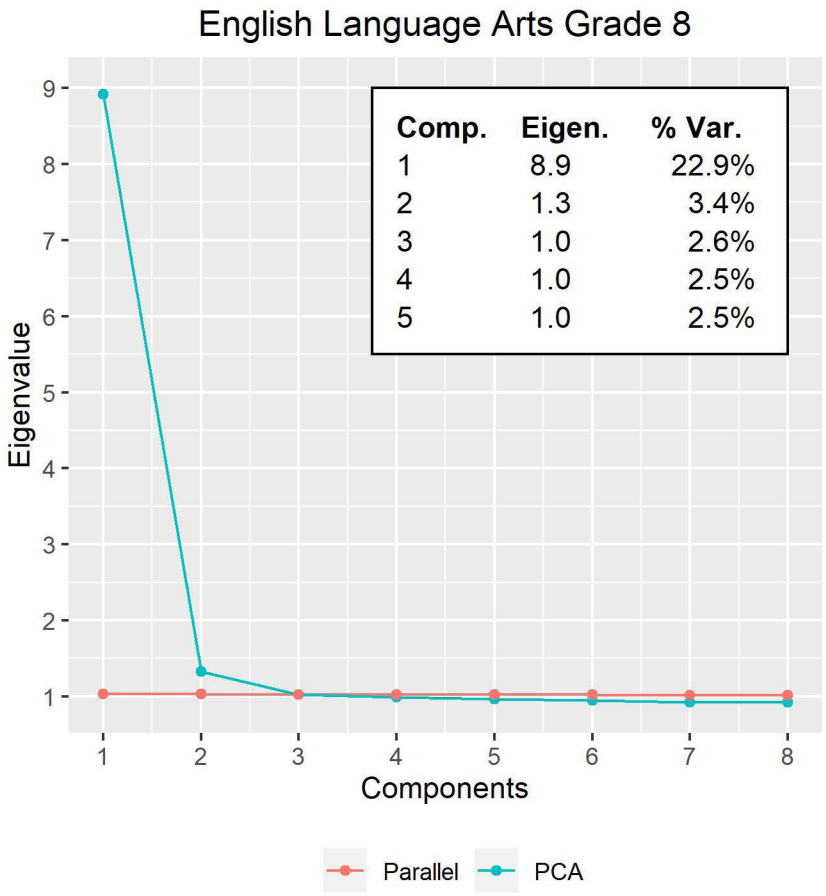

English Language Arts Grade 3
Comp. Eigen. % Var.
1 7.7 22.1%
2 1.3 3.6%
3 1.0 3.0%
4 1.0 2.7%
5 0.9 2.6%
Eigenvalue
Components
Parallel
PCA

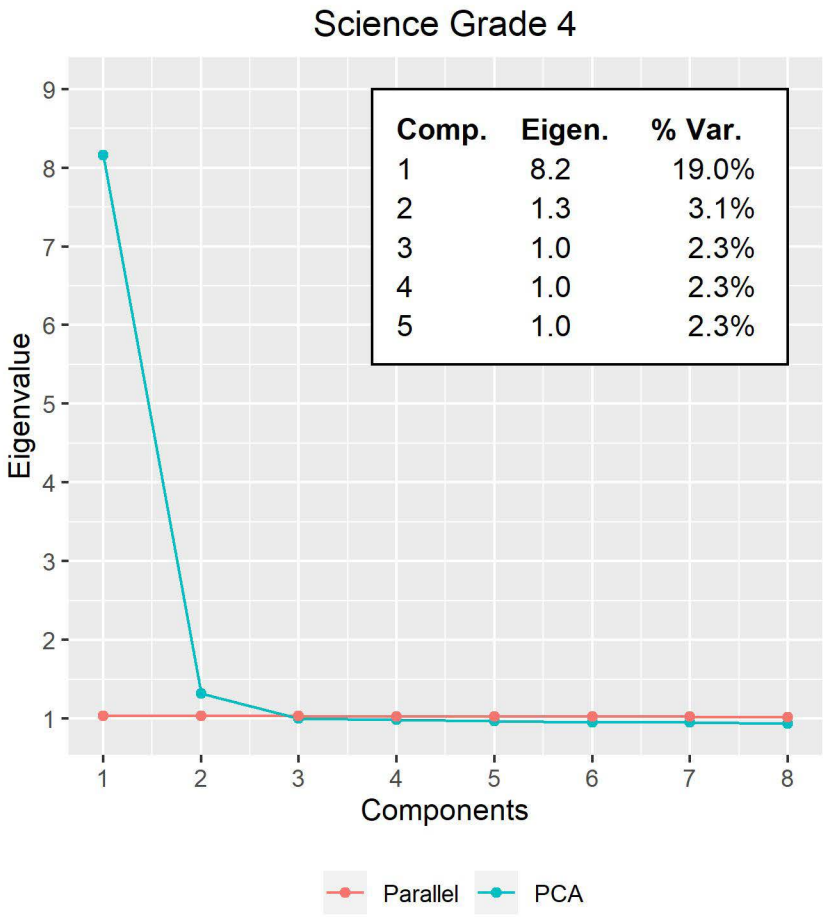

English Language Arts Grade 4
Comp. Eigen. % Var.
1 9.3 23.8%
2 1.1 2.9%
3 1.0 2.6%
4 1.0 2.5%
5 1.0 2.4%
Eigenvalue
Components
Parallel
PCA

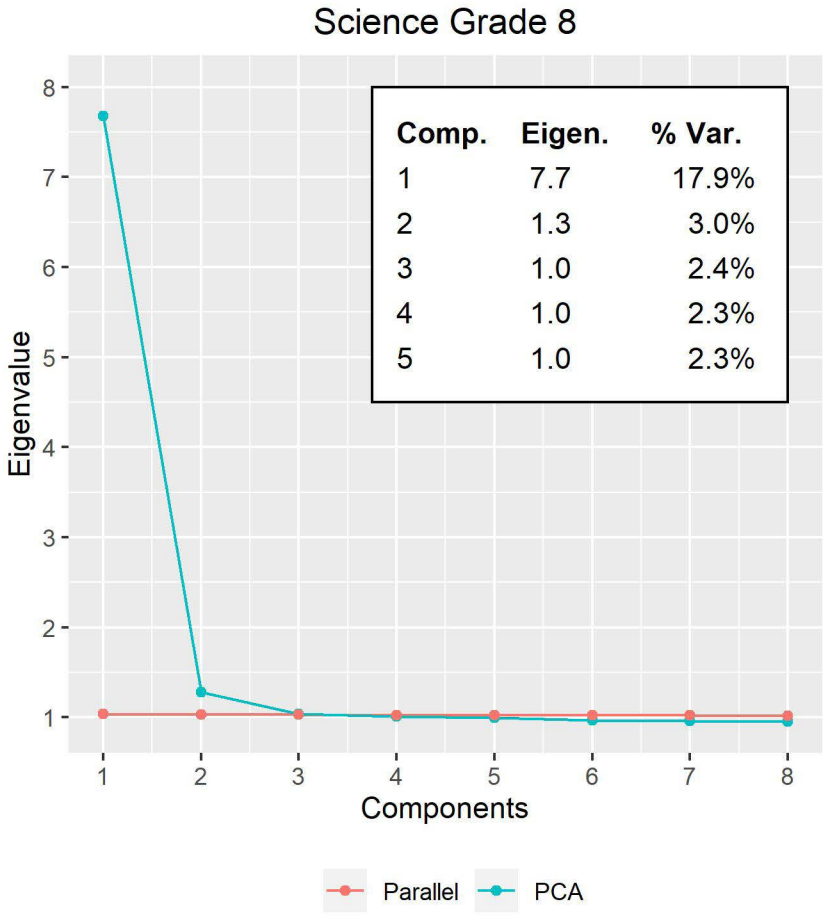

English Language Arts Grade 5
Comp. Eigen. % Var.
1 7.9 20.2%
2 1.4 3.7%
3 1.0 2.6%
4 1.0 2.6%
5 1.0 2.5%
Eigenvalue
Components
Parallel
PCA


English Language Arts Grade 6
Comp. Eigen. % Var.
1 7.8 19.9%
2 1.4 3.7%
3 1.0 2.6%
4 1.0 2.5%
5 1.0 2.5%
Eigenvalue
Components
Parallel
PCA


English Language Arts Grade 7
Comp. Eigen. % Var.
1 7.0 17.9%
2 1.5 3.8%
3 1.1 2.8%
4 1.0 2.7%
5 1.0 2.5%
Eigenvalue
Components
Parallel
PCA


English Language Arts Grade 8
Comp. Eigen. % Var.
1 8.9 22.9%
2 1.3 3.4%
3 1.0 2.6%
4 1.0 2.5%
5 1.0 2.5%
Eigenvalue
Components
Parallel
PCA


Science Grade 4
Comp. Eigen. % Var.
1 8.2 19.0%
2 1.3 3.1%
3 1.0 2.3%
4 1.0 2.3%
5 1.0 2.3%
Eigenvalue
Components
Parallel
PCA



ITEM INDEPENDENCE

Local independence (LI) is a fundamental assumption of IRT. No relationship should exist between examinees' responses to different items after accounting for the abilities measured by a test. In formal statistical terms, a test X that is comprised of items $X_1, X_2,\ldots X_n$ is locally independent with respect to the latent variable θ if, for all $x = (x_1, x_2,\ldots x_n)$ and θ,

$$P(\mathbf{X} = \mathbf{x} \mid \theta) = \prod_{i=1}^{I} P(X_i = x_i \mid \theta).$$

This formula essentially states that the probability of any pattern of responses across all items ($\mathbf{x}$), after conditioning on the abilities (θ) measured by the test, should be equal to the product of the conditional probabilities across each item (cf. the multiplication rule for independent events where the joint probabilities are equal to the product of the associated marginal probabilities).

The equation above shows the condition after satisfying the strong form of local independence. A weak form of local independence (WLI) was proposed by McDonald (1979). The distinction is important as many indicators of local dependency are framed by WLI. The requirement would be for the conditional covariances of all pairs of item responses, conditioned on the abilities, to be equal to zero. When this assumption is met, the joint probability of responses to an item pair, conditioned on abilities, is the product of the probabilities of responses to these two items, as shown below. (This is a weaker form because higher-order dependencies among items are allowed.) Based on the WLI, the following expression can be derived:

$$P(X_i = x_i, X_j = x_j \mid \theta) = P(X_i = x_i \mid \theta) P(X_j = x_j \mid \theta).$$

Marais and Andrich (2008) pointed out that local item dependence in the Rasch model can occur in two ways that some may not distinguish. The first way occurs when the assumption of unidimensionality is violated. Here, other nuisance dimensions besides a dominant dimension determine student performance (this can be called "trait dependence"). The second violation occurs when responses to an item depend on responses to another. This is a violation of statistical independence and can be called response dependence. Many people treat the assumptions of unidimensionality and local independence as one phenomenon and believe that once unidimensionality holds, that local independence also holds. By distinguishing the two sources of local dependence, one can see that while local independence can be related to unidimensionality, the two are different assumptions and therefore, require different tests.

Residual item correlations provided in WINSTEPS for each item pair were used to assess the local dependence among the PSSA items. In general, these residuals are computed as follows. First, expected item performance based on the Rasch model is determined using ability and item parameter estimates. Next, deviations (residuals) between the examinees' expected and observed performance is determined for each item. Finally, for each item pair, a correlation between the respective deviations is computed.

Three types of residual correlations are available in WINSTEPS: raw, standardized, and logit. It should be noted that the raw score residual correlation essentially corresponds to Yen's Q_3 index, a popular LI statistic. The expected value for the Q_3 statistic is approximately -1/(k-1) when no local dependence exists, where k is test length (Yen, 1993). Thus, the expected Q_3 values should be approximately -0.02 for the PSSA tests (since most of the PSSA tests had more than 50 core items). Index values that are greater than 0.20 indicate a degree of local dependence that probably should be examined by test developers (Chen & Thissen, 1997).

Since the three residual correlations are very similar, the default "standardized residual correlation" in WINSTEPS was used for these analyses. Table 12–1 shows the summary statistics—mean, SD, minimum, maximum, and several percentiles (P_{10}, P_{25}, P_{50}, P_{75}, P_{90}) — for all the residual correlations for each test. The total number of item pairs (N) and the number of pairs with the residual correlations greater than 0.20 are also reported in this table. The mean residual correlations were close to 0.00. One in mathematics and eight in ELA showed residual correlations greater than 0.2, and all were less than 0.3, suggesting local item independence holds well for the 2018 PSSA ELA, mathematics, and science tests. Refer to Table 12–1 and 12–2 for details.

Table 12–1M. Summary of Item Residual Correlations for PSSA Mathematics

Statistic	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
N	903	903	903	903	903	903
Mean	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
SD	0.03	0.02	0.03	0.03	0.03	0.03
Minimum	-0.10	-0.09	-0.11	-0.12	-0.13	-0.11
P10	-0.05	-0.05	-0.05	-0.05	-0.06	-0.05
P25	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
P50	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
P75	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
P90	0.00	0.01	0.01	0.01	0.01	0.01
Maximum	0.27	0.09	0.14	0.12	0.17	0.11
>|0.20|	2	0	0	0	0	0

Table 12–1E. Summary of Item Residual Correlations for PSSA English Language Arts

Statistic	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
N	595	741	741	741	741	741
Mean	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02
SD	0.02	0.03	0.03	0.03	0.04	0.04
Minimum	-0.10	-0.20	-0.21	-0.23	-0.22	-0.23
P10	-0.06	-0.04	-0.04	-0.05	-0.06	-0.05
P25	-0.04	-0.03	-0.03	-0.03	-0.03	-0.03
P50	-0.03	-0.01	-0.02	-0.01	-0.01	-0.01
P75	-0.02	0.00	-0.01	0.00	0.00	0.00
P90	0.00	0.01	0.01	0.01	0.02	0.02
Maximum	0.14	0.09	0.10	0.09	0.10	0.11
>|0.20|	0	1	1	3	2	1

Table 12–1S. Summary of Item Residual Correlations for PSSA Science

Statistic	Grade 4	Grade 8
N	903	903
Mean	-0.02	-0.02
SD	0.02	0.02
Minimum	-0.12	-0.10
P10	-0.04	-0.05
P25	-0.03	-0.04
P50	-0.02	-0.02
P75	-0.01	-0.01
P90	0.00	0.00
Maximum	0.09	0.11
>|0.20|	0	0

Table 12–2 lists all item pairs with residual correlations greater than or equal to 0.20. In addition, the item sequence, type, and Eligible Content is also displayed. Item sequence in the table is the master core form's item sequence, but the MC items are scrambled across forms.

The pattern that is evident is that the correlated items in mathematics share similar Eligible Content, and thus likely test similar skills. Consistent with prior years, negative residual correlations ranging from -0.23 to -0.20 were observed between Evidence Based Select Response (ESR) items and Text Dependent Analysis (TDA) items showing that, after the relationship between the items and the ELA construct is accounted for, there may be small, but different factors that are contributing to examinee performance on the item pairs. Test blueprints determine what Assessment Anchors, as defined by the Eligible Content, will be assessed. PDE and DRC make every effort to avoid one item cueing another through careful item selection and sequencing, so this is an unlikely source of local item dependence for PSSA.

Table 12–2. Item Pairs with Large Residual Correlations

Subject	Grade	Item 1 Seq.	Item 1 Type	Item 1 Eligible Content	Item 2 Seq.	Item 2 Type	Item 2 Eligible Content	Resid. Corr.
Mathematics	3	3	MC	D-M.2.1.4	29	MC	D-M.2.1.2	0.20
Mathematics	3	11	MC	C-G.1.1.1	20	MC	C-G.1	0.27
ELA	4	26	ESR	B-C.3.1.1	59	TDA	E.1.1	-0.20
ELA	5	26	ESR	B-K.1.1.2	59	TDA	E.1.1	-0.21
ELA	6	15	ESR	A-K.1.1.1	59	TDA	E.1.1	-0.21
ELA	6	25	ESR	B-C.3.1.1	59	TDA	E.1.1	-0.23
ELA	6	29	ESR	B-K.1.1.3	59	TDA	E.1.1	-0.20
ELA	7	28	ESR	A-K.1.1.3	59	TDA	E.1.1	-0.21
ELA	7	54	ESR	B-C.3.1.1	59	TDA	E.1.1	-0.22
ELA	8	10	ESR	B-V.4.1.2	59	TDA	E.1.1	-0.23

ITEM FIT

Additional evidence of validity related to the internal test structure is obtained through an ongoing evaluation of item fit, person fit, and test summary statistics. The item fit of the Rasch Model is routinely evaluated within field testing as well as within each operational administration. Person fit of the Rasch model is routinely evaluated and the data are expected to fit well regardless of gender, ethnicity, or level of performance (see Chapter Fifteen and Appendix T). Comparability of each test form is evaluated in terms of the test characteristics curves, test information function, and CSEM (see Chapter Eighteen). Regular maintenance of item fit, person fit, and test summary statistics within a test and across test forms provides validity evidence that supports the PSSA.

WINSTEPS provides two item fit statistics (infit and outfit) for evaluating the degree to which the Rasch model predicts the observed item responses. Each fit statistic can be expressed as a mean square (MnSq) statistic or on a standardized metric (Zstd with mean = 0 and variance = 1). MnSq values are more oriented toward practical significance, while Zstd values are more oriented toward statistical significance. Though both are informative, the Zstd values are very likely too sensitive to the large sample sizes observed on the PSSA. In this situation it is recommended that the Zstd values be ignored if the MnSq values are acceptable (Linacre, 2014).

Both infit and outfit MnSq are the average of standardized residual variance (the difference between the observed score and the Rasch estimated score divided by the square root of the Rasch model variance). The difference is that the outfit statistic gives all examinees equal weight in computing the fit and tends to be affected more by unexpected responses far from the person, item, or rating scale category measure (i.e., it is more sensitive to outlying, off-target, low-information responses). The infit statistic is weighted by the examinee locations relative to item difficulty and tends to be affected more by unexpected responses close to the person, item, or rating scale category measure (i.e., informative, on-target responses). Some feel that extreme infit values are a greater threat to the measurement process than extreme outfit since most tests intend to measure the on-target population rather than extreme outliers.

The expected MnSq value is 1.0 and can range from 0 to infinity. Deviation in excess of the expected value can be interpreted as noise or lack of fit between the items and the model. Values lower than the expected value can be interpreted as item redundancy or overfitting items (too predictable, too much redundancy), and values greater than the expected value indicate underfitting items (too unpredictable, too much noise). Rules of thumb regarding “practically significant” MnSq values vary. More conservative users might prefer items with MnSq values that range from 0.8 to 1.2. Others believe reasonable test results can be achieved with values from 0.5 to 1.5. The results shown in this section highlight values outside of a range of 0.7 to 1.3 given their practical importance.

Table 12–3 presents the summary statistics of infit and outfit mean square statistics for the PSSA ELA, mathematics, and science tests, including the mean, SD, and minimum and maximum values. The number of items within the range of [0.7, 1.3] is also reported. The mean values for both infit and outfit statistics were very close to 1.00 across all subjects and grade levels. Almost all the items had infit values falling in the range of [0.7, 1.3], suggesting reasonable model infit. More outfit values fell either below 0.7 or above the 1.3 threshold. Values above 1.3 can sometimes suggest higher than normal guessing or careless mistake patterns on items, and values below 0.7 can suggest an item is over fit. The maximum outfit values noted are close to the 1.3 threshold, and the minimum values noted are very close to 0.7, which could also suggest well discriminating items. There is slightly more variability in infit and outfit for ELA tests than mathematics, indicated by the mean and distribution of infit and outfit statistics. For example, 85% of the ELA grade 6 items (M = 1.12, SD = 0.23) fit in terms of outfit, whereas 95% of the Math grade 6 items (M=1.01, SD = 0.16) fit the model.

Table 12–3. Summary of Item Infit and Outfit Mean Square Statistics by Subject and Grade

Subject	Grade	Mean*	SD*	Min*	Max*	[0.7,1.3]*	Mean†	SD†	Min†	Max†	[0.7,1.3] †
Mathematics	3	1.01	0.10	0.83	1.26	43/43	1.01	0.16	0.67	1.36	40/43
Mathematics	4	0.99	0.12	0.80	1.35	42/43	1.00	0.19	0.71	1.60	39/43
Mathematics	5	1.02	0.11	0.80	1.23	43/43	1.04	0.17	0.71	1.36	41/43
Mathematics	6	0.99	0.10	0.81	1.22	43/43	1.01	0.16	0.72	1.35	41/43
Mathematics	7	1.02	0.15	0.78	1.28	43/43	1.02	0.22	0.69	1.44	33/43
Mathematics	8	1.00	0.13	0.70	1.27	42/43	1.00	0.19	0.64	1.42	36/43
ELA	3	1.02	0.11	0.79	1.33	34/35	1.04	0.16	0.66	1.42	33/35
ELA	4	1.01	0.15	0.66	1.46	37/39	1.04	0.23	0.61	1.81	32/39
ELA	5	1.01	0.12	0.58	1.28	38/39	1.05	0.19	0.58	1.59	34/39
ELA	6	1.05	0.14	0.77	1.40	35/39	1.12	0.23	0.65	1.83	33/39
ELA	7	1.03	0.13	0.65	1.35	36/39	1.06	0.21	0.63	1.74	34/39
ELA	8	1.03	0.14	0.61	1.46	36/39	1.11	0.27	0.62	1.95	28/39
Science	4	0.98	0.10	0.72	1.17	43/43	0.98	0.14	0.60	1.26	41/43
Science	8	0.99	0.12	0.68	1.23	42/43	0.99	0.18	0.57	1.53	39/43

Notes. *Infit Mean Square
†Outfit Mean Square

RASCH ITEM STATISTICS

As noted earlier, the Rasch model expresses item difficulty (and student ability) in units referred to as logits, rather than on the percent-correct metric. The logit metric has several mathematical advantages. Logits have an interval scale, meaning that two items with logits of 0.0 and +1.0 (respectively) are the same distance apart as two items with logits of +3.0 and +4.0. Logits are not dependent on the ability level of the students. For example, a test form can have a mean logit of zero regardless of how the student sample performed on the item.

The standard Rasch calibration procedure arbitrarily sets the mean difficulty of the items on any form at zero. Under normal circumstances where all students are administered the same set of items, any item with a *p*-value lower than the average item on the form receives a positive logit difficulty and any item with a *p*-value higher than the average receives a negative logit. Consequently, the logits for any calibration, whether it is the grade 3 ELA test or the grade 8 science test, relate to an arbitrary origin defined by the center of items on that form. The average third-grade ELA item will have a logit of zero; the average grade 8 science item will have a logit of zero. Logits for both item difficulties and student abilities are placed on the same scale and relate to the same mean item difficulty.

There are a number of other arbitrary choices that could be made for centering the item difficulties. Rather than using all the items, the origin could be defined by a subset. For the PSSA, all test forms within each subject and grade level share the same operational item set. All items on each form can then be easily adjusted to a single (but still arbitrary) origin by defining the origin as the mean of the operational items. With this done, the origins for all the forms will be statistically equal. For example, items on any two forms that are equally difficult will now have statistically equal logit difficulties. This is partly how PSSA items can be placed on the same logit difficulty scale across years. Chapter Fifteen has more detailed information about the PSSA equating procedure.

Appendix F reports the item statistics including classical and Rasch logit difficulties for all operational items that were used for pre-equating (see Chapter Fifteen). Table 12–4 summarizes the Rasch logit difficulties of the operational items on each test that are on the base scale, which were set in 2015 for math and ELA, and 2008 for science. The minimum and maximum values and standard deviations suggest that the PSSA items covered a relatively wide range of difficulties. It is important to note that the logit difficulty values presented have not been linked to a common scale of measurement across grades and subjects. Therefore, the relative magnitude of the statistics across content areas and grades cannot be compared.

Table 12-4. Summary of Rasch Item Difficulties by Subject and Grade

Subject	Grade	N	Mean	SD	Min	Max
Mathematics	3	43	0.27	0.71	-1.33	1.49
Mathematics	4	43	-0.15	0.84	-2.23	1.24
Mathematics	5	43	0.29	0.70	-0.88	1.48
Mathematics	6	43	0.29	0.81	-1.74	1.63
Mathematics	7	43	0.00	0.84	-2.27	1.75
Mathematics	8	43	-0.16	0.65	-2.11	0.81
ELA	3	35	0.49	0.71	-1.53	1.62
ELA	4	39	0.29	0.57	-0.89	1.45
ELA	5	39	0.35	0.82	-1.52	1.84
ELA	6	39	0.60	0.74	-1.47	2.11
ELA	7	39	0.43	0.77	-1.23	1.70
ELA	8	39	0.08	0.76	-1.10	1.78
Science	4	43	0.86	0.63	-0.43	2.01
Science	8	43	0.44	0.77	-0.80	2.75

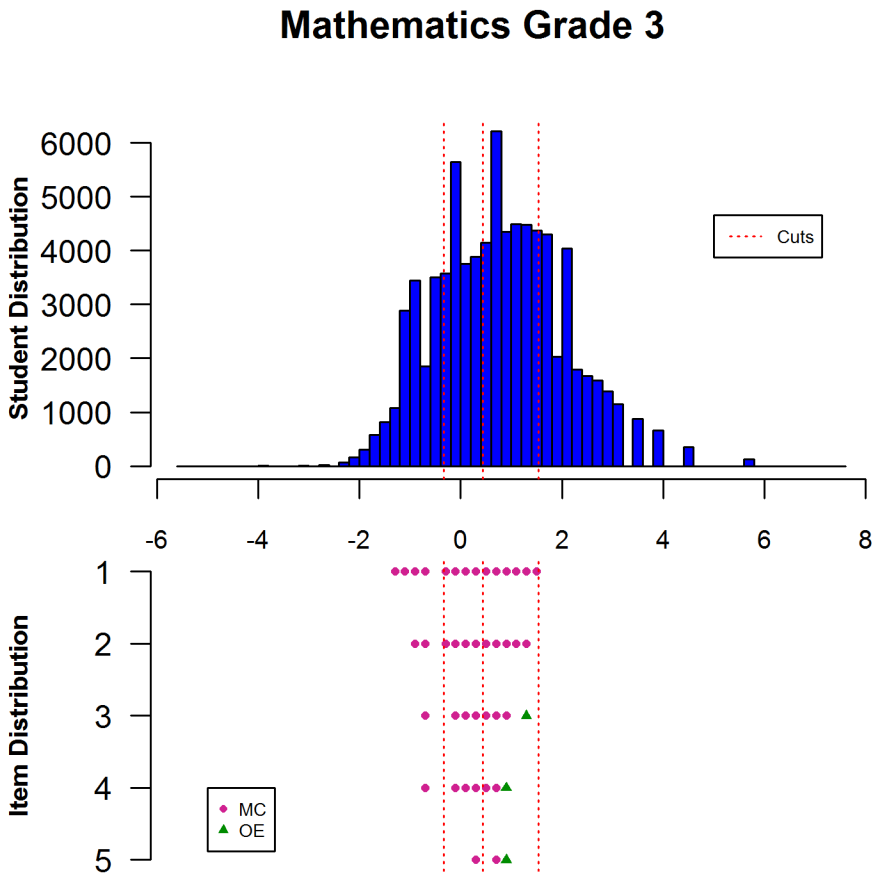
Note. The base scales were set in 2008 for science and 2015 for mathematics and ELA so the means are not expected to be zero.

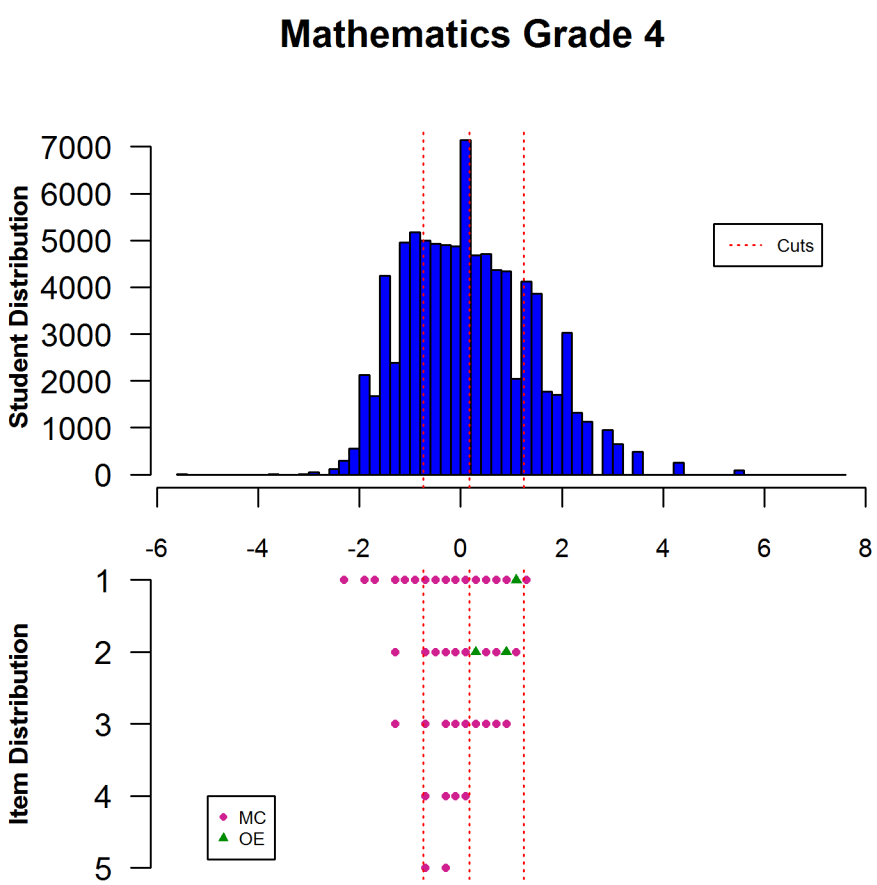
ITEM DIFFICULTY-STUDENT ABILITY WRIGHT MAPS

The distributions of the Rasch item logits (item difficulty estimates) are shown on the item difficulty-student ability maps presented in Figure 12–2. In each item-student map, the top bar graph displays the student distribution on the logit scale, and the bottom displays markers of item difficulty parameter estimates. MC items are represented by a circle (all subjects), OE and TDA items are represented by a triangle (all subjects), and ESR items are represented by a square (ELA only). OE, TDA and ESR items are worth multiple points. As noted earlier, the Rasch model enables placement of both items and students on the same scale. Consequently, one can easily visualize information regarding the relationship between the distributions of item difficulty and student ability. The vertical red lines show the cut-points for each performance level. On the top plot, the logit represents lower abilities (negative values) to higher abilities (positive values), whereas on the bottom plot the logit represents easier items (negative values) to harder items (positive values). To achieve precise measures of student ability, the student distribution should mirror the item distribution.

In 2016, a pattern noted across the maps for many grades and content areas was for students to have relatively higher ability and for items to be relatively easier. Accordingly, test development for the 2017 PSSAs focused on centering the predicted test difficulties on the center of the 2016 examinee ability distribution to more closely align item difficulty with examinee performance. The same targets used to construct the 2017 PSSAs were used for construction of the 2018 and 2019 PSSAs as well. The Wright maps are presented in Figure 12–2.

Figure 12–2. Wright Maps

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Item Distribution
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4
5
MC
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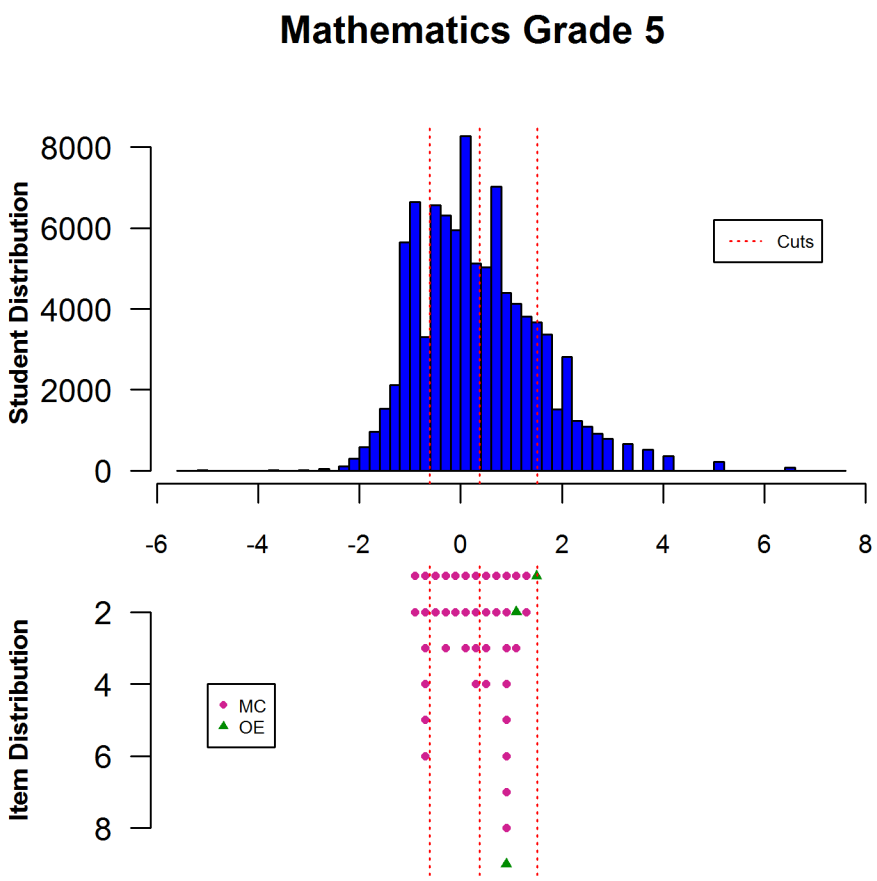
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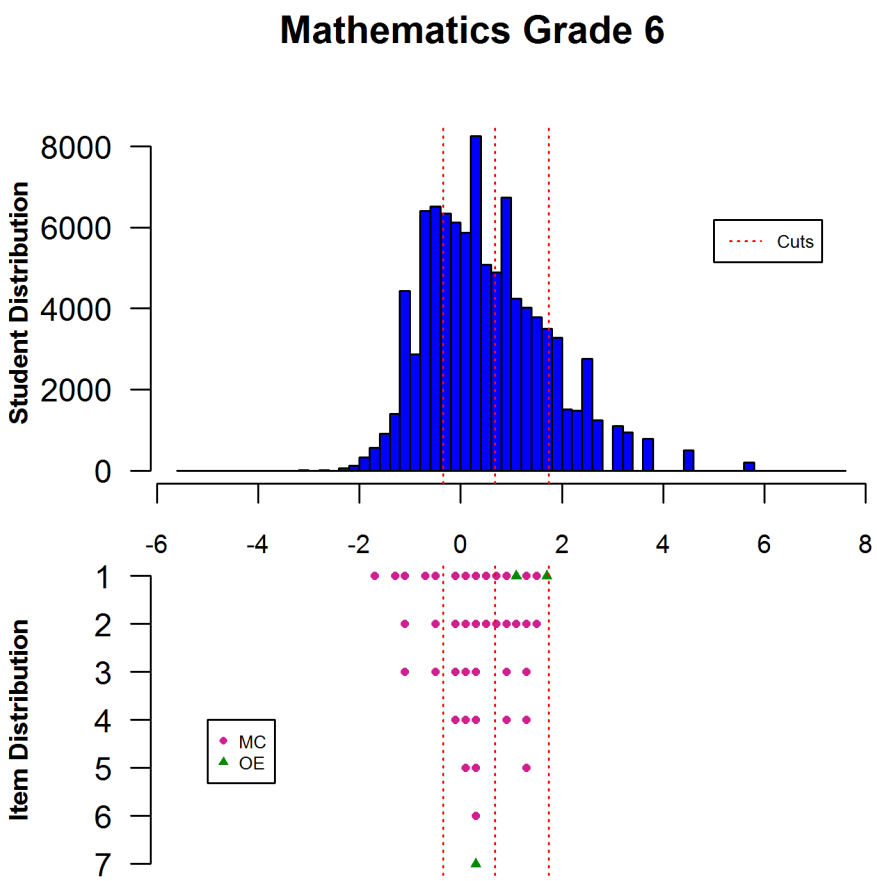
8
MC
OE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Cuts
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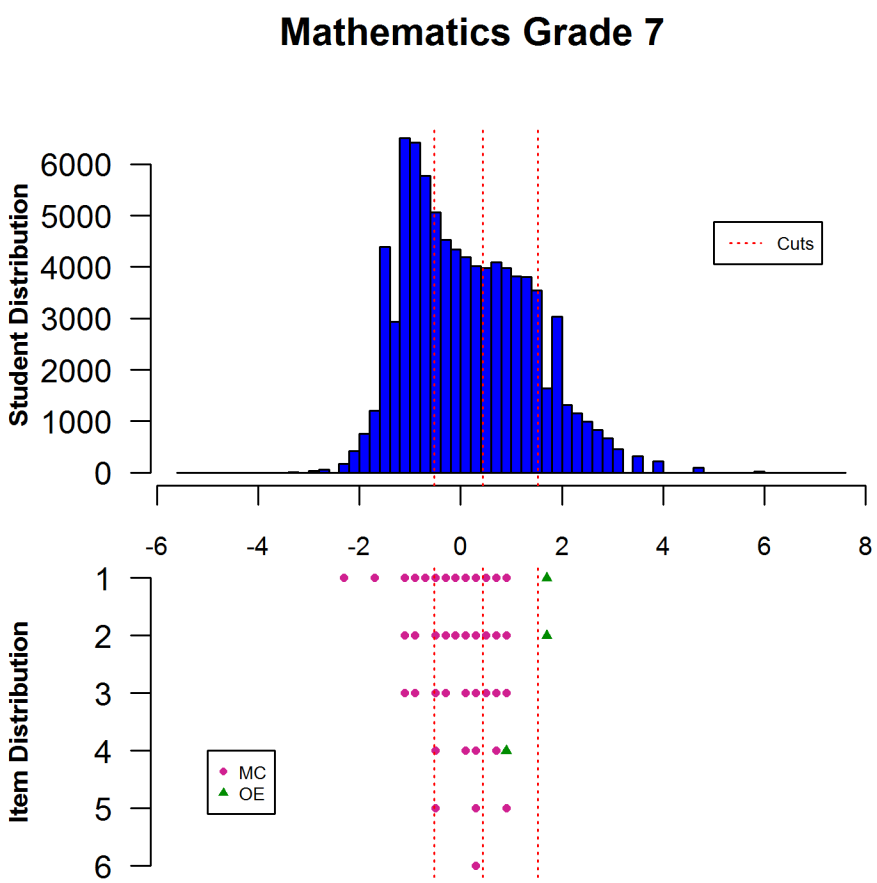
3
4
5
6
7
MC
OE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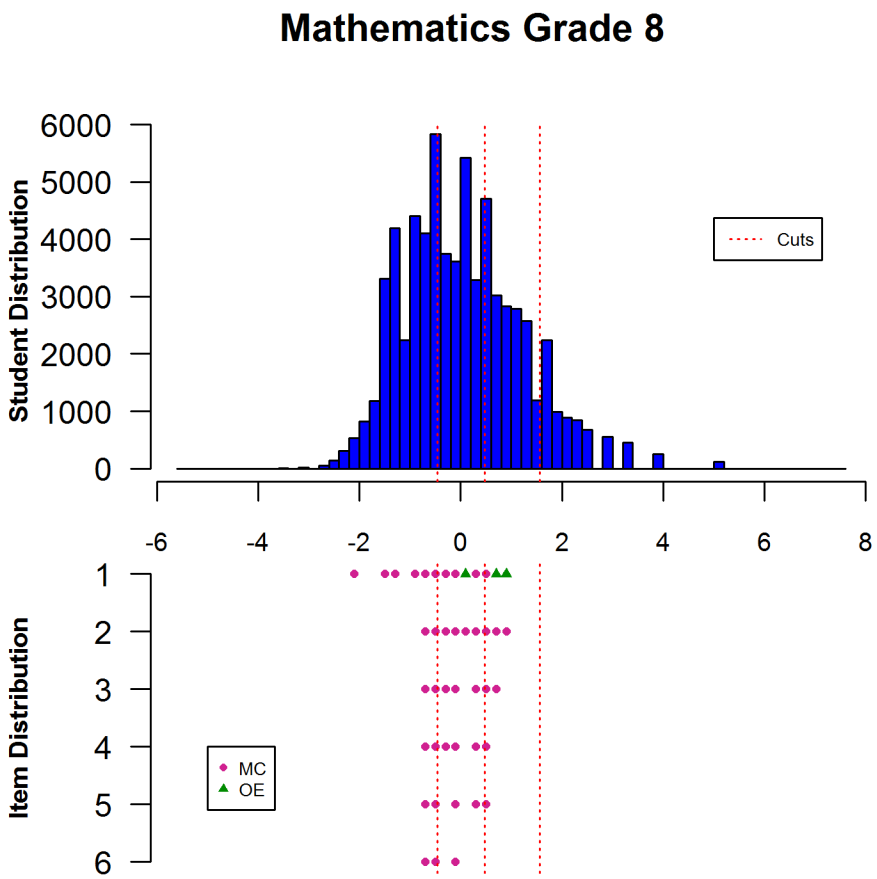
MC
OE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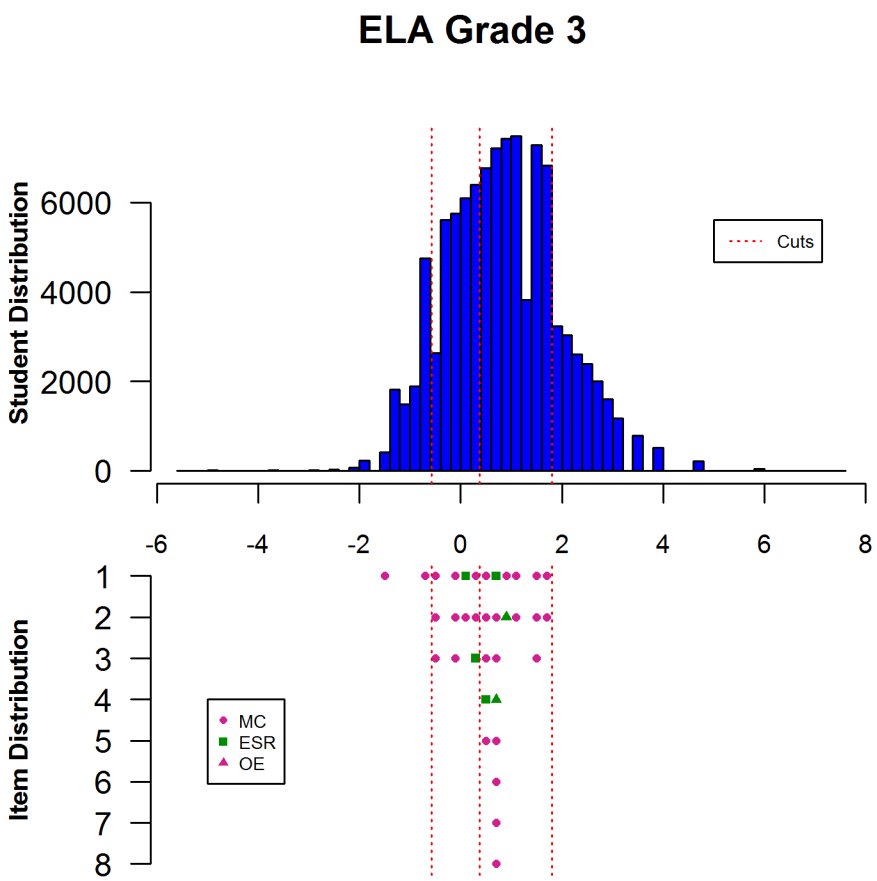
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ESR
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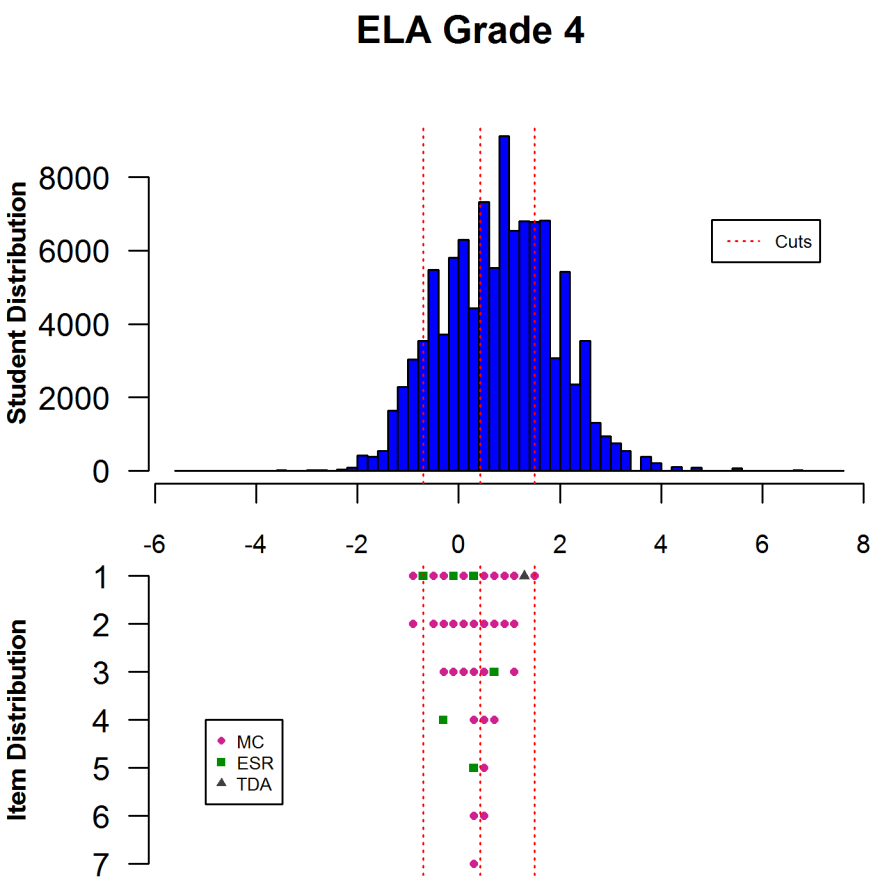
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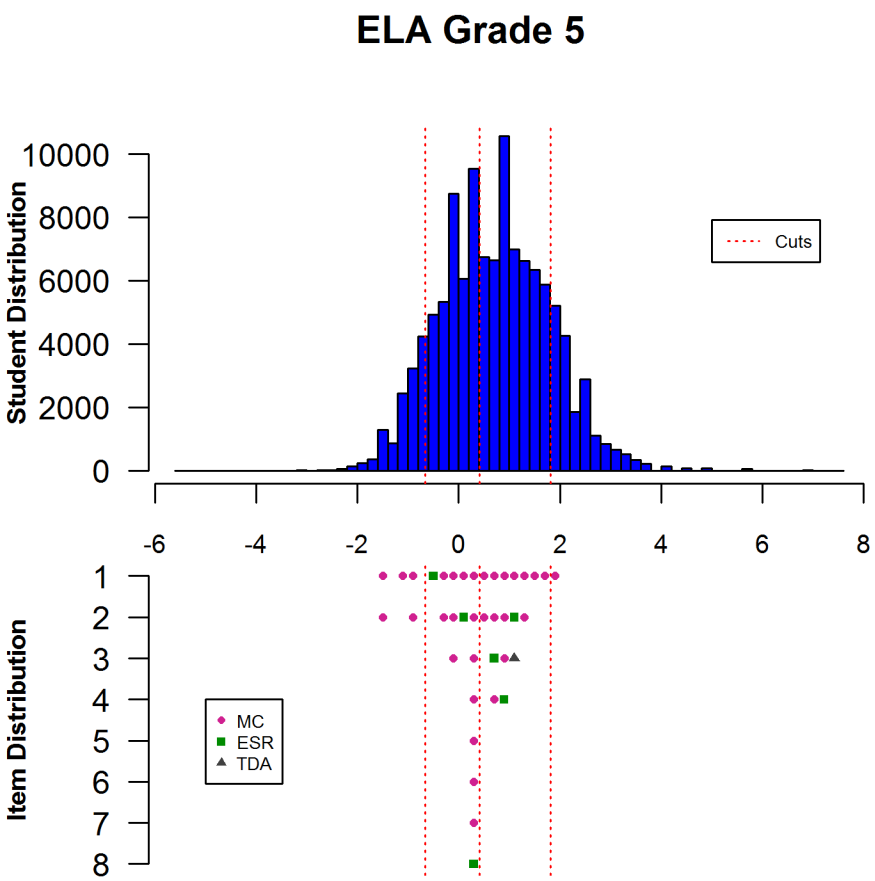
MC
ESR
TDA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Student Distribution
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Cuts
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Item Distribution
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8
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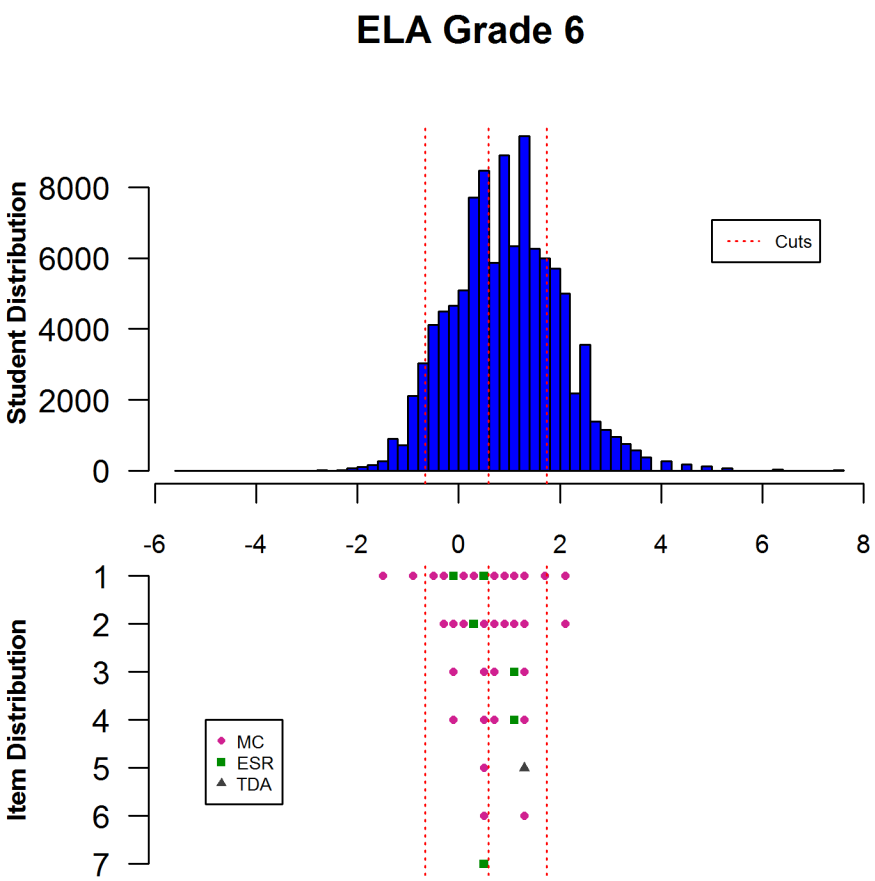
ESR
TDA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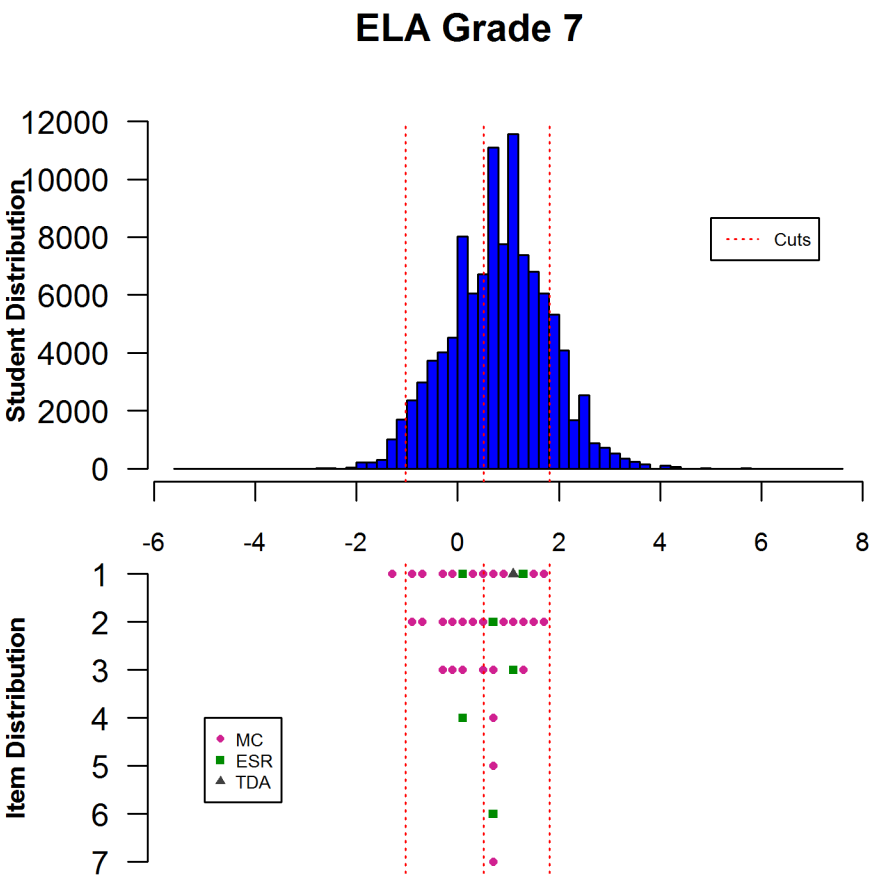
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Cuts
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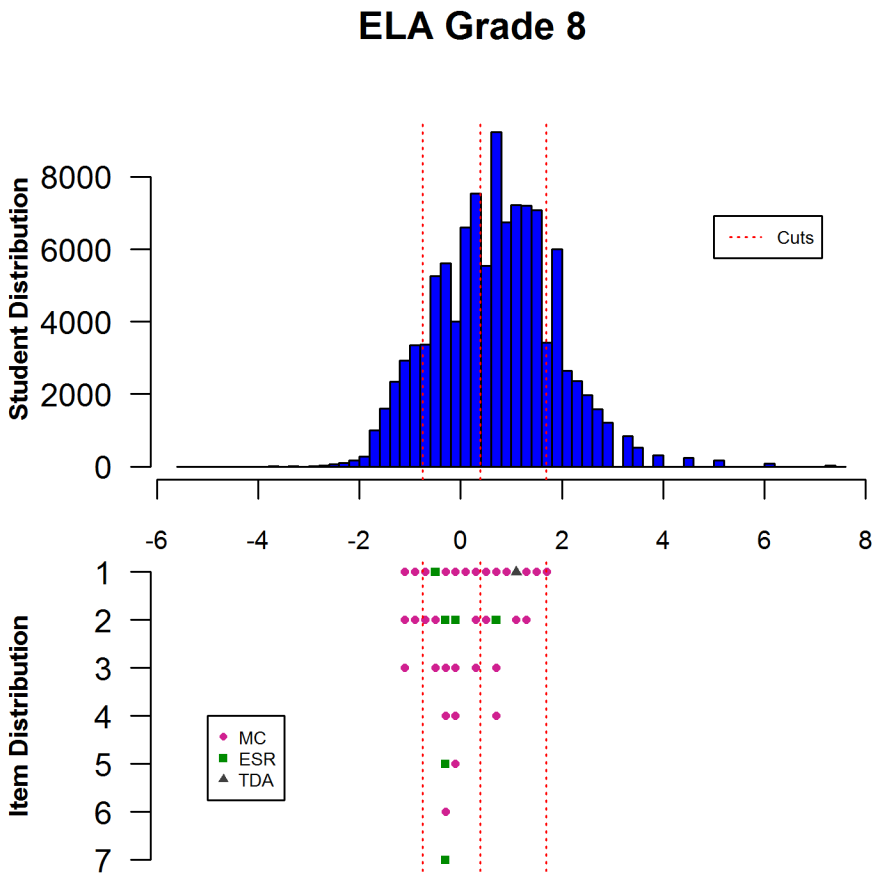
ESR
TDA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Student Distribution
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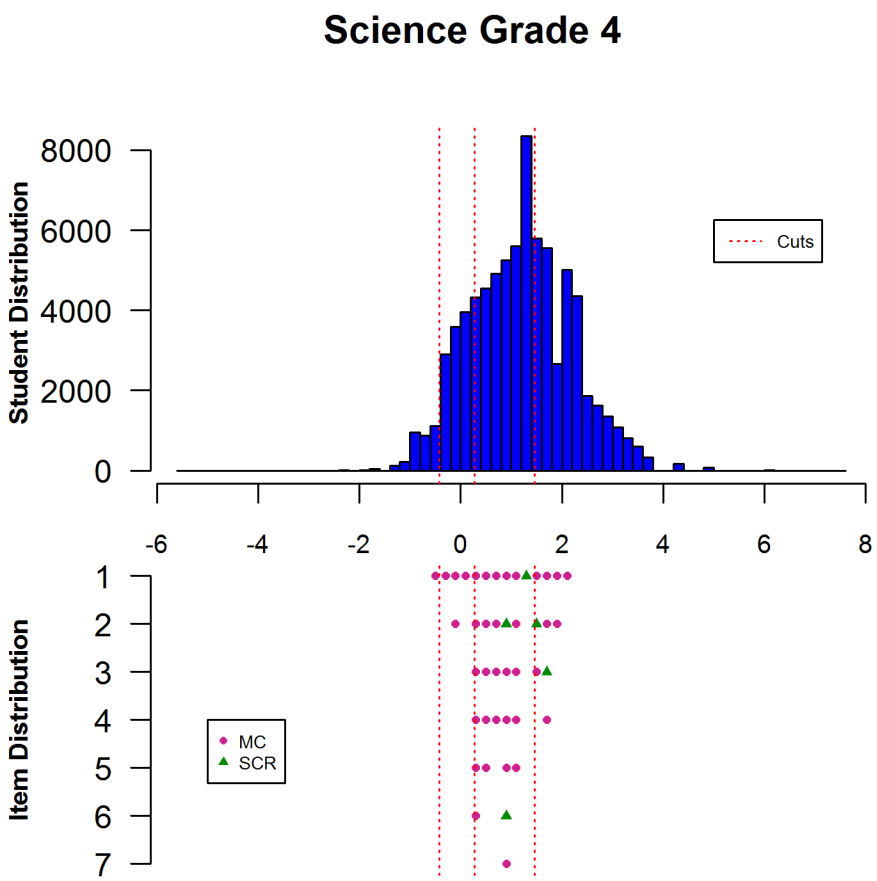
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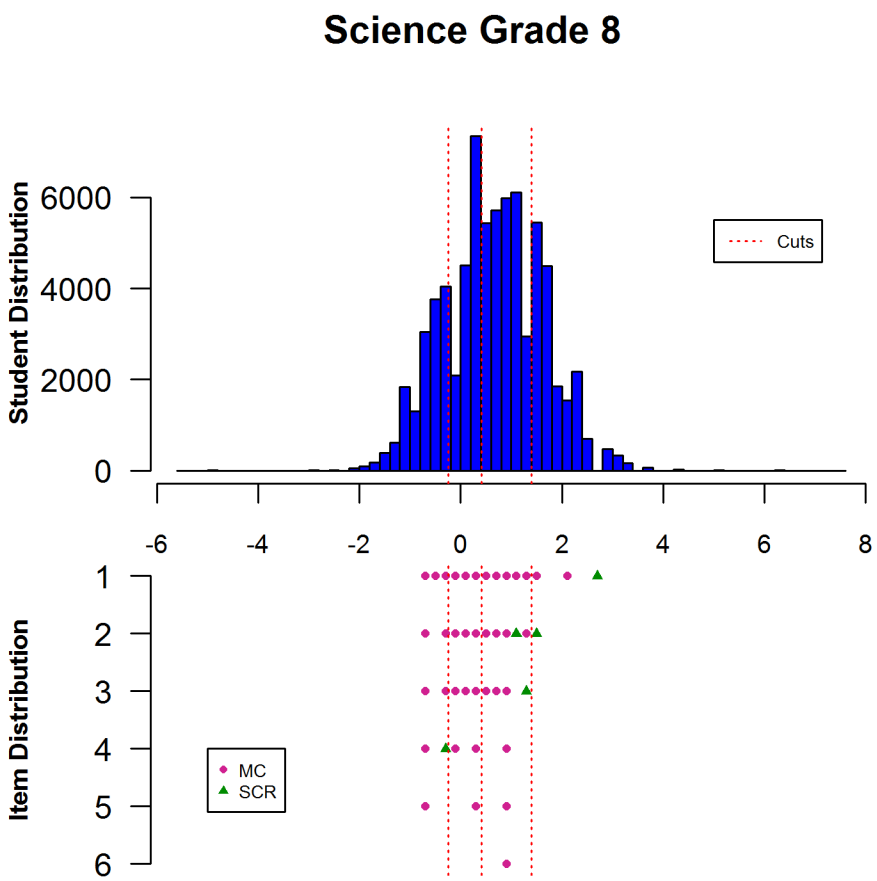
SCR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Item Distribution
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5
6
MC
SCR

CHAPTER THIRTEEN: PERFORMANCE LEVEL SETTING

Performance level setting events for grades 3 through 8 in mathematics and ELA took place June 9–12, 2015. However, no performance level setting occurred for science in 2015. A history (dates and methodology) of performance level setting events are provided in Table 13–1. The resulting cut scores from those events are provided in Table 13–2. For additional details about science standard setting event, refer to the PSSA science performance level setting technical report in 2008. For mathematics and ELA, please refer to the performance level setting report in 2015 for full details on the procedures used and the standard setting results.

Subsequent to the first administration of the reduced length tests described in detail in the Preface and Chapter Seven, the ELA cut scores reported below in Table 13-2 were validated by Pennsylvania educators during a modified Bookmark standards validation procedure in the Summer of 2018. Please refer to the standards validation report in 2018 for full details.

Table 13–1. Performance Level Setting/Validation Event Dates and Methodology

Subject	Grade	Methodology	Validation?	Event Date
Mathematics	3,4,5,6,7,8	Bookmark	No	Summer 2015
ELA	3,4,5,6,7,8	Bookmark	No	Summer 2015
Science	4, 8, 11	Bookmark	No	Summer 2008

PSSA CUT SCORES

Appendix M provides the scaled score cuts for each PSSA test. For reader convenience, these are documented next in a different format. Table 13–2 documents the cut scores on the scaled-score metric. PSSA scaling procedures are discussed further in Chapter Fourteen.

Table 13–2. PSSA Scaled-Score Metric Cut Scores by Subject and Grade

Subject	Grade	BB/B	B/P	P/A
Mathematics	3	923	1000	1110
Mathematics	4	908	1000	1107
Mathematics	5	901	1000	1113
Mathematics	6	897	1000	1105
Mathematics	7	904	1000	1109
Mathematics	8	906	1000	1108
ELA	3	905	1000	1143
ELA	4	887	1000	1107
ELA	5	893	1000	1139
ELA	6	875	1000	1115
ELA	7	845	1000	1130
ELA	8	886	1000	1130
Science	4	1150	1275	1483
Science	8	1150	1275	1464

Note. BB = Below Basic; B = Basic; P = Proficient; and A = Advanced.

CHAPTER FOURTEEN: SCALING

The purpose of a scaling analysis is to create a score scale. Scaling is used to transform test score values onto a scale more easily interpreted by users. For the PSSA, the resulting scaled scores will be used for score reporting and performance level classification. The PSSA classifies students into four achievement levels: Below Basic, Basic, Proficient, and Advanced.

The adoption of the Pennsylvania Core Standards in 2013 brought several changes to the PSSA in mathematics and ELA. In mathematics, content changed for grade levels, items involved more problem solving for deeper understanding, rulers were provided in grade 3 only, protractors were provided in grade 4, and formula sheets were provided in grades 4 through 8. In ELA, the new PSSA replaced PSSA Reading and PSSA Writing. Additional changes in ELA included reading passages that reflect the increased expectations of text complexity and new item types to reflect the emphasis on text-based answers and evidence to support claims. PSSA science continues to be aligned to the Pennsylvania Academic Standards for Science, Technology, Environment and Ecology.

The changes to mathematics and ELA necessitated performance level setting and the establishment of new score scales in 2015. Therefore, mathematics and ELA scaled scores for 2018 are not comparable to years prior to 2015. Science score scales were established in 2008 and no changes were made to science cut scores or score scales since that time. Therefore, science scaled scores are comparable to previous years back to the 2008 scores. Table 14–1 shows the scaled-score cuts for each subject and grade level.

SCALED SCORES

Individual student scores are reported as scaled scores. However, they are initially estimated as Rasch abilities (more information on the Rasch model is given in Chapter Twelve). Generally, scaled scores are preferred over Rasch ability values for reporting purposes. One issue is that Rasch ability values are on a scale that includes negative and decimal values. By transforming the Rasch ability values to scaled scores, all reported values can become positive integers. Scaled scores are usually obtained through some linear transformation of the Rasch ability values. The linear transformations used for the PSSA produce numeric values with three or four digits that are unit interval scaled scores. Each grade and subject has its own unique PSSA scaled score. Positive scores with no decimals make more sense to parents and students. Since Rasch ability values are comparative after linking to the base year, the transformed scaled scores have a common scale across years, even though the corresponding raw scores may differ. (Equating is discussed further in Chapter Fifteen.)

Essentially, PSSA scaled scores are derived through a two-step process. First, there is a nonlinear transformation that converts number correct scores to Rasch ability logits. Second, a linear transformation is used to convert logits to scaled scores. These and some additional considerations (e.g., rounding rules), are discussed further below.

DEFINITION OF SCOREABILITY

Answer documents are considered scoreable if they meet the attempt logic criterion for inclusion in the data files (see Chapter Nine).

At the item level, responses that were considered non-attempted or non-scoreable were assigned a score of zero. Details by item type are provided below.

- Multiple-choice (MC) items: All omit (no response) and multiple marks (more than one response selected without machine-discernible erasures) were scored as zeroes.
- Open-ended (OE) items: All blank, copied, non-scorable, foreign language, off-task, refusal, or unreadable responses were scored as zeroes.
- Evidence-based selected response (EBSR) items: Blank response for both parts OR part one marked with multiple marks and part two marked for all responses were scored as zeroes.

WINSTEPS SCALING

Parameter estimates are derived using the WINSTEPS computer program (Linacre, 2019), which employs unconditional (UCON), joint-maximum-likelihood estimation (JMLE). WINSTEPS provides a conversion table that maps raw scores to logits (Rasch ability estimates). The logits are transformed to scaled scores as discussed below. Every year each test is scaled separately and then linked (see Chapter Fifteen).

ZERO AND PERFECT SCORES

WINSTEPS does not provide a direct ability estimate for zero (no points earned) or perfect (all points earned) raw scores. However, WINSTEPS has a default procedure for estimating such extreme scores, and this was used for the PSSA. Essentially, a fractional raw score (a value less than one) is added to zero scores and subtracted from perfect scores to determine the corresponding logit values for these extreme scores.

LINEAR TRANSFORMATION FORMULAS

PSSA scaled scores are obtained through a linear transformation of the Rasch ability estimates ($\hat{\theta}$). Specifically,

$$SS = m\hat{\theta} + b,$$

where m is the slope and b is the intercept.

For mathematics and ELA, the slope and intercept for each grade were derived by anchoring the Proficient cut score to a scaled score of 1000 and fixing the slope at 100. For science, the slope and intercept for each grade were derived by anchoring the Basic cut score at 1150 and the Proficient cut score at 1275.[1]

The slopes and intercepts for deriving PSSA scaled scores are provided in Table 14–2.

ROUNDING

The linearly transformed scaled scores are generally rounded to the nearest integer value for reporting purposes. Values greater than or equal to 0.50 are rounded up. Values less than 0.50 are rounded down.[2]

LOWEST OBTAINABLE SCALED SCORES

PSSA mathematics and ELA tests have a lowest obtainable scaled score (LOSS) of 600. For PSSA science, the LOSS values have been set to 1050 for Grade 4 and 925 for Grade 8. The selection of a LOSS is mainly based on two considerations: 1) extreme low scaled scores may have an impact on the average of the scaled scores at school/district level and 2) score truncation makes sense from a score precision perspective given measurement errors at the extremes are large. The LOSS values are documented in Table 14–1. See tables in Appendix N for LOSS *n*-counts.

HIGHEST OBTAINABLE SCALED SCORES

A highest obtainable scaled score (HOSS) is not set for the PSSA. Thus, the maximum possible scaled score value can float for each subject and grade. The upper bound varies from year to year, depending on the difficulty of the test form. Table 14–1 shows the maximum possible observed score for the current year's test. (Note: It may be that no student earned the maximum possible.) See tables in Appendix N for HOSS *n*-counts.

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[1] Anchoring two cut scores for mathematics and ELA was considered. However, this led to large variability in scaled scores across grades. Therefore, it was determined that one cut score would be anchored and the slope set at 100 for all grades.

[2] One exception to this rounding is in science where scores are rounded up (even if less than 0.50) if this action would put the rounded score into a higher performance level. This rounding rule has been in place for science since the establishment of the score scale and cut scores in 2008.

RAW-SCORE-TO-SCALED-SCORE TABLES

Full raw-to-scaled score tables can be found in Appendix N.

Table 14–1. PSSA Scaled Score Cuts for Each Performance Level by Subject and Grade

Subject	Grade	Min	BB/B[1]	B/P[1]	P/A[1]	Max[2]
Mathematics	3	600	923	1000	1110	1530
Mathematics	4	600	908	1000	1107	1532
Mathematics	5	600	901	1000	1113	1601
Mathematics	6	600	897	1000	1105	1500
Mathematics	7	600	904	1000	1109	1536
Mathematics	8	600	906	1000	1108	1470
ELA	3	600	905	1000	1143	1544
ELA	4	600	887	1000	1107	1636
ELA	5	600	893	1000	1139	1647
ELA	6	600	875	1000	1115	1692
ELA	7	600	845	1000	1130	1639
ELA	8	600	886	1000	1130	1699
Science	4	1050	1150	1275	1483	2309
Science	8	925	1150	1275	1464	2406

Notes. 1. BB = Below Basic; B = Basic; P = Proficient; and A = Advanced.
2. Scaled Score Maximum Values are unique for each year's test.

Table 14–2. PSSA Intercept and Slope by Subject and Grade

Subject	Grade	Intercept	Slope
Mathematics	3	956.31	100
Mathematics	4	981.92	100
Mathematics	5	961.69	100
Mathematics	6	931.41	100
Mathematics	7	956.16	100
Mathematics	8	951.76	100
ELA	3	962.47	100
ELA	4	957.49	100
ELA	5	958.32	100
ELA	6	940.78	100
ELA	7	947.65	100
ELA	8	961.11	100
Science	4	1225.65	176.75
Science	8	1196.64	191.54

Notes. Linear Transformation Intercepts and Slopes are used to derive the Scaled Scores.

STRAND (REPORTING CATEGORY) SCORE STRENGTH PROFILE

Strength profiles for strand (reporting category) scores have been provided since 2009. The following process was followed to derive the profile:

- The items for each strand were identified.
- WINSTEPS runs were undertaken that anchored the logit values for each strand's items to get the raw-to-logit score table for each strand. This is sometimes referred to as fixed item parameter scaling.
- The appropriate linear transformations (based on content and grade from Table 14–2) were applied to the logit values to derive strand scaled scores.

The strand scaled scores were categorized as follows: L=Low; M=Medium; H=High. The maximum possible strand scaled score was converted to H in cases where no strand scaled score equaled or exceeded the Advanced scaled score cut. Note that these designations are provided as an indication of performance levels within a strand, but as standards have not been set that describe strand performance as has been done at the overall test level, performance level descriptions for the overall test should not be used to describe strand performance. See Chapter Sixteen for information regarding strength profiles used in score reports.

CHAPTER FIFTEEN: EQUATING

Equating is a statistical process that is used to adjust scores on test forms so that scores on the forms can be used interchangeably (Kolen & Brennan, 2004), even though the test forms consist of different items. In large-scale testing programs, it is a common practice to have different item sets appear in different test forms across administrations. Students' raw scores (or number-correct scores) cannot be directly compared between forms or administrations because they depend on the difficulty of the items in a form. The same student can score higher on an easy test than on a difficult test. Although there are various equating methods available for different psychometric paradigms (IRT and CTT), the PSSA utilizes an IRT approach aligned with the assumptions of the Rasch model, the IRT pre-equating method. The first step in any IRT equating method is to conduct scale linking, in which item difficulties from independent calibrations are transformed onto the same scale (Kolen & Brennan, 2014). Once scale linking is conducted, we can proceed with any IRT-based equating methods.

Prior to 2019, the PSSA employed a post-equating design with a chain-linking approach for scale linking. For the first time in 2019, a pre-equating design was implemented for PSSA due to the many advantages it offers. Specifically, employing pre-equating method allowed for a shortened turn-around for score reporting due to utilizing previously linked item parameters for test construction and development of raw-to-scaled-score tables. In this chapter, we provide a brief comparison of pre- and post-equating, the procedure implemented for the 2019 PSSA, and the evaluation of pre-equated and post-equated solutions. Some summary results are also provided.

PRE- VS. POST-EQUATING

As with other Pennsylvania assessment programs, the Rasch model is used to guide the test design, form construction, calibration, scaling, and equating of the PSSA. The first step in equating test forms using the Rasch model is to place the item parameters from different administrations on the same scale, also referred to as scale linking. Once the item parameters from different independent calibrations are on the same scale, the Newton Raphson procedure can be used to convert number-correct scores to Rasch ability levels, which are in turn transformed to scaled scores, ultimately allowing for score comparability and interchangeably within and across administrations.

As is the case with many K–12 large-scale assessment programs, all operational items are field tested prior to becoming operational. Once the field test items' difficulties are placed on the base scale or common metric, in theory, one should not expect the Rasch item difficulties for these items to change, except within a reasonable range of measurement error, after they are administered in an operational test providing the Rasch model fits the data. Based on this theoretical advantage of using the Rasch model, equating can be conducted using the item parameters previously calibrated. This statistical procedure is referred to as pre-equating. In contrast, post-equating requires data from the current administration year to be calibrated, item parameters to be linked and placed on the same scale, and then scores to be equated. With this in mind, pre-equating is advantageous because much of the work is completed before test administration, allowing more time for quality control; whereas post-equating relies on the same given timeframe for calibration, scale linking, equating scores, and implementing quality control procedures.

Although, in theory, the two equating procedures should provide identical results when the model fits the data, each has its own advantages and disadvantages. The use of pre-equating can facilitate the operational process in terms of rapid score reporting, more time for quality control, and more flexibility in the assessment. One successful application of pre-equating is for computer-adaptive tests (CAT) where test questions are tailored to the student's achievement as the test progresses; however, CATs require automated scoring for all item types (including constructed response). In a CAT environment, students receive scores immediately upon completing the test. However, a variety of issues need to be considered when using pre-equating in practice. For example, students may not be motivated to take the field tests, especially standalone field tests, which may make the items appear harder in the field test than in the operational test (Eignor, 1985; Eignor & Stocking, 1986; Stocking & Eignor, 1986; Kolen & Harris, 1990). Other concerns for the field test items include item context, item position, and sample size. In contrast, the use of post-equating, when applicable, does not have the same motivational concerns as with pre-equating. Also, post-equating uses post-administration data and is sometimes considered to yield more accurate analysis results, given that the number of students who take the operational tests is usually large. On the other hand, when the reporting window is extremely tight, post-equating must occur within a very short time, and therefore allowing less time for the equating analyses and quality control.

CONSIDERATIONS FOR IMPLEMENTING PRE-EQUATING IN PSSA

To implement the pre-equating model in PSSA, additional efforts have been made to enhance the accuracy of pre-equating results based on findings from literature. For example, to address the concerns regarding students' motivation to take field tests, stand-alone field tests were not used; rather field test items were embedded throughout the test so that students would perceive no differences between field test items and operational items. This approach allows Rasch item difficulty estimates to be used for future pre-equating purposes and is based on the assumption that students should be equally motivated to take the operational and embedded field test items, especially when they are not aware of which item is a field test item. To minimize item context and item position effects (i.e., lack of motivation and fatigue), field test items were interspersed within the operational sections. With this design, students have a lesser chance of knowing the field test item positions. Fatigue effects due to field test items being placed in the last section of the operational test can be mitigated in this design as well. To improve the accuracy of the Rasch item difficulties estimated from the field test data, DRC scored all MC items and a large sample of CR items given that larger sample sizes can increase the estimation accuracy. The test designs for the operational PSSA mathematics, ELA, and science assessments used multiple test forms that shared several common elements. The operational items are the same on all forms and for all students. Student total raw scores and scaled scores, as well as accountability reporting, are based exclusively on the operational items. In addition, each test form has a different set of nonoperational items (i.e., items that are not part of student scores). One such example is the embedded field test items that are tested for possible inclusion in the PSSA item pool. Although PSSA transitioned to a pre-equating design, equating block items were included to bolster the scale linking design (discussed further below). The forms containing the nonoperational items were spiraled to ensure the items would have randomly equivalent samples of students responding to them. In summary, each test form for mathematics, ELA, and science was composed of core operational items, core-to-core linking items, equating block, and field test items.

DATA COLLECTION DESIGN

The item status codes used in the IDEAS item banking system are given in Table 15–1. For brevity, these codes are used for the remainder of this chapter.

The link between years was based on the core linking (LK) and equating block (EB) items. These items had been operational in previous test administrations (most often from the prior year). The LK and EB items were used in approximately the same context. That is, the items were not altered in any way and they appeared in about the same position in the booklet as previously administered. Because the same set of operational items are used for all forms, this chapter focuses on item linking across years.

Because the equivalence of student samples across years cannot be assumed, the linking design employed for PSSA is often referred to as a common-item nonequivalent groups design. Test forms contain a set of common items, called core LK items or EB items, which served as anchors for linking test forms across years to a common scale. LK items were internal anchor items (i.e., they contribute to student test scores) and EB items were external anchor items (i.e., they did not contribute to student test scores). All EB items were MC items.

Since LK items were in the tests' operational sections, they were common across all test forms within a year. For the 2019 PSSA, all core MC LK items were from 2018 operational tests. The forms containing EB items were spiraled, and thus, randomly distributed across the student population. All EB items in the 2019 PSSA tests were previously administered in 2018. The number of the LK and EB items are summarized in Table 15–2, where the number of EB items shown is the number of EB items in across forms. The linking design has been consistent, despite the test length reduction in 2017.

Table 15–1. Item Status Codes in IDEAS

Item	Comments	Code in IDEAS
Core	The set of operational items, which are common across test forms within a given subject and grade level. Operational items include core linking (i.e., anchor) items, and can be any item type (MC, EBSR, OE, or TDA).	OP
Core linking	The set of linking items in the core section, which include both MC and OE item types. Core linking items are internal anchors.	LK
Equating Block	External anchor items used to strengthen the scale link. All EB items are MC.	EB
Field Test	Unscored, newly written items administered to evaluate performance. FT items are in an embedded section, and can be any item type (MC, EBSR, OE, or TDA).	FT

Core items include both MC or non-MC item types (e.g., OE, EBSR, TDA). In total, there were 43 core items for all mathematics grades, 35 core items for ELA grade 3, 39 core items for ELA grades 4 through 8, and 43 core items in science. Core linking items include both MC or non-MC item types and are a subset of the total core. Core linking items were used in the post-equating validation. Table 15-2 displays the 2019 PSSA linking design, including the number of items that correspond to each of the following categories: total core (MC and non-MC), total core (MC only), total core (Non-MC), core links (MC only), core links (Non-MC), and the equating block. The equating block (EB) consists of only MC items and the number shown represents the number of equating blocks across all forms because EB items are typically unique to each form. A further break down of OE items is also presented in Table 16–1 in Chapter Sixteen.

Table 15–2. 2019 PSSA Linking Designs: Mathematics, ELA, and Science

Subject	Grade	Number of Forms	Total Core (MC and Non-MC)	Total Core MC	Total Core Non-MC	Core Links MC	Core Links Non-MC	Equating Block (All MC)
Mathematics	3	9	43	40	3	16	2	18
Mathematics	4	9	43	40	3	16	2	18
Mathematics	5	9	43	40	3	16	2	18
Mathematics	6	9	43	40	3	16	2	18
Mathematics	7	9	43	40	3	16	2	18
Mathematics	8	9	43	40	3	16	2	18
ELA	3	9	35	29	6	9	2	21
ELA	4	9	39	32	7	10	1	21
ELA	5	9	39	32	7	11	2	21
ELA	6	9	39	32	7	11	2	21
ELA	7	9	39	32	7	10	1	21
ELA	8	9	39	32	7	10	2	21
Science	4	12	43	38	5	16	2	24
Science	8	12	43	38	5	16	2	24

SCALE LINKING

PSSA utilizes a chained scale linking design to conduct post-equating validation, to obtain item parameters for field tested items, and to update item parameters for operational items. Results from scale linking are item parameters (Rasch difficulties) for field-tested items that are on the base scale. The chain originates from scale of measurement defined for each test's base form, which is used as the reference for calibrating all items in the item pool. The base form is usually the form upon which the cut scores were established (see Chapter Thirteen). In the case of the PSSA, scales and cut scores were established for Science in 2008, and 2015 for ELA and mathematics. Therefore, the 2019 mathematics and ELA test are chain linked to the scales set in 2015 and the science tests are chain linked to the scales set in 2008.

The Rasch Partial Credit Model (RPCM) is used for the calibrating data for the PSSA, given its flexibility for dichotomously (i.e., MC) and polytomously (i.e., CR, EBSR) scored item types (Masters, 1982). Further descriptions of the RPCM are given in Chapter Twelve. Without employing scale linking, Rasch difficulties for the field-tested items would not be directly comparable to other items on the base scale.

The first step in scale linking was to estimate all 2019 item parameters for each test on its respective base scale. This was accomplished by calibrating all OP (including LK) MC items based on students taking the paper-based, master core form for each subject and grade. Then the estimates for the OP MC items were anchored to calibrate EB MC items based on students taking all forms in the paper-based mode. Next, the resulting MC item parameters were used as anchors in a final calibration of all OE items in the operational section (including OP LKs) based on examinees taking all forms in the paper-based mode.[1] At this point all OP and EB item parameters were on a unique scale for 2019. Between-year linking was required to transform item parameters from the 2019 tests onto their base scale.

Between-year linking utilized newly estimated LK and EB item parameters and their previous item parameters. The scale transformation methodology used for PSSA is the mean-mean scale linking procedure, which has been employed for the PSSA program for some time. After evaluating the robustness of the link by identifying items that did not maintain their relative difficulty across years, the difference between the current year and previous Rasch item parameters was then determined. The mean of the differences was then used to statistically adjust the 2019 parameters to the base scale.

For the post-equating validation, the final (linking) item parameters were then used to estimate student abilities, which were, in turn, transformed to scaled scores. (Transformation formulas are provided in Chapter Fourteen.) The following steps outline the scale linking procedure. All calibration was conducted using WINSTEPS (Linacre, 2019).

1. Calibrate operational (OP) multiple-choice (MC) items unanchored:
    a. Include only the Master Core and paper-pencil administrations with completeness status "01" and "00" (all students with MC responses).
    b. Include all MC items in the core operational section (OP MC).
    c. Exclude equating block (EB) items and field test (FT) items.
2. Calibrate selected multiple-choice (MC) items in an anchored run:
    a. Include all forms, but only paper-pencil administrations with completeness status "01" and "00" (all students with MC responses).
    b. Include all MC items in the core operational section (OP MC).
    c. Include all equating block (EB) items.
    d. Exclude field test (FT) items.
    e. Anchor all OP MC items parameters from Step 1.

[1] No field test items were included in any of these calibrations. FT items were calibrated after the operational linking by anchoring all OP and EB items. This placed all FT items on the bank scale.

3. Calibrate OP open-ended (OE) items in an anchored run by putting them on the MC scale from Step 2:
    a. Include all forms, but only paper-pencil administrations with completeness status of "01" (all students with MC and CR responses).
    b. Include all MC and OE items in the core operational section (OP MC and OP OE).
    c. Include all equating block items (EB).
    d. Exclude FT items.
    e. Anchor all MC items from Step 2.
4. Use the old and new parameter estimates from previously calibration and Step 3, respectively to evaluate the stability of the linking items using all LK and EB items (MC and OE):
    a. Calculate Robust *Z* for each item.
    b. Calculate the correlations between the two sets of parameters.
    c. Calculate the ratio of standard deviations.
5. The following guidelines were used in determining the final set of linking items used for the equating:
    a. Determine whether the correlations between two sets of parameters is greater than .95.
    b. Determine whether the ratio of standard deviations of 2 sets of parameters are within the range of 0.9 to 1.1.
    c. If criteria 5a and 5b were met, no further analyses were conducted. If criteria were not met, items with an absolute value of Robust *Z* exceeding 1.645 may be considered for exclusion.
    d. No more than 20% of the linking items may be considered for exclusion.
6. Final decisions about the linking items were made following previously established rules from Technical Advisory Committee (TAC), PDE and DRC:
    a. Drop items that had a large Robust Z.
    b. If an item has been changed in any way from the previous year, it may no longer be used for linking.
    c. Scatterplots of the linking item difficulties (logits) were constructed (i.e., the current year values were plotted against those from the prior year). Ideally, these plots should have a strong linear trend. Items straying from the trend line did not perform in the same way in both years. As noted above, items that departed significantly from this were further evaluated. The scatterplots with final LK/EB item sets are shown in Figure 15–1.
    d. Upon dropping any items from the linking set, iteratively redo steps 4 to 6.
7. Once the linking set is finalized, calculate the mean shift using MC and OE linking items using global item difficulties (weighted by number of score points) for OE items:
    a. Include all core linking (LK) items—LK MC and LK OE.
    b. Weight LK OE items by maximum possible score.
8. For post-equating validation and to update item parameters for OP items, apply the mean shift to the item parameters calibrated in Steps 2 and 3 and scale the operational test by anchoring all operational items:
    a. Include all students across all forms and modes.
    b. Include all OP items (OP MC + OP OE).
    c. Include all EB items.
    d. The resulting raw-to-logit table is used only for post-equating validation. Apply the scale transformations to the logits to determine scaled score distributions, performance levels, and to compare to the pre-equated solution.

9. For field test item parameters, calibrate data including all forms and all modes after applying the mean shift and anchoring the OP items.
    a. Include all students across all forms and modes.
    b. The resulting item parameters are used for item banking.

Scale Linking Results Summary

Table 15–3 shows the number of linking items and the shift parameters associated with those over the two years, and the correlation of item difficulties across years for each grade/content area. The shift constants were applied to parameter estimates for operational items for item banking purposes. The adjustment needed to place the operational item difficulties on the current scale can be large in magnitude as it must consider multiple factors (e.g., weighting in the case of the TDA, changes in student ability, and differences in test difficulty as mentioned).

Table 15–3. Summary Data for Linking Items

Subject	Grade	Final Counts MC	Final Counts OE	2018 Shift	2019 Shift	2019 Correlation
Mathematics	3	34	2	0.31	0.20	0.99
Mathematics	4	34	2	-0.02	-0.26	0.99
Mathematics	5	34	2	-0.02	0.22	0.99
Mathematics	6	34	2	0.03	0.20	0.99
Mathematics	7	34	2	-0.35	-0.17	0.99
Mathematics	8	34	2	-0.38	-0.29	0.98
ELA	3	30	2	0.43	0.45	0.97
ELA	4	31	1	0.31	0.31	0.97
ELA	5	32	2	0.41	0.29	0.98
ELA	6	32	2	0.52	0.64	0.98
ELA	7	31	1	0.43	0.45	0.98
ELA	8	31	2	0.16	0.19	0.98
Science	4	40	2	0.88	0.72	0.98
Science	8	40	2	0.48	0.23	0.99

Note. No items were dropped during the linking procedures.

Appendix O provides the statistics for OP items, LK items and EB items. The previous and current values for item sequence, *p*-values, and logits are also provided. Appendix Q provides the mean raw and scaled score points across years. Together, these appendices provide a summary of how the items and test changed across years.

PRE-EQUATING

The primary purpose of implementing pre-equating methodologies in PSSA was to shorten the score reporting window. Specific considerations were given during 2019 PSSA forms construction. Although PSSA forms have always been built using previously administered items with known Rasch difficulties, item selection for assessment programs that utilize pre-equating rely heavily on data-model fit, and in turn, the form construction process relies on items' statistical properties. Once items were selected for forms, approved by DRC staff and PDE, raw-to-scaled score tables were built using the same statistical properties (e.g., Rasch difficulties for MC and CR items, and step thresholds for CR items).

POST-EQUATING VALIDATION

Although extra care has been taken to guarantee the success of pre-equating during the test design, form construction, and calibration of embedded field test items, DRC ensured that the pre-equated results were comparable to post-equated results during a post-equating validation for the first year of implementation. Steps 1 to 9 outlined above detail the process implemented for calibration. Once sufficient data was available, post-equating validation was conducted to analyze differences between pre- and post-equated solutions upon the transition from pre-equating to post-equating. Post-equating analyses were conducted at the item level, person-level, and form-level. Detailed results from the post-equating analyses can be found in Appendix T.

Item-level analyses indicated whether the data fit the Rasch model with respect to item-fit statistics. This included the number of items that had reasonable fit statistics (e.g., greater than 0.7 and less than 1.3) supported by prior literature (Wright & Linacre, 1994). Tables 15-4E, 15-4M, and 15-4S show the item fit statistics comparison for ELA, mathematics, and science, respectively. For ELA, both pre- and post-equated solutions showed similar fit to the model in terms of infit and outfit statistics where the post-equated solution showed slightly better fit in terms of the number of items within the desired range. Overall, across all mathematics grade levels, items fit the pre-equated solution and the post-equated solution in the same manner. For science grade 4, both pre- and post-equated solutions fit similarly, whereas the science grade 8 data fit the post-equated slightly better. The findings from this indicated that the data fit the pre-equated solution similarly to the post-equated solution.

Table 15-4M. Mathematics Item Infit and Outfit Statistics by Grade

Grade	N	Method	Mean*	SD*	Min*	Max*	[0.7,1.3]*	Mean+	SD+	Min+	Max+	[0.7,1.3]+
3	79606	Pre	1.01	0.10	0.83	1.26	43/43	1.01	0.16	0.67	1.36	40/43
3	79606	Post	0.99	0.11	0.81	1.24	43/43	1.00	0.17	0.67	1.36	39/43
4	87922	Pre	0.99	0.12	0.80	1.35	42/43	1.00	0.18	0.71	1.60	39/43
4	87922	Post	1.00	0.12	0.84	1.37	42/43	1.01	0.19	0.73	1.66	39/43
5	95041	Pre	1.02	0.11	0.80	1.23	43/43	1.04	0.17	0.71	1.36	41/43
5	95041	Post	1.00	0.11	0.79	1.25	43/43	1.01	0.17	0.69	1.44	40/43
6	96237	Pre	0.99	0.10	0.81	1.22	43/43	1.01	0.16	0.72	1.35	41/43
6	96237	Post	1.00	0.10	0.84	1.24	43/43	1.01	0.15	0.72	1.40	42/43
7	84786	Pre	1.02	0.15	0.78	1.28	43/43	1.02	0.22	0.69	1.44	33/43
7	84786	Post	1.00	0.14	0.78	1.27	43/43	0.99	0.22	0.69	1.50	33/43
8	67285	Pre	1.00	0.13	0.70	1.27	42/43	1.00	0.19	0.64	1.42	36/43
8	67285	Post	1.00	0.13	0.75	1.24	43/43	1.00	0.19	0.64	1.42	38/43

Notes. *Denotes Infit
+Denotes Outfit

Table 15-4E. ELA Item Infit and Outfit Statistics by Grade

Grade	N	Method	Mean*	SD*	Min*	Max*	[0.7,1.3]*	Mean+	SD+	Min+	Max+	[0.7,1.3]+
3	101634	Pre	1.02	0.11	0.79	1.33	34/35	1.04	0.16	0.66	1.42	33/35
3	101634	Post	1.00	0.09	0.81	1.25	35/35	1.00	0.15	0.71	1.30	35/35
4	105287	Pre	1.01	0.15	0.66	1.46	37/39	1.04	0.23	0.61	1.81	32/39
4	105287	Post	1.02	0.15	0.71	1.46	38/39	1.06	0.25	0.65	2.00	32/39
5	115441	Pre	1.01	0.12	0.58	1.28	38/39	1.05	0.19	0.58	1.59	34/39
5	115441	Post	1.02	0.12	0.63	1.28	38/39	1.06	0.19	0.63	1.59	33/39
6	107135	Pre	1.05	0.14	0.77	1.40	35/39	1.12	0.23	0.65	1.83	33/39
6	107135	Post	1.02	0.13	0.66	1.36	37/39	1.07	0.23	0.64	1.89	32/39
7	109191	Pre	1.03	0.13	0.65	1.35	36/39	1.06	0.21	0.63	1.74	34/39
7	109191	Post	1.02	0.13	0.65	1.34	36/39	1.05	0.22	0.65	1.79	34/39
8	108671	Pre	1.03	0.14	0.61	1.46	36/39	1.11	0.27	0.62	1.95	28/39
8	108671	Post	1.02	0.16	0.62	1.47	36/39	1.09	0.28	0.62	1.92	27/39

Notes. *Denotes Infit
+Denotes Outfit

Table 15-4S. Science Item Infit and Outfit Statistics by Grade

Grade	N	Method	Mean*	SD*	Min*	Max*	[0.7,1.3]*	Mean+	SD+	Min+	Max+	[0.7,1.3]+
4	78072	Pre	0.98	0.10	0.72	1.17	43/43	0.98	0.14	0.60	1.26	41/43
4	78072	Post	1.00	0.09	0.82	1.18	43/43	1.00	0.14	0.66	1.27	42/43
8	72712	Pre	0.99	0.12	0.68	1.23	42/43	0.99	0.18	0.57	1.53	39/43
8	72712	Post	0.99	0.09	0.80	1.13	43/43	0.99	0.15	0.65	1.28	41/43

Notes. *Denotes Infit
+Denotes Outfit

Person-level fit statistics indicate whether the data fit the model. Table 15-5 summarizes the overall person infit and outfit statistics by each subject and grade for both the pre-equated and post-equated solutions. The values in the table support the finding that pre-equating performed similar to post-equating in terms of person fit. The table specifies the mean, standard deviation (SD), minimum (Min), maximum (Max), and proportion of persons that had reasonable fit statistics (e.g., greater than 0.5 and less than 1.5)[2] for both infit and outfit statistics. The results in the table indicate that person fit does not vary by equating method. Appendix T includes the results for the post-equating validation, including the person infit boxplots for all subjects and grade levels for both pre-equated and post-equated solutions. Appendix T also provides boxplots disaggregated by gender, ethnicity, English Learners (ELs), and students with individualized educational programs (IEPs). The person infit plots indicate that the data fits the pre- and post-equated solutions similarly.

[2] While items and persons are on the same scale, items tend to be more stable. As such stricter rules are applied to item-fit statistics than person-fit statistics in determining reasonable fit.

Table 15-5. PSSA Person Infit and Outfit Statistics by Subject and Grade for Pre-Equated and Post-Equated Solution

Subject	Grade	N	Method	Mean*	SD*	Min*	Max*	[0.7,1.3]*	Mean+	SD+	Min+	Max+	[0.7,1.3]+
Mathematics	3	79606	Pre	1.00	0.21	0.46	3.52	97.6%	1.01	0.25	0.13	8.56	95.2%
Mathematics	3	79606	Post	0.99	0.20	0.50	3.42	98.1%	1.00	0.25	0.15	6.25	95.3%
Mathematics	4	87922	Pre	0.99	0.21	0.43	3.20	97.9%	1.00	0.30	0.08	9.90	93.3%
Mathematics	4	87922	Post	1.00	0.21	0.41	3.35	97.6%	1.01	0.33	0.07	9.90	92.4%
Mathematics	5	95041	Pre	1.01	0.20	0.41	3.88	97.6%	1.04	0.25	0.04	8.79	95.6%
Mathematics	5	95041	Post	0.99	0.19	0.48	3.50	98.6%	1.01	0.22	0.08	7.16	96.5%
Mathematics	6	96237	Pre	0.99	0.22	0.50	3.34	97.6%	1.01	0.28	0.15	9.90	94.9%
Mathematics	6	96237	Post	0.99	0.22	0.50	3.35	97.6%	1.01	0.29	0.15	9.90	94.6%
Mathematics	7	84786	Pre	1.02	0.22	0.29	3.07	96.6%	1.02	0.25	0.05	6.35	94.9%
Mathematics	7	84786	Post	0.99	0.21	0.33	3.07	97.6%	0.99	0.24	0.06	5.48	95.6%
Mathematics	8	67285	Pre	0.96	0.18	0.51	3.59	99.2%	1.00	0.21	0.16	9.90	97.1%
Mathematics	8	67285	Post	0.96	0.18	0.52	3.19	99.0%	1.00	0.21	0.11	9.65	97.1%
ELA	3	101634	Pre	1.04	0.23	0.48	2.91	96.4%	1.04	0.27	0.19	7.29	94.3%
ELA	3	101634	Post	1.02	0.22	0.48	3.03	97.1%	1.00	0.24	0.15	5.21	96.3%
ELA	4	105287	Pre	0.98	0.32	0.13	4.15	93.7%	1.01	0.33	0.05	8.14	92.6%
ELA	4	105287	Post	1.00	0.35	0.10	4.87	92.6%	1.03	0.40	0.04	9.90	91.4%
ELA	5	115441	Pre	0.97	0.30	0.21	3.72	93.9%	1.02	0.38	0.07	9.90	91.5%
ELA	5	115441	Post	0.99	0.32	0.17	4.32	93.3%	1.03	0.42	0.05	9.90	91.2%
ELA	6	107135	Pre	1.08	0.41	0.12	5.10	90.0%	1.09	0.49	0.04	9.90	90.7%
ELA	6	107135	Post	1.02	0.34	0.20	3.96	92.3%	1.04	0.39	0.07	9.90	92.3%
ELA	7	109191	Pre	1.00	0.29	0.26	3.38	94.5%	1.03	0.32	0.09	8.57	92.8%
ELA	7	109191	Post	0.99	0.29	0.26	3.20	94.1%	1.02	0.33	0.09	9.25	92.8%
ELA	8	108671	Pre	1.01	0.39	0.13	5.32	93.7%	1.07	0.54	0.04	9.90	90.4%
ELA	8	108671	Post	0.99	0.35	0.18	4.34	93.4%	1.06	0.46	0.06	9.90	90.5%
Science	4	78072	Pre	0.99	0.14	0.54	1.96	99.9%	0.98	0.18	0.29	4.02	98.5%
Science	4	78072	Post	1.00	0.15	0.55	1.93	99.7%	1.00	0.22	0.33	6.33	97.0%
Science	8	72712	Pre	0.99	0.14	0.45	1.99	99.8%	0.99	0.20	0.07	4.31	97.8%
Science	8	72712	Post	0.99	0.15	0.48	1.98	99.8%	0.99	0.21	0.07	6.54	97.7%

Notes. *Denotes Infit
+Denotes Outfit

On the form-level, we evaluated differences between pre-equated and post-equated results and the consistency of performance level categorization. Normalized differences were calculated as the difference between the scaled score divided by the average CSEM of pre- and post-equated results at each raw score point (see Equation below). Normalized differences were all within reasonable expectations (min = -0.44, max = 0.59), where the largest differences were observed for ELA grades 6 (min = -0.30, max = 0.59) and grade 8 (min=-0.26, max = 0.37). The normalized scaled score differences are included in Appendix T.

$$Normalized\ Scaled\ Score\ Difference = \frac{SS_{Pre} - SS_{Post}}{(CSEM_{Pre} + CSEM_{Post})/_2}$$

PERFORMANCE LEVEL CLASSIFICATION

Pre-equated solutions were considered reasonable if classification consistency did not change more than 5%. Table 15-6 shows the consistency of classifications with respect to performance levels. The three numeric values within each cell refer to the proportion of students that do not agree at each of the three cuts (Basic, Proficient, and Advanced, respectively). If a numeric entry is followed by a negative sign, then pre-equating resulted in a lower percentage of students in the adjacent performance level when compared to post-equating. On the other hand, if the numeric entry is followed by a positive sign, then pre-equating resulted in a higher percentage of students in the adjacent performance level when compared to post-equating. Results from ELA grades 3 and 4, and Math grade 5 showed identical classifications across all performance levels. Results from Science grades 4 and 8 showed the most variability. Specifically, for Science grade 4, 2% students were classified as Basic when pre-equating was used, but were Below Basic when post-equating was used, 3% of students were classified as Proficient when pre-equating was used, but Basic when post-equating was used, and 4% of students were classified as Advanced when pre-equating was used, but Proficient when post-equating was used. Most of the movement favored pre-equating solutions, where students earned adjacent, but higher classifications when pre-equating was implemented in comparison to post-equating. However, ELA, grades 6, 7, and 8 showed movement in the opposite direction.

After comparing and evaluating the results, the percent of students classified differently was less than 5% within each classification, subject and grade level. The TAC agreed if classification consistency was less than 5%, then pre-equated solutions should be accepted. The comparison of raw-to-scale score conversion tables for pre-equated and post-equated solutions are shown in Appendix T, Table T-1.

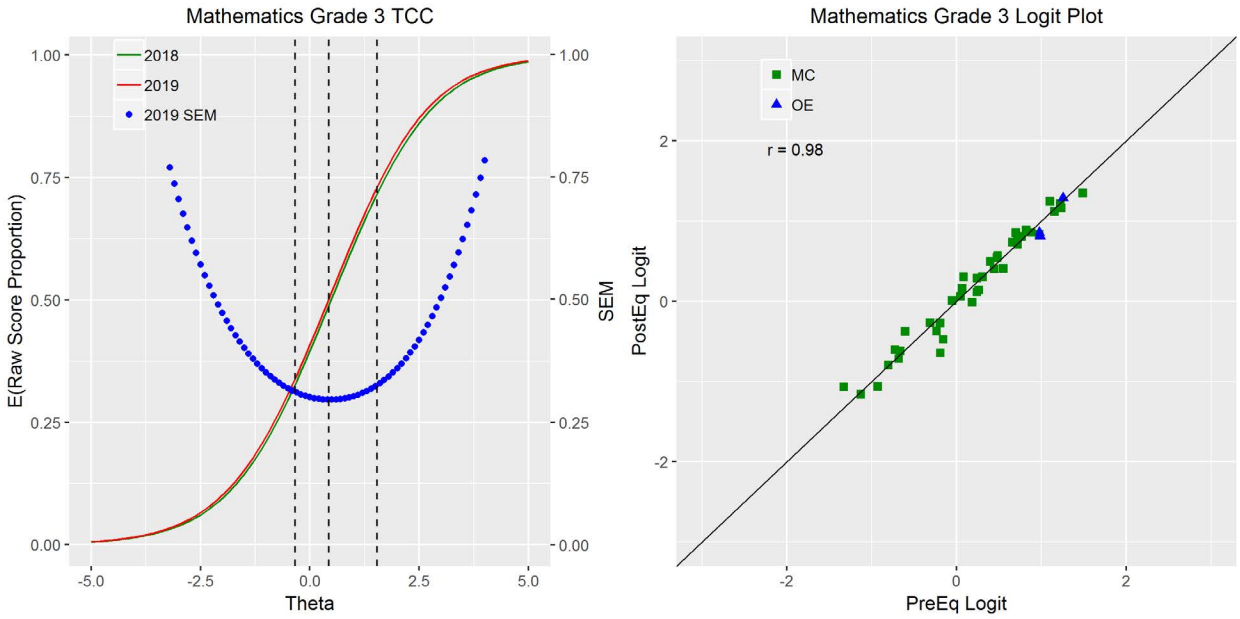
Table 15-6. Performance level impact summary between pre- and post-equated solutions by subject and grade

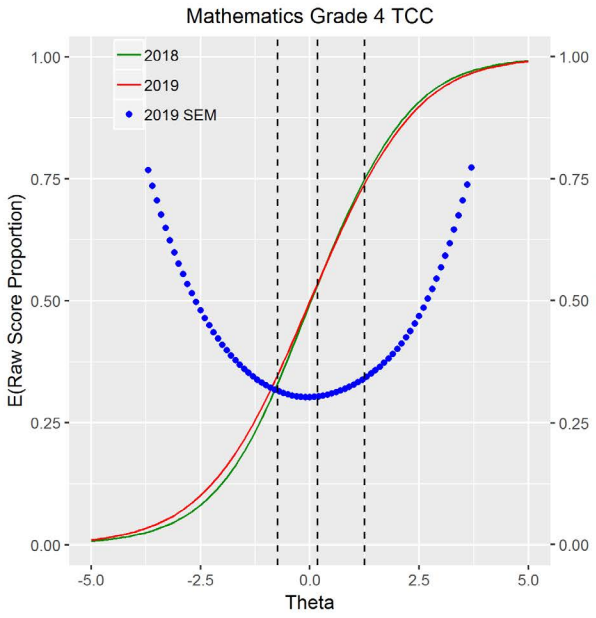
Grade	ELA	Mathematics	Science
Grade 3	Exact	(0,0,3+)	
Grade 4	Exact	(3+,0,2+)	(2+,3+,4+)
Grade 5	(2+,0,0)	Exact	
Grade 6	(1-,0,3-)	(3+,3+,0)	
Grade 7	(0,3-,0)	(3+,2+,2+)	
Grade 8	(0,2-,3-)	(3+,2+,0)	(3+,0,4+)

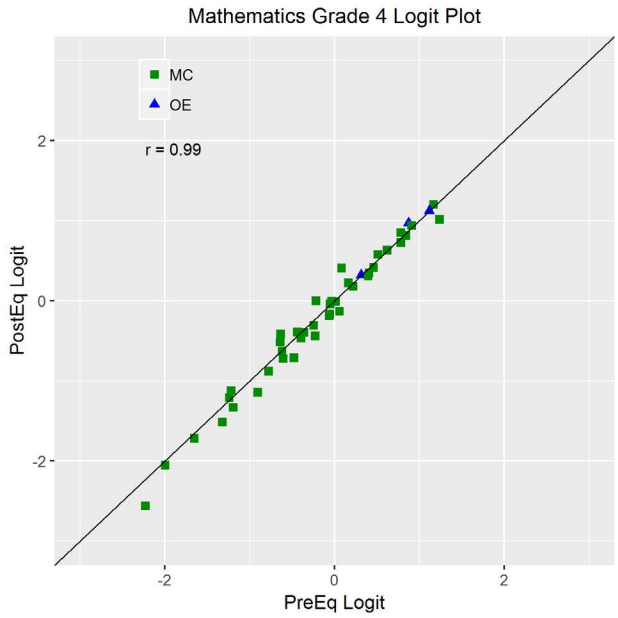
GRAPHS

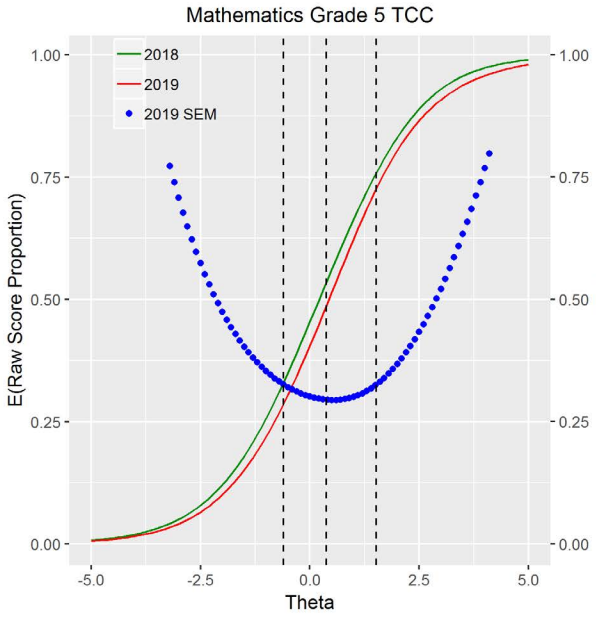
This technical report presents figures to help one visualize the across-year differences in linking items at each grade. This section presents two plots for each subject and grade level: the test characteristic curves (TCCs), and the relationship betubmittedween pre-equated and post-equated difficulties. The prior and current TCCs are shown in the graph on the left, and indicate agreement between the prior and current tests in terms of difficulty in the logit metric. Regarding the prior and current year TCCs, curves that are closely aligned translate into similar raw-score cut points and smaller equating constants across years. All subjects and grades showed very small year-to-year differences in TCCs from 2018 to 2019. The right plot in Figure 15–1 focuses on the logit difficulties. It shows more clearly the relationship between pre-equated (x-axis) and post-equated (y-axis) item difficulties. Logit plots often provide more defined trends, but still can present varying degrees of scatter and in some instances, reveal outlier data points. The plots suggest good across-year stability of item difficulty, meaning the post-equated difficulties were similar to that of pre-equated difficulties.

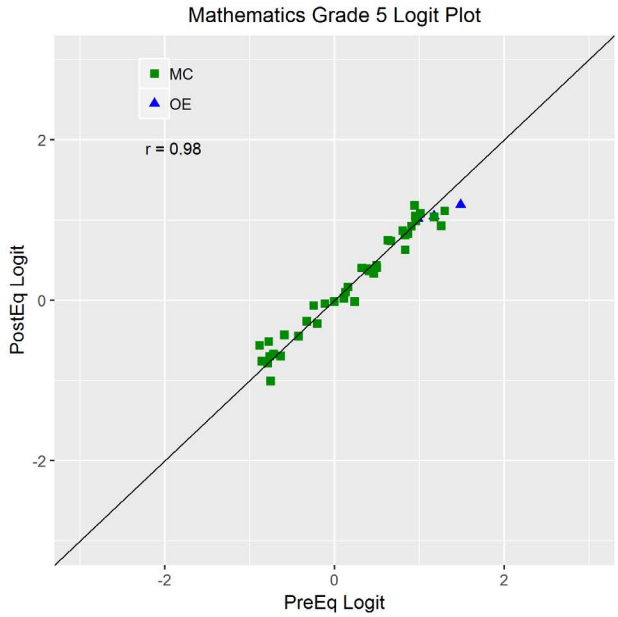
Figure 15-1. Test Characteristic Curves and Logit Plot

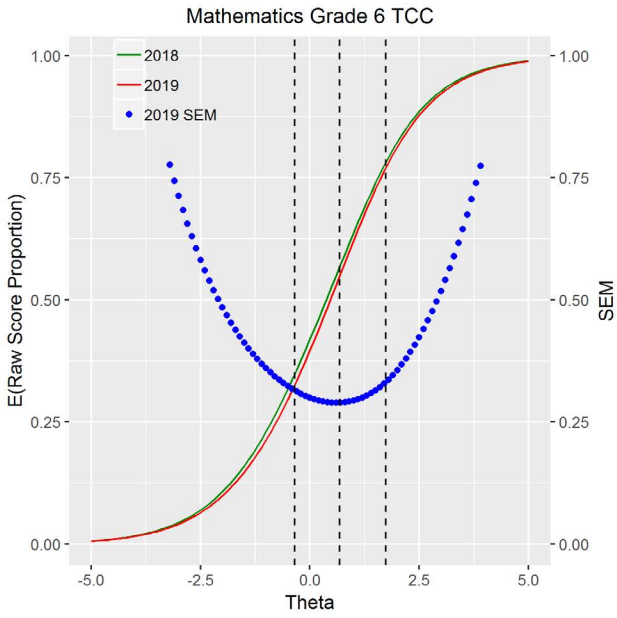


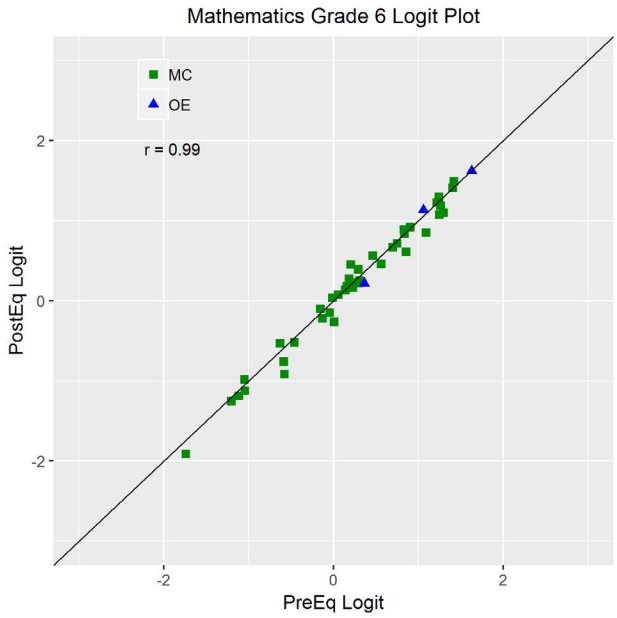

Mathematics Grade 4 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

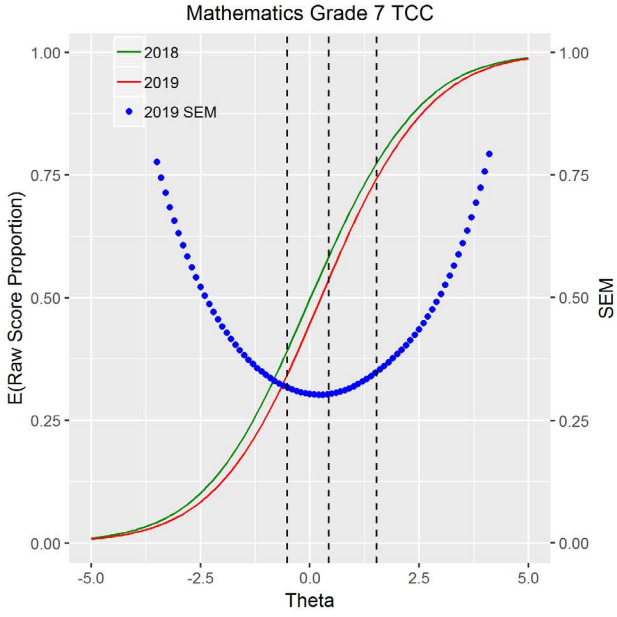

Mathematics Grade 4 Logit Plot
MC
OE
r = 0.99
PostEq Logit
PreEq Logit
2
0
-2

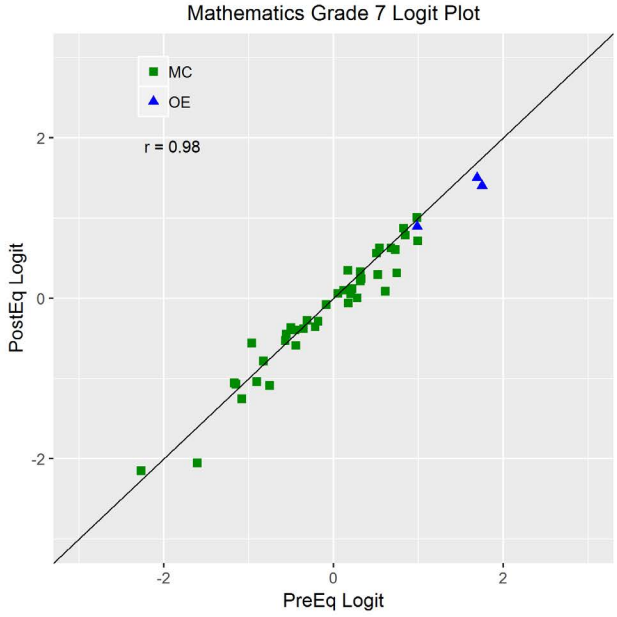

Mathematics Grade 5 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

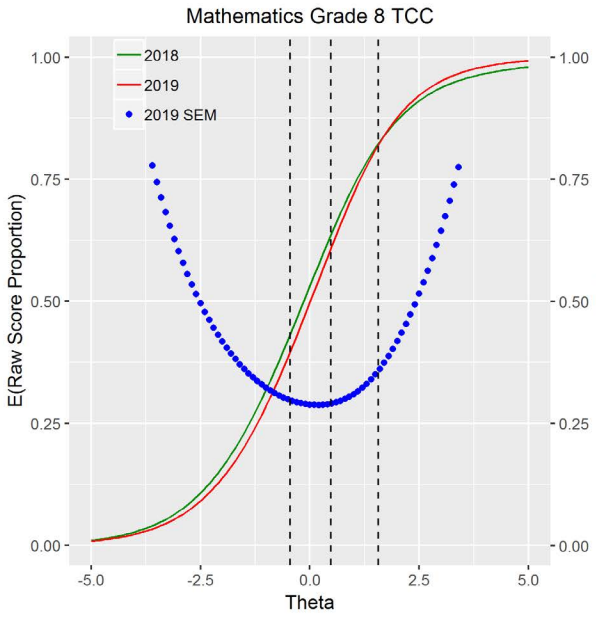

Mathematics Grade 5 Logit Plot
MC
OE
r = 0.98
PostEq Logit
PreEq Logit
2
0
-2

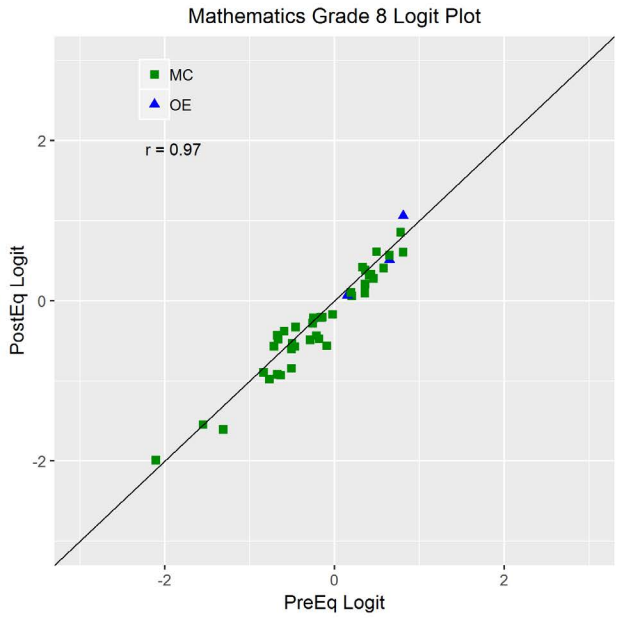

Mathematics Grade 6 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

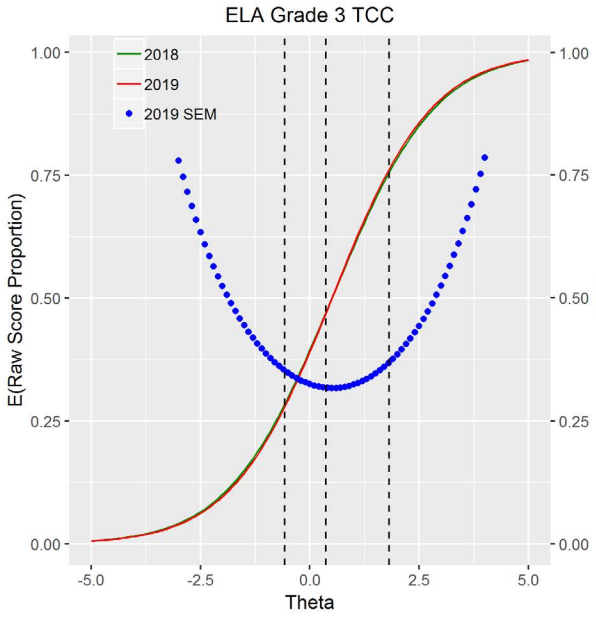

Mathematics Grade 6 Logit Plot
MC
OE
r = 0.99
PostEq Logit
PreEq Logit
2
0
-2

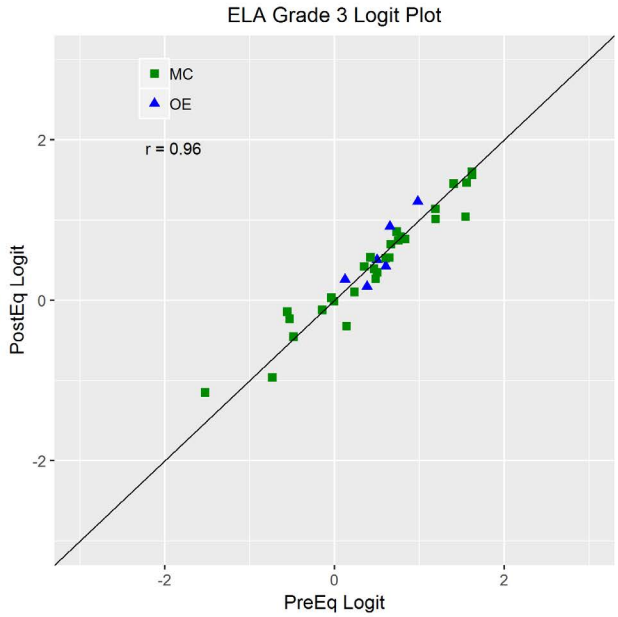

Mathematics Grade 7 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

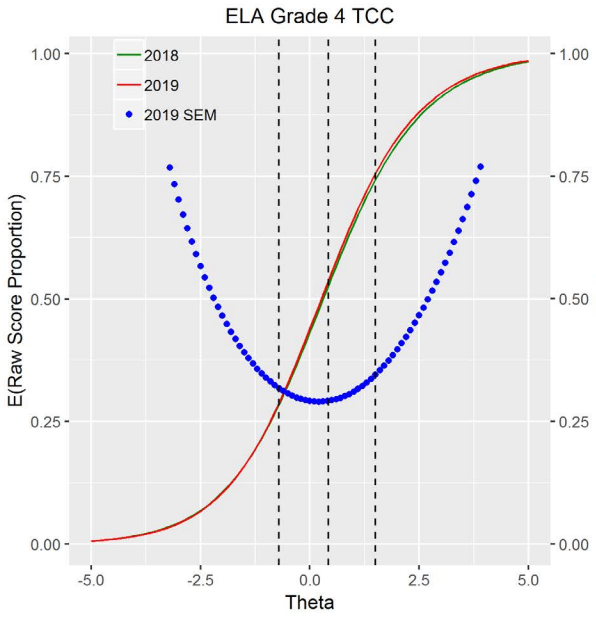

Mathematics Grade 7 Logit Plot
MC
OE
r = 0.98
PostEq Logit
PreEq Logit
2
0
-2

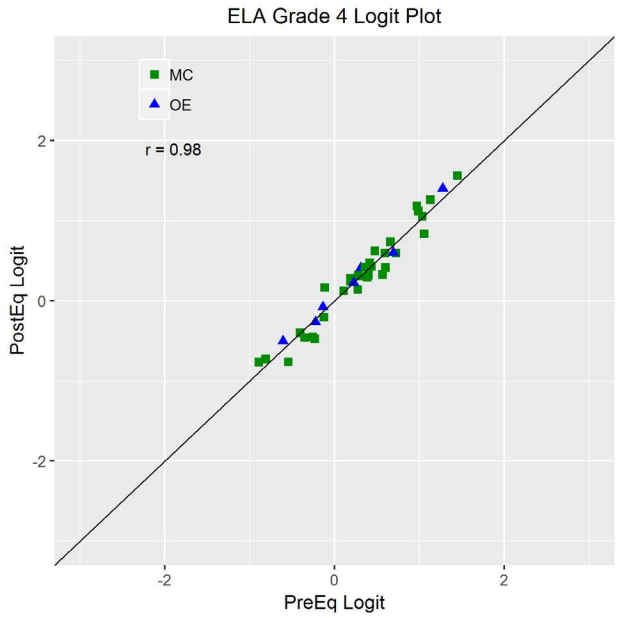

Mathematics Grade 8 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

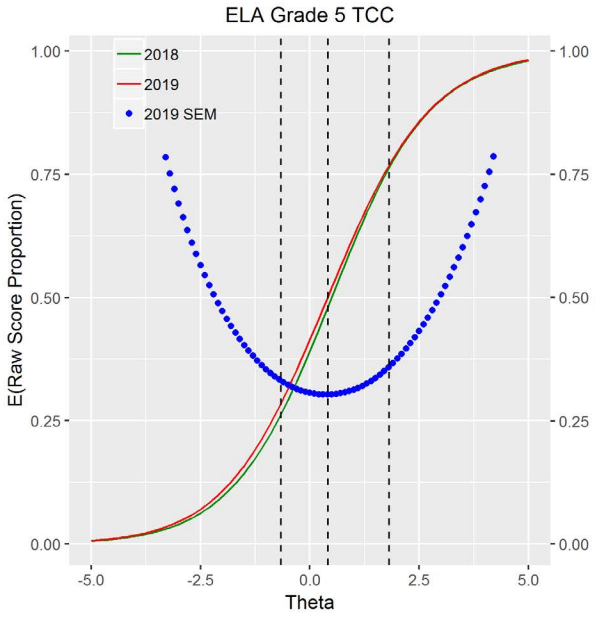

Mathematics Grade 8 Logit Plot
MC
OE
r = 0.97
PostEq Logit
PreEq Logit
2
0
-2

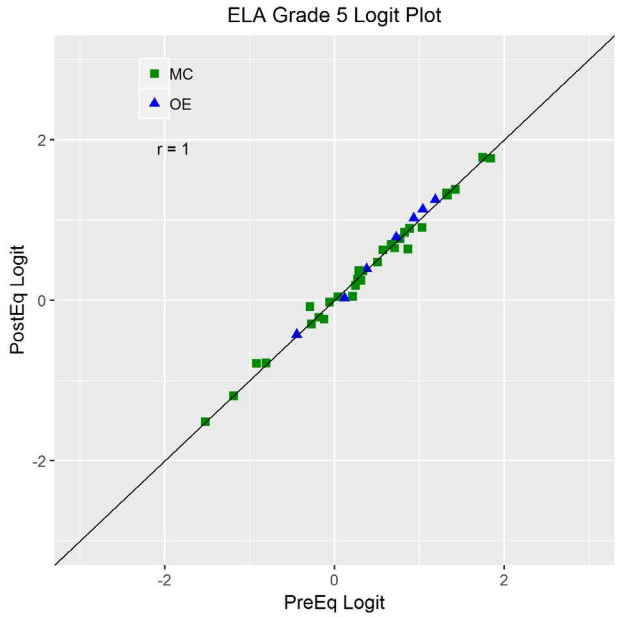

ELA Grade 3 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

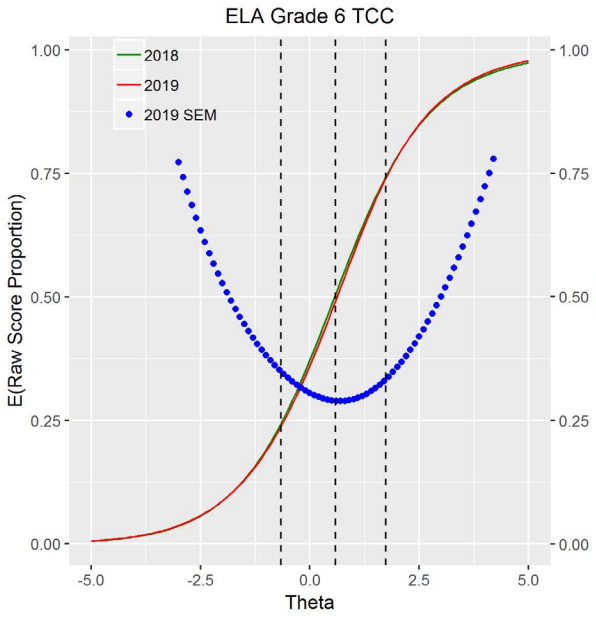

ELA Grade 3 Logit Plot
MC
OE
r = 0.96
PostEq Logit
PreEq Logit
2
0
-2

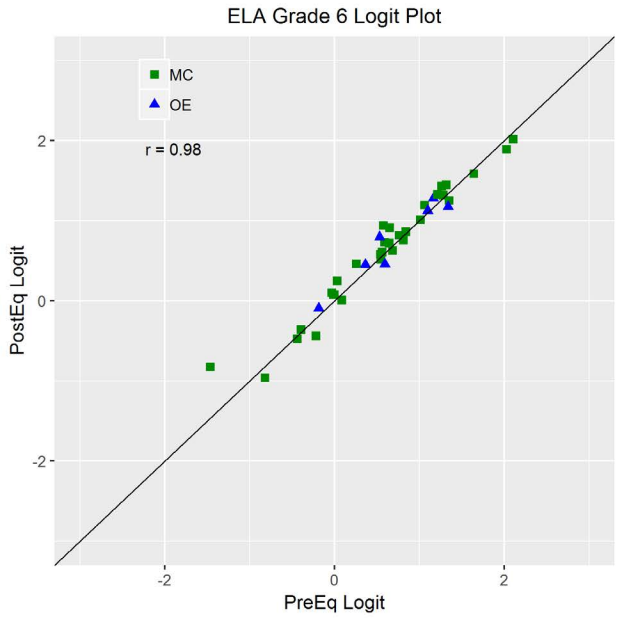

ELA Grade 4 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

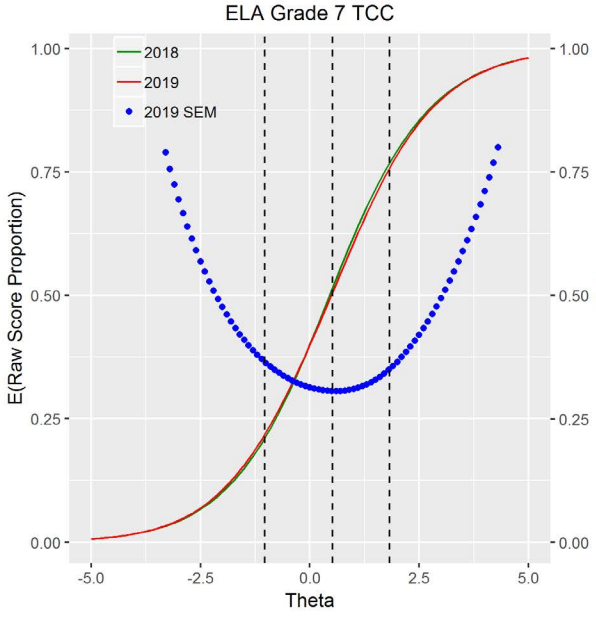

ELA Grade 4 Logit Plot
MC
OE
r = 0.98
PostEq Logit
PreEq Logit
2
0
-2

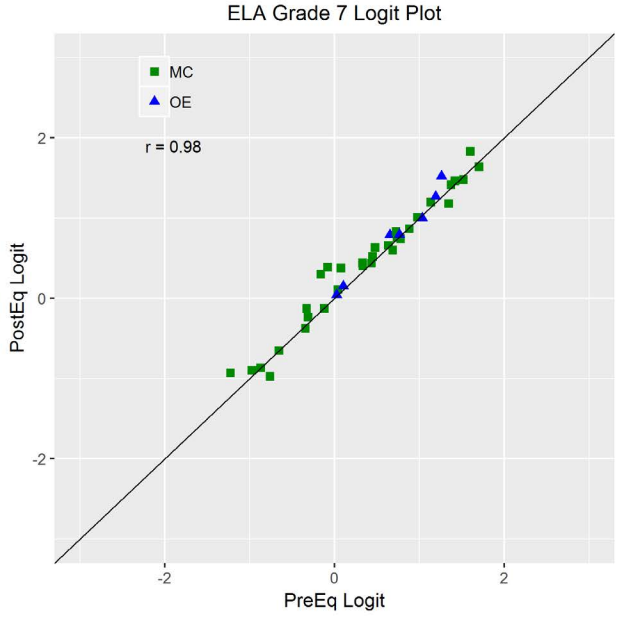

ELA Grade 5 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

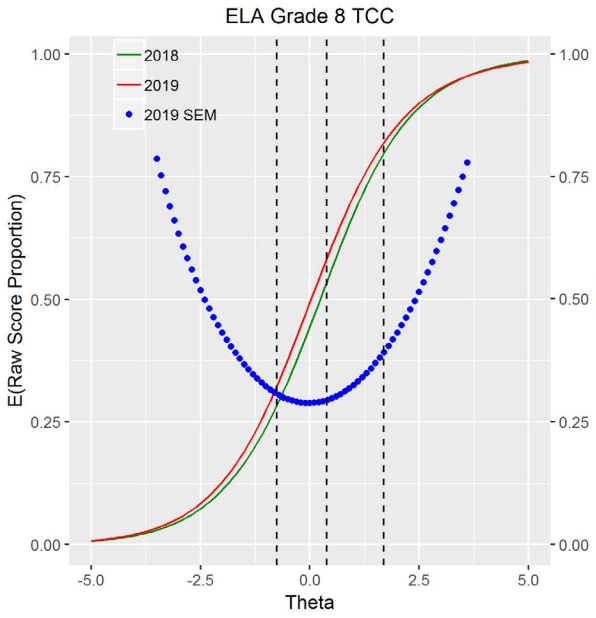

ELA Grade 5 Logit Plot
MC
OE
r = 1
PostEq Logit
PreEq Logit
2
0
-2

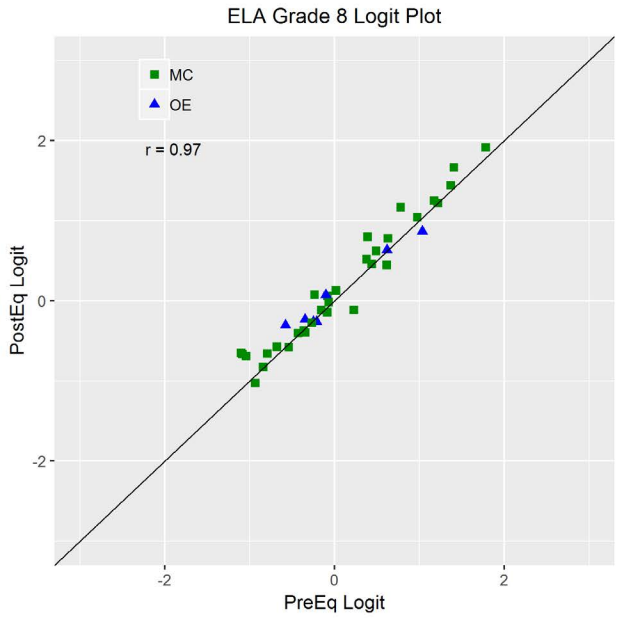

ELA Grade 6 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

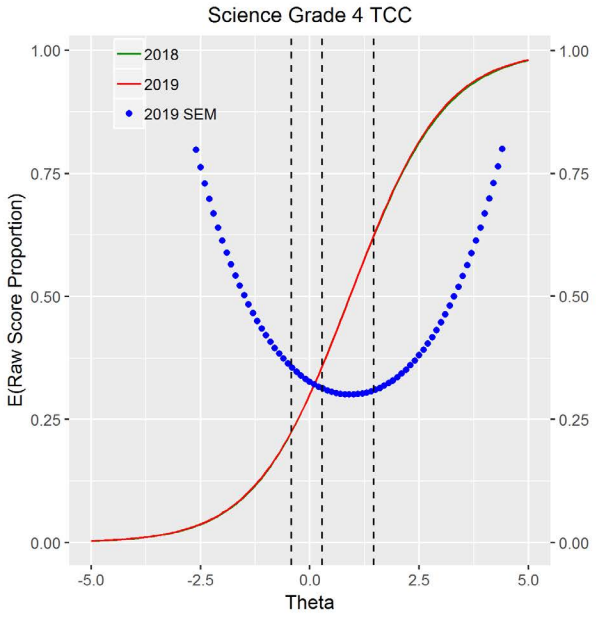

ELA Grade 6 Logit Plot
MC
OE
r = 0.98
PostEq Logit
PreEq Logit
2
0
-2

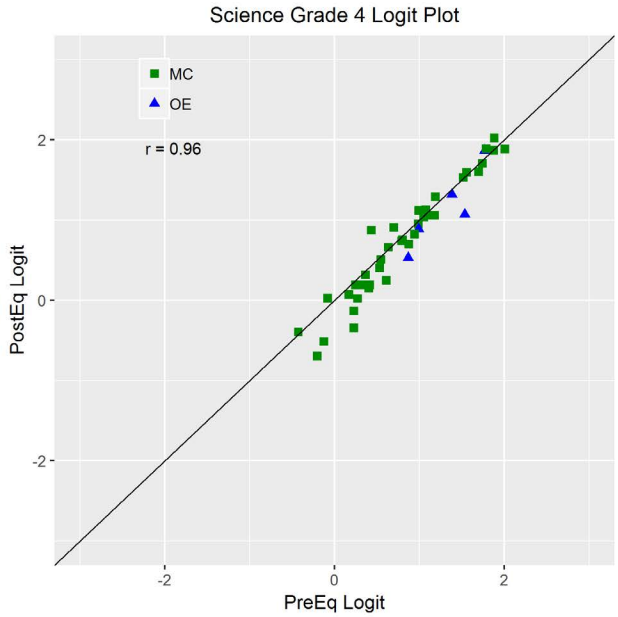

ELA Grade 7 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0

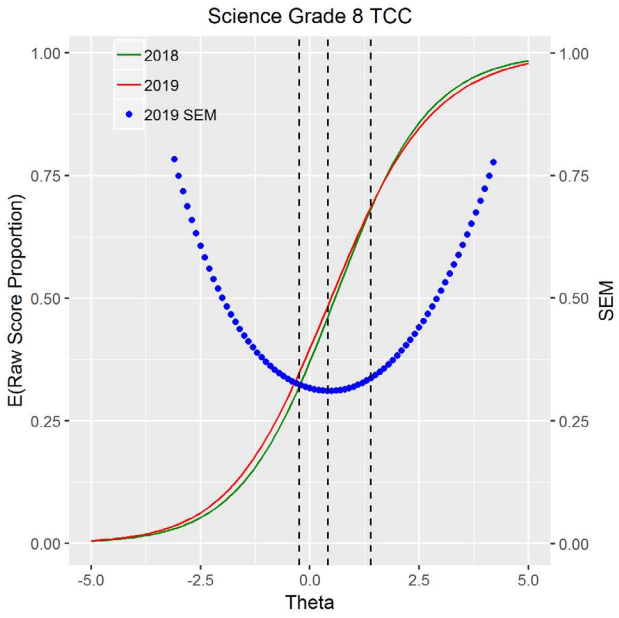

ELA Grade 7 Logit Plot
MC
OE
r = 0.98
PostEq Logit
PreEq Logit
2
0
-2

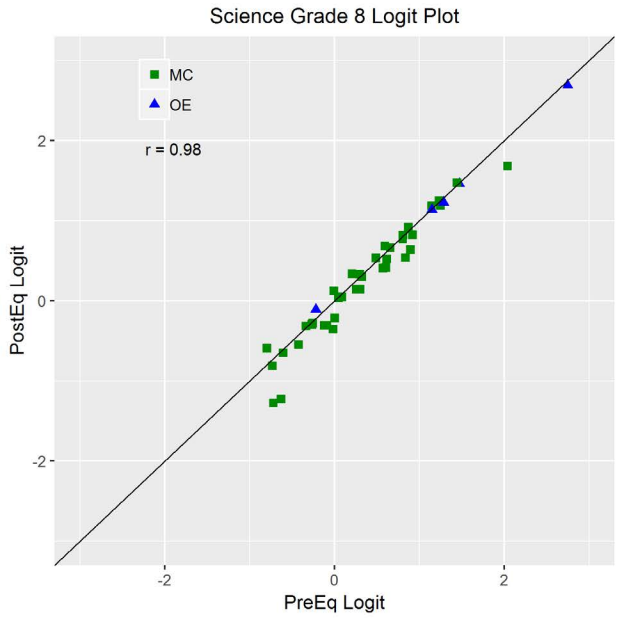

ELA Grade 8 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0


ELA Grade 8 Logit Plot
MC
OE
r = 0.97
PostEq Logit
PreEq Logit
2
0
-2


Science Grade 4 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0


Science Grade 4 Logit Plot
MC
OE
r = 0.96
PostEq Logit
PreEq Logit
2
0
-2


Science Grade 8 TCC
2018
2019
2019 SEM
E(Raw Score Proportion)
SEM
Theta
1.00
0.75
0.50
0.25
0.00
-5.0
-2.5
0.0
2.5
5.0


Science Grade 8 Logit Plot
MC
OE
r = 0.98
PostEq Logit
PreEq Logit
2
0
-2

CHAPTER SIXTEEN: SCORES AND SCORE REPORTS

This chapter provides information about the scores provided for the PSSA (e.g., scaled scores, performance levels, and strand scores), how they are presented on score reports, and appropriate and inappropriate uses of the scores.

SCORING THE PSSA

The PSSA is composed of multiple-choice (MC) and open-ended (OE) items. Each correct response to a MC item receives a score of 1. Incorrect responses receive a score of 0. Scores on OE items range from zero to four, depending on the subject and grade. Table 16–1 summarizes the types of items used on each subject-area test. More detailed information about the various item types is provided in Chapter Two.

Table 16–1. Item Types Used by Subject Area

Item Type	Mathematics	ELA	Science
Multiple-Choice	1 point	1 point	1 point
Open-Ended	4 points	N/A	2 points
Short Answer	N/A	3 points	N/A
Evidence Based Select Response	N/A	2 or 3 points	N/A
Text Dependent Analysis	N/A	4 points	N/A

Note. Text-dependent analysis items are weighted.

DESCRIPTION OF TOTAL TEST SCORES

Different types of scores have been developed for PSSA reporting. Since the underlying properties of these scores are not necessarily the same, the resulting scores depend on the purposes of the test. The following types of scores are included on score reports for each PSSA subject-area test:

- Raw scores
- Scaled scores
- Performance levels

RAW SCORES

A raw score is the number of points a student earned over the operational MC and OE items. By itself, the raw score has limited utility. One limitation is that it can only be interpreted with reference to the total number of items on a subject-area test (e.g., a raw score of 15 on a 20-item test is different than a raw score of 15 on a 30-item test). In addition, raw scores depend on the difficulty of test items across test forms (e.g., a raw score of 15 on a test with 20 easy items is different than a raw score of 15 on a test with 20 difficult items). Because the difficulty of the items on a test can change from year to year, raw scores should not be compared across tests or administrations.

SCALED SCORES

Scaled scores are introduced in Chapter Fourteen. In the simplest sense, a scaled score is a transformed number-correct score. The specifics of the transformation processes for the PSSA are also discussed in Chapter Fourteen. When all students take the same items, as with the operational items on the PSSA, the more points the student earns, the higher the associated scaled score will be. The value of using the methods described in Chapters Fourteen and 16 to produce a scaled score metric is that it produces more general, interpretable, and equitable results that can be compared across years. As noted above, a raw score of 30 is meaningless unless the maximum raw score is known. The difficulty of the test items was also mentioned as an additional challenge with interpreting raw scores. Number-correct scores are transformed to scaled scores to remove the effects of test length and item difficulty. Strictly speaking, transformation of number-correct scores to percent-correct scores would also remove the effect of test length, but it would do nothing to adjust for the difficulty of the items to support year-to-year equivalence of scores.

Another advantage of scaled scores is that they lend themselves to interpretations of what is referred to as an interval level, whereas raw scores do not. Interval-level scales allow an interpretation of a scaled score difference of 5 points to be the same whether the scores are 1095 vs. 1100 or 1245 vs. 1250. Raw score differences, in this context, cannot be interpreted in this manner and are thus neither generalizable nor equitable.

When test scores are properly equated across years, a scaled score of 1300—or any other value for a subject and grade, should have the same absolute meaning in the current year as it had in previous years. Meaning, if a student's scaled score on a specific subject and grade level increased across two years, then that student's performance improved;[1] it does not say anything about whether this year's test is easier or harder than last year's test. These interpretations require no information about the length or the difficulty of the test in either year, although these variables are essential for the process of deriving the scaled scores.

There is considerable auxiliary information presented in this report that might aid the reader in further contextualizing PSSA scaled scores. The reader is specifically referred to the following information:

- Chapter Fourteen provides information on the development of the PSSA scaled score system, including transformation formulas, rounding rules, and general scale characteristics (e.g., minimum values).
- Chapter Seventeen provides total test score statistics. In particular, Table 17–2 lists the scaled score means and standard deviations for this year's test results.

PERFORMANCE LEVELS

PSSA results are also reported using four Performance Levels: Below Basic, Basic, Proficient, and Advanced. The cut scores on the scaled score metric (i.e., the lowest possible scaled score to enter the Basic, Proficient, and Advanced levels) were presented earlier in this report. However, the information is repeated below (Table 16–2) for convenience.

[1] This example is not an endorsement of conducting a trend analysis with only two years of results. Further, small differences may not be statistically or practically significant.

Table 16–2. PSSA Scaled Score Cuts for Each Performance Level by Subject and Grade

Subject	Grade	Min	BB/B[1]	B/P[1]	P/A[1]	Max[2]
Mathematics	3	600	923	1000	1110	1530
Mathematics	4	600	908	1000	1107	1532
Mathematics	5	600	901	1000	1113	1601
Mathematics	6	600	897	1000	1105	1500
Mathematics	7	600	904	1000	1109	1536
Mathematics	8	600	906	1000	1108	1470
ELA	3	600	905	1000	1143	1544
ELA	4	600	887	1000	1107	1636
ELA	5	600	893	1000	1139	1647
ELA	6	600	875	1000	1115	1692
ELA	7	600	845	1000	1130	1639
ELA	8	600	886	1000	1130	1699
Science	4	1050	1150	1275	1483	2309
Science	8	925	1150	1275	1464	2406

Notes. 1. BB = Below Basic; B = Basic; P = Proficient; and A = Advanced.
2. Scaled Score Maximum Values are unique for each year's test.

Performance levels descriptors (PLDs) are another way to attach meaning to the scaled score metric. PLDs associate precise quantitative ranges of scaled scores with verbal, qualitative descriptions of student performance. While much less precise, the qualitative description of the levels is one way for parents and teachers to interpret the student scores. They are also useful in assessing the status of the school. The Pennsylvania General Performance Level Descriptors, as developed by PDE and teacher panels, are given below. These are also included on student score reports.

- Advanced: The Advanced Level reflects superior academic performance, and work at this level demonstrates a thorough command of, and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates advanced academic preparation for engaging successfully in further studies in this content area.
- Proficient: The Proficient Level reflects satisfactory academic performance, and work at this level demonstrates an adequate command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates academic preparation for engaging successfully in further studies in this content area.
- Basic: The Basic Level reflects marginal academic performance, and work at this level demonstrates a partial command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates additional academic support may be needed for engaging successfully in further studies in this content area.
- Below Basic: The Below Basic Level reflects inadequate academic performance, and work at this level demonstrates a minimal command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates extensive additional academic support may be needed for engaging successfully in further studies in this content area.

DESCRIPTION OF STRAND (REPORTING CATEGORY) SCORES

The following types of scores are provided for PSSA:

- Strand (Reporting Category) Scores
- Strength Profile

STRAND (REPORTING CATEGORY) SCORES

A strand (reporting category) score describes performance of a student, school, or district on a particular strand (content standard defined in the test). For the PSSA, strand scores are raw scores, indicating the points a student or a school/district earned for that strand. Attributes of raw scores are described earlier in this chapter and should be interpreted with caution. This is particularly true with respect to year-to-year comparisons where item difficulties may vary. Strand scores cannot be compared across years because they are not statistically linked nor are they interval scores. Also, it is not advisable to compare strand raw scores even within the same form because some strands may contain items that are easier or more difficult than other strands (the strength profile, discussed below, mitigates this problem to some degree). Another concern is the low reliability of many of these scores, especially for strand scores based on a small number of possible points. Chapter Eighteen provides more information about strand-score reliability.

When compared to other results from the same year, strand scores can be somewhat helpful in identifying a group's strengths and weaknesses as measured by the test. For example, it can be informative to compare average strand scores of a school against the scores of another reference group (e.g., the state average). Hence, strand scores can suggest group strengths and weaknesses relative to another reference group. (Challenges pertaining to interpreting results for individual students are discussed below.)

STRENGTH PROFILE

The strength profile provides another indication of a student's performance within each of the strands. This profile can be used to identify areas in which a student needs to improve and areas in which a student has performed more successfully. Unlike strand scores that are reported as raw scores, strength profile scores categorize students into one of three levels: Low, Medium, and High. These categories take into account the difficulty of the items and are based on the same scaling techniques used to derive the PSSA scaled scores (See Chapter Fourteen for a description of how strength profiles are produced). Scaled scores for reporting categories, however, are not included on score reports. High, medium, and low designations are provided as an indication of performance within a strand, but as standards have been set at the test level only, performance level descriptions for the overall test should not be used as validated descriptions of strand performance.

APPROPRIATE SCORE USES

INDIVIDUAL STUDENTS

Scaled scores on the PSSA indicate a student's achievement of the PSSA Assessment Anchors and Eligible Content. Scaled scores are primarily used to determine student performance level classifications (i.e., a criterion-referenced inference). Scaled scores that are based on Item Response Theory (IRT) models are typically assumed to be of the interval type; so, comparisons may be made on differences in scaled scores. If this assumption holds, then it would be safe to infer for Grade 4 ELA that the ability difference between 1110 and 1120 represents the same ability difference that separates 1250 and 1260. Scaled scores can also be used to compare the performance of an individual student to the performance of a similar demographic or subgroup at a school or district. However, when comparing performance of an individual student, test score standard errors (discussed in Chapter Eighteen) should be considered because scaled scores are estimate of students' achievement which comes with estimation error.

GROUPS OF STUDENTS

Test results can be used to evaluate performance over time. Mean scaled scores can be compared across administrations within the same subject and grade to indicate whether student performance is improving across years. Generally, such trend analyses benefit from using mean results from as many test administration years as possible. Different cohorts of students are used (i.e., the same student or students are not tracked across grade levels). All scores can be analyzed within the same subject and grade for any single administration to determine which demographic or program group had, for example, the highest average performance or the highest percentage of students at or above the Proficient standard.

Strand scores can help evaluate academic areas for relative strengths or weaknesses. These category scores provide information to identify areas where further diagnosis is warranted. Generalizations from test results may be made to the specific content domain represented by the academic standards measured in the PSSA. However, all instruction and program evaluations should include as much information from other sources as possible to provide a more complete picture of student performance.

CAUTIONS FOR SCORE USES

EXTREME ERROR FOR EXTREME SCORES

Student scores toward the minimum or maximum ends of the score range have very large standard errors of measurement and, therefore, such scores should be viewed very cautiously. The maximum scaled score only provides a very rough estimate of a student's ability. For instance, if a student achieved the maximum score for ELA grade 6, it could not be determined whether the student could have achieved an even higher scaled score. If the test were 10 items longer, a different estimate might have been obtained. Similarly, if the items in a new test were more difficult than the items on a previous administration, the maximum scaled score would likely be higher on the new test because it would take a greater level of achievement to answer the items correctly. In this manner, extreme scaled scores may vary from one administration to the next even if the number of test items does not change. The fluctuation of extreme scaled scores complicates the comparisons of students with scaled scores at the extreme ends of the score distribution. To minimize confusion and potential misinterpretation, the minimum scaled scores possible on the PSSA tests have been fixed (see Table 16–2) so they do not change between administrations. However, the maximum scaled score values have not been fixed. Therefore, caution must be taken when comparing scores at the maximum end of the scale.

EACH TEST HAS A UNIQUE SCALE

Scaling was conducted for each subject and grade level separately. Therefore, PSSA scaled scores should be interpreted only within each respective subject and grade. PSSA scaled scores are not status indicators in the same sense as percentile ranks (or scales that are essentially transformations of percentile ranks) and, therefore, cannot be used to profile relative strengths and weaknesses across subject areas. As an example, scaled scores of 1250 in Grade 4 ELA and 1200 in Grade 4 mathematics do not necessarily imply that the student performed better in ELA than in mathematics. Neither do the PSSA scaled scores represent a developmental or vertical scale. This means that, although the content is aligned across grades to reflect the grade-to-grade articulations in the Pennsylvania Standards, across-grade statistical comparisons or growth statements for a student are not appropriate. For example, a 1200 in Grade 4 ELA and a 1200 in Grade 5 ELA does not mean a student had no achievement growth in ELA from Grade 4 to Grade 5.

STRENGTH PROFILE CAVEATS

The category labels of Low, Medium, and High are deliberately used instead of the PSSA performance level names—Below Basic, Basic, Proficient, and Advanced—to acknowledge that the PSSA cut scores were established based on the total test score and standards were set on this total test score. Therefore, the categories should not be interpreted in the same way as PSSA performance levels because they likely do not carry the same meaning.

While the strength profile might facilitate comparisons of a student's strengths and weaknesses across strands in some cases, several factors merit caution. As noted earlier, strand scores are often not as reliable as scores on the full-length test. The scaling underlying the strength profile does not mitigate this problem.

Additionally, the categories reflect more absolute comparisons. Relative comparisons are more difficult to make. As an example, if one scored High in both strand A and B, we know the student did very well in both strands compared to overall performance in the state (i.e., absolute status). However, we do not know whether the student's performance in strand A was better or worse relative to the performance in strand B (relative status).

Finally, some seemingly unusual results might occur that may be difficult for users to understand. As one example, it may be possible for a student to earn Medium in all strands but have an Advanced performance level. This can happen because the strand scores are correlated, meaning the distributional properties of the total score depends not only on the variances of the strand scores, but also on the covariances among the strand scores. (An analogy would be when a school track team places first overall in a competition although they did not win a single event.)

USING PSSA RESULTS FOR OTHER PURPOSES

Scaled scores and performance level classifications are used primarily to measure how well students acquire the knowledge and skills described in the *Pennsylvania Assessment Anchor Content Standards* (Assessment Anchors) as defined by the Eligible Content for mathematics, ELA, and Science. They are also used to provide information on school and district accountability. These same results, plus strand scores and strength profiles are also appropriate for use in improving curricular and instructional practices. Evidence supporting the validity of such interpretations is framed in Chapter Nineteen and provided throughout this technical report.

Other uses or inferences based on PSSA results may or may not be valid as the validity evidence and arguments provided in Chapter Nineteen may not necessarily support other score uses and interpretations. According to the AERA/APA/NCME *Standards* (2014) (i.e., Standard 1.4), if a test is used in a way that has not been validated, it is incumbent on the user to justify the new use, collecting new evidence if necessary. Finally, a universal caveat for any test's result is that it not be used for placement and educational planning alone. Instead, other information about the student (e.g., other test performance data) should be considered.

REPORTS

The following score reports are provided to students, parents, schools, and districts for the PSSA tests in mathematics, ELA, and science:

- Individual Student Report
- School Summary Report
- District Summary Report
- Interpretive Guide

PARENT LETTER

Parent letters were delivered to Pennsylvania districts on June 3, 2019 for those that participated in early reporting and on July 1 for those that did not participate in early reporting. This score report provided parents and students with their first glimpse of performance on the spring 2019 PSSA tests. This report provides results at the student level. A sample of the report is provided in Figure 16–1.

Figure 16–1. Parent Letter

Pennsylvania System of School Assessment (PSSA) — **Parent Letter**

Test Date: **School:**
Student Name: **District:**
PA Student ID:
Grade:

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ENGLISH LANGUAGE ARTS

How did perform overall?

Performance Level: Proficient | **Score:** 1016

Below Basic	Basic	Proficient	Advanced
600	886	1000	1130	1640

Student's test scale score is indicated by the ↑. If this student were to test again under similar circumstances, his or her score would likely remain in the following range: **989-1043**.

Score Reporting Category	Student's Points	Total Points Possible
Reading**		
Key Ideas and Details	8	12
Craft and Structure/Integration of Knowledge and Ideas	11	16
Vocabulary Acquisition and Use	8	10
Writing		
Conventions of Standard English	4	9
Reading/Writing		
Text-Dependent Analysis	4	16

** **Each reading question connects to a Reading reporting category in the table above as well as to a Text Type reporting category in the table below. However, each reading question counts only one time in the student's score.**

Score Reporting Category	Student's Points	Total Points Possible
Text Types		
Literature Text	13	19
Informational Text	14	19

Note that the performance level line graphs are not drawn to scale because some performance levels have more scaled score points than others. Additionally, the graphs do not display the actual percentage of students in each performance level.

MATHEMATICS

How did perform overall?

Performance Level: Basic | **Score:** 990

Below Basic	Basic	Proficient	Advanced
600	906	1000	1108	1638

Student's test scale score is indicated by the ↑. If this student were to test again under similar circumstances, his or her score would likely remain in the following range: **960-1020**.

Score Reporting Category	Student's Points	Total Points Possible
The Number System	5	7
Expressions and Equations	11	17
Functions	7	11
Geometry	5	9
Statistics and Probability	4	8

SCIENCE

How did perform overall?

Performance Level: Advanced | **Score:** 1532

Below Basic	Basic	Proficient	Advanced
925	1150	1275	1464	2337

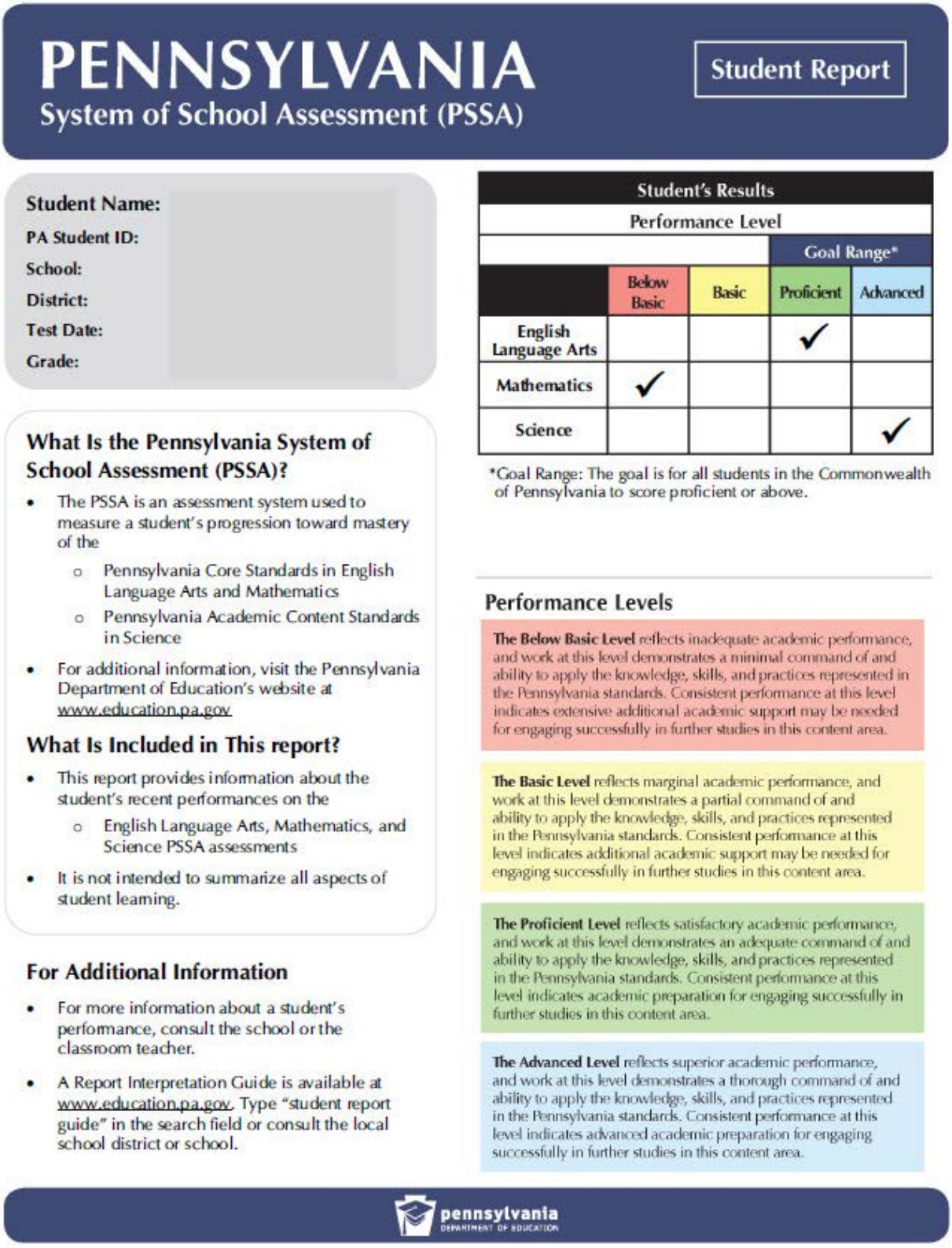
Student's test scale score is indicated by the ↑. If this student were to test again under similar circumstances, his or her score would likely remain in the following range: **1466-1598**.

Score Reporting Category	Student's Points	Total Points Possible
The Nature of Science	18	23
Biological Sciences	4	9
Physical Sciences	8	8
Earth and Space Sciences	6	8

INDIVIDUAL STUDENT REPORT

An individual student report is provided for all students who took the PSSA. This report was delivered to Pennsylvania school districts on September 10, 2019. Districts are responsible for sending the reports home to individual students. This report is a four-page color document that provides the types of scores explained earlier in this chapter. Appendix R contains detailed information about the development of the 2019 Individual Student Reports. Screen shots of the four pages from a sample individual student report are provided in Figures 16–2A to 16-2D.

Figure 16–2A. Page 1 of the Individual Student Report



PENNSYLVANIA
System of School Assessment (PSSA)

Student Report

Student Name:
PA Student ID:
School:
District:
Test Date:
Grade:

What Is the Pennsylvania System of School Assessment (PSSA)?

- The PSSA is an assessment system used to measure a student's progression toward mastery of the
  - Pennsylvania Core Standards in English Language Arts and Mathematics
  - Pennsylvania Academic Content Standards in Science
- For additional information, visit the Pennsylvania Department of Education's website at www.education.pa.gov

What Is Included in This report?

- This report provides information about the student's recent performances on the
  - English Language Arts, Mathematics, and Science PSSA assessments
- It is not intended to summarize all aspects of student learning.

For Additional Information

- For more information about a student's performance, consult the school or the classroom teacher.
- A Report Interpretation Guide is available at www.education.pa.gov. Type "student report guide" in the search field or consult the local school district or school.

Student's Results				
Performance Level				
			Goal Range*	
	Below Basic	Basic	Proficient	Advanced
English Language Arts			✓	
Mathematics	✓			
Science				✓

*Goal Range: The goal is for all students in the Commonwealth of Pennsylvania to score proficient or above.

Performance Levels

The Below Basic Level reflects inadequate academic performance, and work at this level demonstrates a minimal command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates extensive additional academic support may be needed for engaging successfully in further studies in this content area.

The Basic Level reflects marginal academic performance, and work at this level demonstrates a partial command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates additional academic support may be needed for engaging successfully in further studies in this content area.

The Proficient Level reflects satisfactory academic performance, and work at this level demonstrates an adequate command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates academic preparation for engaging successfully in further studies in this content area.

The Advanced Level reflects superior academic performance, and work at this level demonstrates a thorough command of and ability to apply the knowledge, skills, and practices represented in the Pennsylvania standards. Consistent performance at this level indicates advanced academic preparation for engaging successfully in further studies in this content area.

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Figure 16–2B. Page 2 of the Individual Student Report

English Language Arts

Performance Level

Student's test scale score is indicated by the (⬆). If this student were to test again under similar circumstances, his or her score would likely remain in the following range: **985-1041**

Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
Reading**			
Key Ideas and Details	**11**	16	**Medium**
Craft and Structure/Integration of Knowledge and Ideas	**7**	13	**Low**
Vocabulary Acquisition and Use	**7**	9	**Medium**
Writing			
Conventions of Standard English (Writing)	**4**	9	**Low**
Text-Dependent Analysis			
Text-Dependent Analysis (Reading/Writing)	**4**	16	**Low**

**Each reading question connects to a Reading reporting category in the table above as well as to a Text Type reporting category in the table below. However, each reading question counts only one time in the student's score.

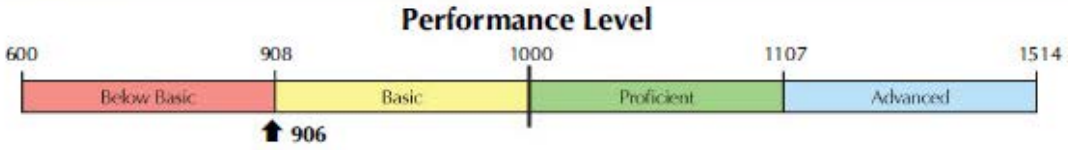
Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
Text Types			
Literature Text	**12**	17	**Medium**
Informational Text	**13**	21	**Medium**

To learn more about the Score Reporting Categories, see page 4.

*The Strength Profile (Low, Medium, High): The strength profile provides an indication of this student's performance within each of the reporting categories. The Strength Profile takes into account the difficulty of the assessment questions and can be used to help identify the student's strengths and/or areas of need.

Figure 16–2C. Page 3 of the Individual Student Report

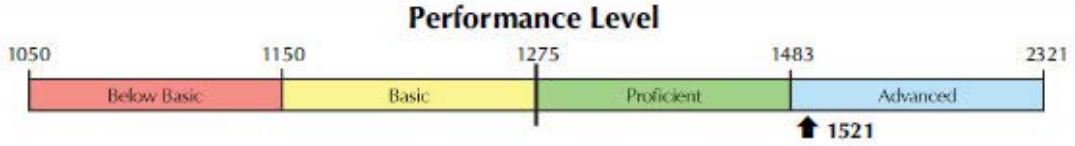
Mathematics



Student's test scale score is indicated by the (⬆). If this student were to test again under similar circumstances, his or her score would likely remain in the following range: **876-936**

Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
Numbers and Operations in Base Ten	1	10	Low
Numbers and Operations—Fractions	4	11	Low
Operations and Algebraic Thinking	6	13	Low
Geometry	3	8	Low
Measurement and Data	3	10	Low

Science



Student's test scale score is indicated by the (⬆). If this student were to test again under similar circumstances, his or her score would likely remain in the following range: **1465-1577**

Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
The Nature of Science	14	24	Medium
Biological Sciences	6	8	High
Physical Sciences	8	8	High
Earth and Space Sciences	4	8	High

Figure 16–2D. Page 4 of the Individual Student Report

Score Reporting Category Descriptions

English Language Arts

- **Key Ideas and Details**
  Students refer to key ideas and details from a text or texts to summarize important ideas and events, determine a theme or main idea, and draw on evidence from text(s) to support inferences and overall understanding.
- **Craft and Structure/Integration of Knowledge and Ideas**
  Students demonstrate understanding of a text or texts by comparing and contrasting points of view and firsthand/secondhand accounts of similar events; by making connections within, between, and/or among texts; by referring to text features to support information; and by analyzing use of evidence to support overall integration of ideas and key aspects of text(s).
- **Vocabulary Acquisition and Use**
  Students demonstrate understanding of vocabulary and figurative language in literature and informational texts.

- **Conventions of Standard English (Writing)**
  Students demonstrate command of the conventions of standard English grammar and usage, capitalization, punctuation, and spelling, as well as use knowledge of language and its conventions for effect.

- **Text-Dependent Analysis (Reading/Writing)**
  Students write a response to literature or informational text or texts, drawing on the evidence presented in the text(s) to support analysis, reflection, and/or research.

- **Literature Text**
  Students read and respond to literature texts, focusing on narrative, poetic, and/or dramatic techniques and drawing on evidence in the texts to support comprehension and understanding.
- **Informational Text**
  Students also read and respond to informational texts, focusing on the information and evidence presented on topics, ideas, or procedures and drawing on evidence in the texts to support comprehension and interpretation.

Mathematics

- **Numbers and Operations in Base Ten**
  Students read, write, round, and compare multi-digit numbers. They demonstrate understanding of place value and relative sizes of numbers and recognize properties of operations. Students use this understanding as well as estimation and mental calculations to perform the four operations on whole numbers.
- **Numbers and Operations—Fractions**
  Students determine fraction equivalence and convert between fractions and decimals. They compare sizes of fractions and decimals using symbols. Students add and subtract fractions with common denominators and multiply a whole number by a fraction.
- **Operations and Algebraic Thinking**
  Students solve problems using all four operations with whole numbers. They use drawings, equations, and symbols to represent quantities and analyze patterns. They also identify factor pairs and multiples of whole numbers 1 through 100.
- **Geometry**
  Students draw, compare, and classify two-dimensional shapes based on their attributes. They identify and draw lines of symmetry.
- **Measurement and Data**
  Students use the four operations and relative sizes of units to solve problems involving measurements, conversions, and time. They represent and interpret data using line plots and other data displays to solve problems. Students use a protractor to draw and measure angles.

Science

- **The Nature of Science**
  Students use reasoning and analysis skills to develop possible solutions for environmental or technological problems. They evaluate tools, processes, and procedures to conduct fair and valid scientific investigations and use models and recognition of patterns to help explain natural and human-made systems.
- **Biological Sciences**
  Students evaluate structures and functions of organisms, describe ecological interactions within living systems, and recognize relationships between humans and the natural world.
- **Physical Sciences**
  Students demonstrate understanding of physical properties of matter. They describe basic energy types and their sources as well as how energy can change form. They also apply the scientific principles of force and motion and compare interactions between matter and energy.
- **Earth and Space Sciences**
  Students identify and describe Earth features and processes that change the environment. They recognize processes associated with weather, climate, and the atmosphere. They also recognize changes caused by the Sun-Earth-Moon system.

SCHOOL AND DISTRICT SUMMARY REPORTS

Summary reports are provided at the school and district level. These reports contain summary information about the percentage of students in each of the four performance levels. Raw scores are also provided by assessment anchor to allow schools or districts to identify strengths or weaknesses at the content strand level.

INTERPRETATIVE GUIDE

An interpretative guide is provided to help parents and other PSSA stakeholders better understand test result information presented in the individual student report. The interpretative guide can be found on the PDE website.

CHAPTER SEVENTEEN: OPERATIONAL TEST STATISTICS

This chapter presents various summary statistics for the PSSA total test scores based on the final data file described in Chapter Nine. Related information covered elsewhere in this report includes the item-level statistics presented in Chapter Eleven (classical item statistics) and Chapter Twelve (Rasch item statistics). These chapters provide additional consideration as item difficulty distributions can affect total score distributions.

PERFORMANCE LEVEL STATISTICS

Table 17–1 presents performance level percentages by grade and content. Appendix Q provides historical statistics including performance level percentages for prior years.

Table 17–1. Performance Level Percentages for 2019 PSSA

Subject	Grade	Below Basic (%)	Basic (%)	Proficient (%)	Advanced (%)
Mathematics	3	22.41	21.60	29.29	26.69
Mathematics	4	26.06	27.69	27.23	19.02
Mathematics	5	23.26	33.68	27.21	15.84
Mathematics	6	25.91	35.10	23.19	15.79
Mathematics	7	35.80	25.97	24.29	13.95
Mathematics	8	39.60	28.24	22.30	9.86
ELA	3	11.45	26.64	45.43	16.48
ELA	4	10.31	26.08	36.26	27.34
ELA	5	9.64	31.83	42.70	15.83
ELA	6	5.68	31.28	42.25	20.79
ELA	7	2.61	36.94	45.59	14.86
ELA	8	11.94	30.20	41.88	15.99
Science	4	5.03	17.17	39.04	38.76
Science	8	19.98	21.85	35.11	23.06

SCALED SCORES

SUMMARY STATISTICS

Table 17–2 provides the scaled score means and standard deviations. See the section Every Test has a Unique Scale in Chapter Sixteen for caveats regarding interpretation of scale scores.

Table 17–2. Means and Standard Deviations for the 2019 PSSA Scaled Scores

Subject	Grade	Mean Scaled Score	SD Scaled Score
Mathematics	3	1026.40	124.91
Mathematics	4	994.25	124.06
Mathematics	5	991.77	117.51
Mathematics	6	979.60	119.40
Mathematics	7	965.62	120.08
Mathematics	8	950.33	116.49
ELA	3	1039.02	108.92
ELA	4	1035.03	112.80
ELA	5	1027.19	107.18
ELA	6	1034.42	106.76
ELA	7	1026.27	96.85
ELA	8	1024.16	115.76
Science	4	1424.23	174.24
Science	8	1314.95	184.20

SCALED-SCORE DISTRIBUTIONS

Scaled scores are based on a linear transformation of the Rasch ability estimates. Distributions of the Rasch abilities are provided at the end of Chapter Twelve.

RAW SCORES

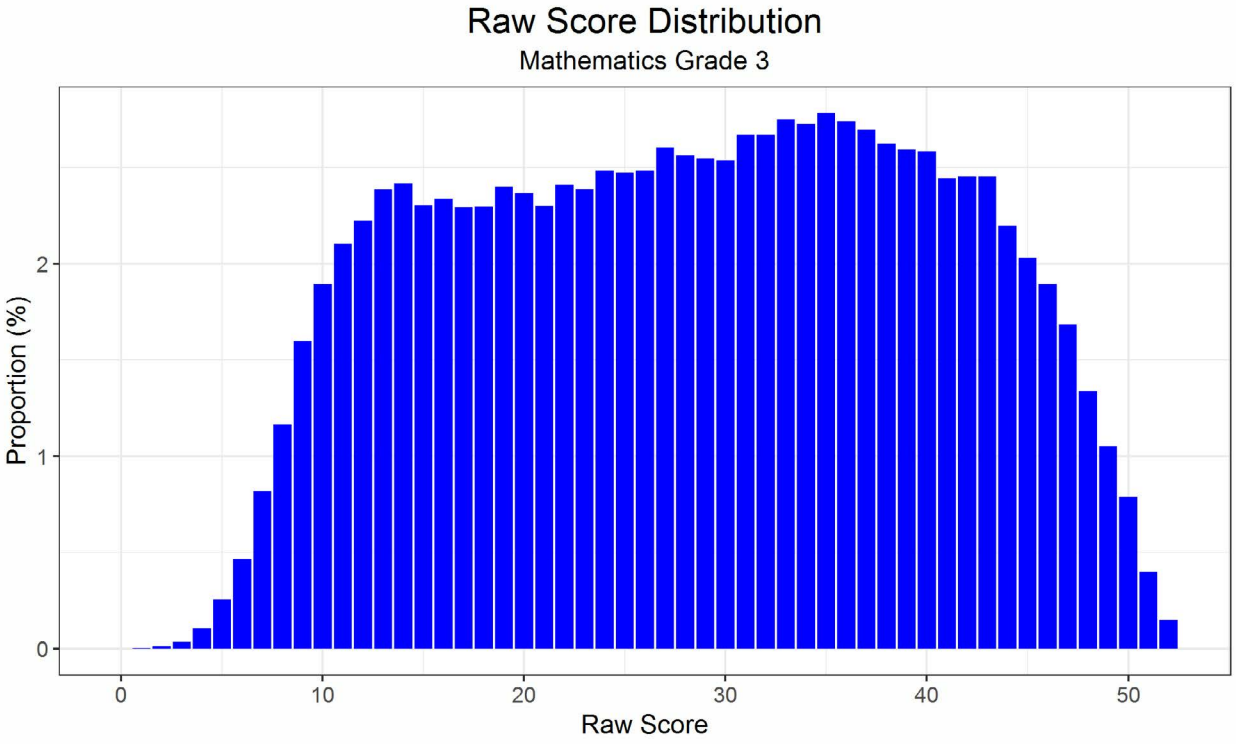
SUMMARY STATISTICS

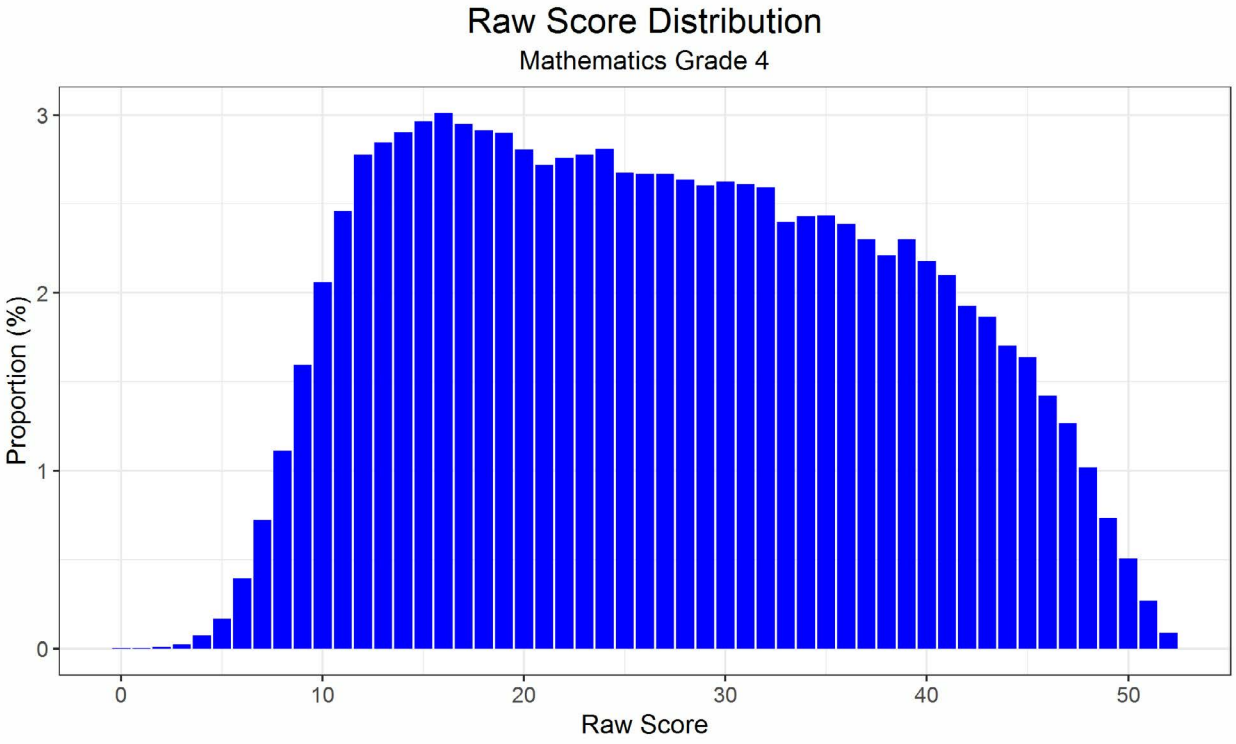
Appendix P provides reliabilities and summary statistics for the operational raw scores. The statistics reported include the number of points possible (Total Points), number of items (N Items), number of students tested (N), mean number of score points received (Mean), standard deviation of test scores (SD), reliability (r), traditional standard error of measurement (SEM), and item types (Item Type(s)) used to determine each score. These statistics are based on the total test using both MC and OE items for the operational sections of each form. For each subject and grade level, tables present reliabilities disaggregated by gender, Ethnicity, whether students had an individualized educational plan (IEP), whether students were considered an English Learner (EL), and whether students had a low-income background (Low Income). For information disaggregated by item type, Chapter Eleven provides breakout statistics for MC and OE items.

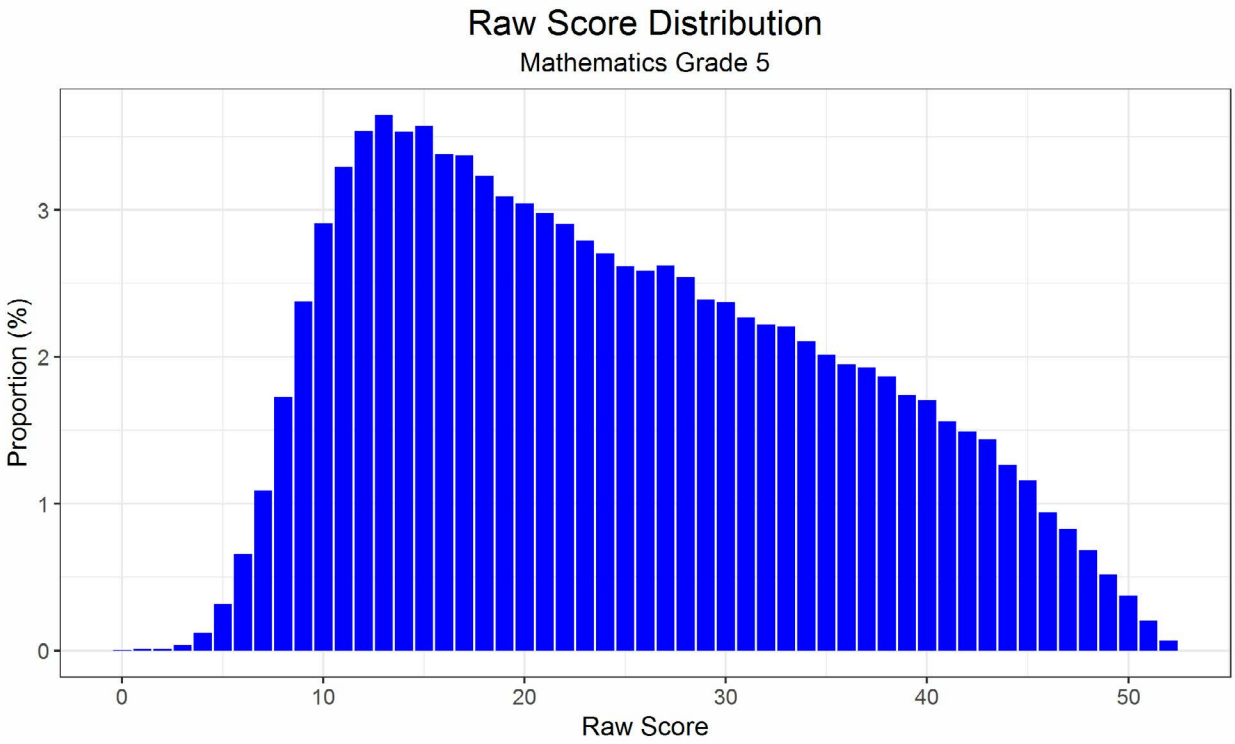
SCORE DISTRIBUTIONS

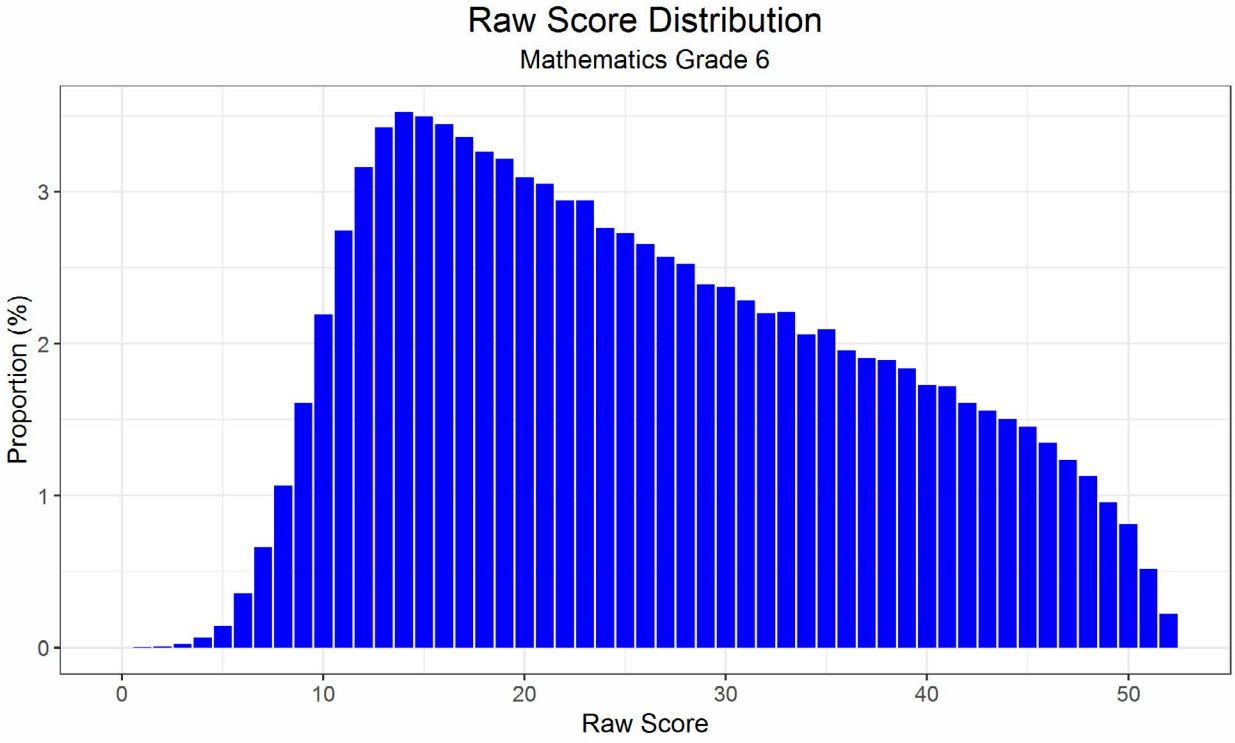
Figure 17-1 displays the raw score relative-frequency distributions as the proportion of students earning each raw score point. The distributions for ELA are slightly negatively skewed. Mathematics grades 5-8 raw score distributions are slightly positively skewed. Mathematics grades 3-4, and Science are somewhat flat.

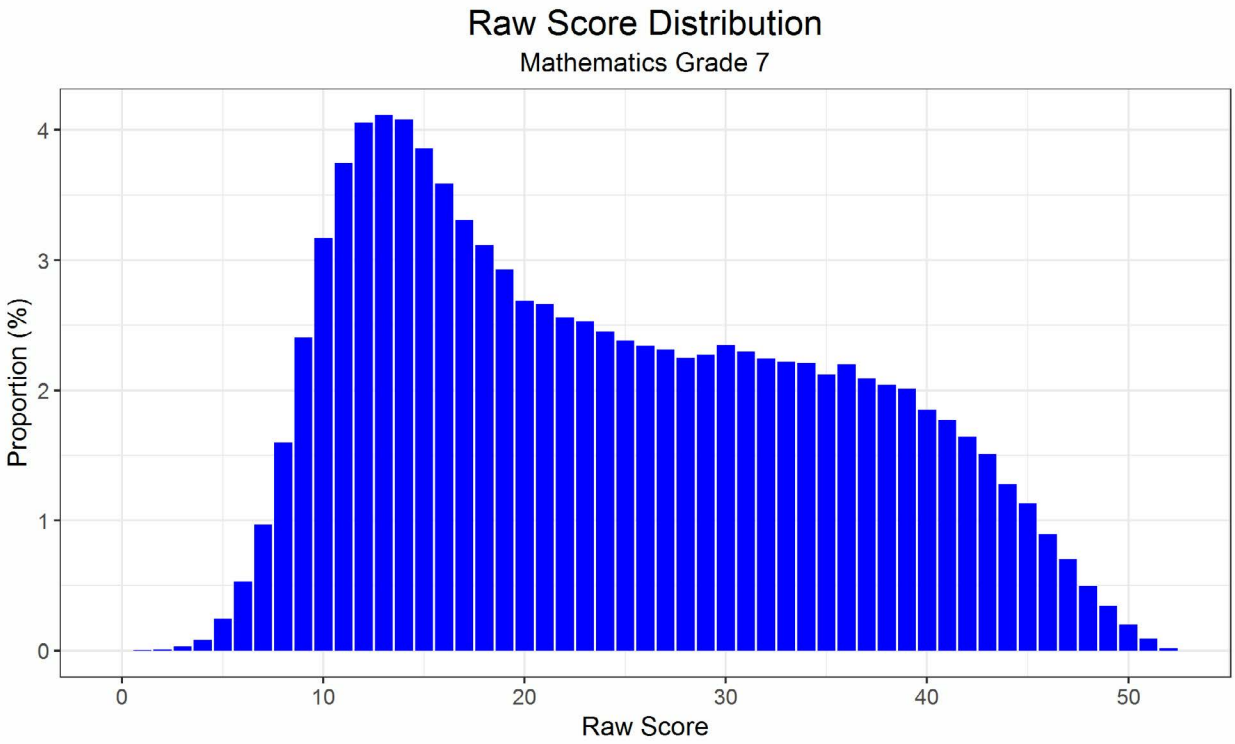
Figure 17–1. 2019 PSSA Raw Score Distributions

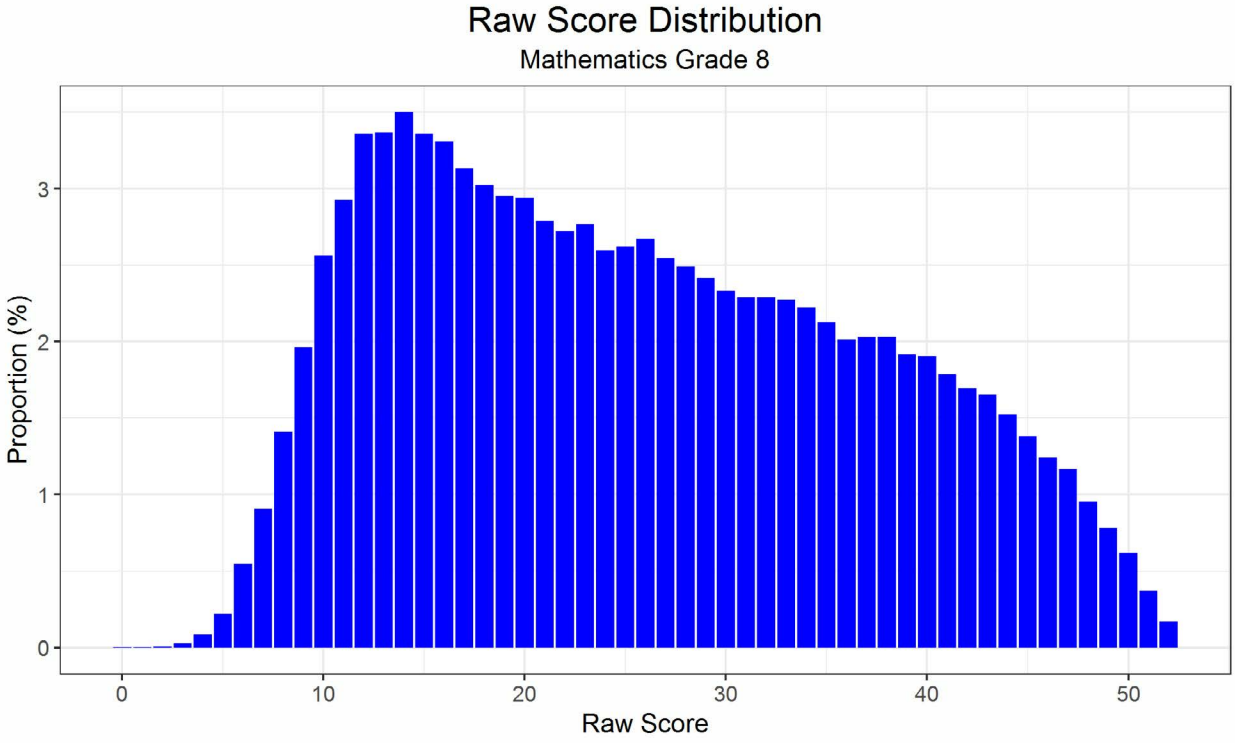


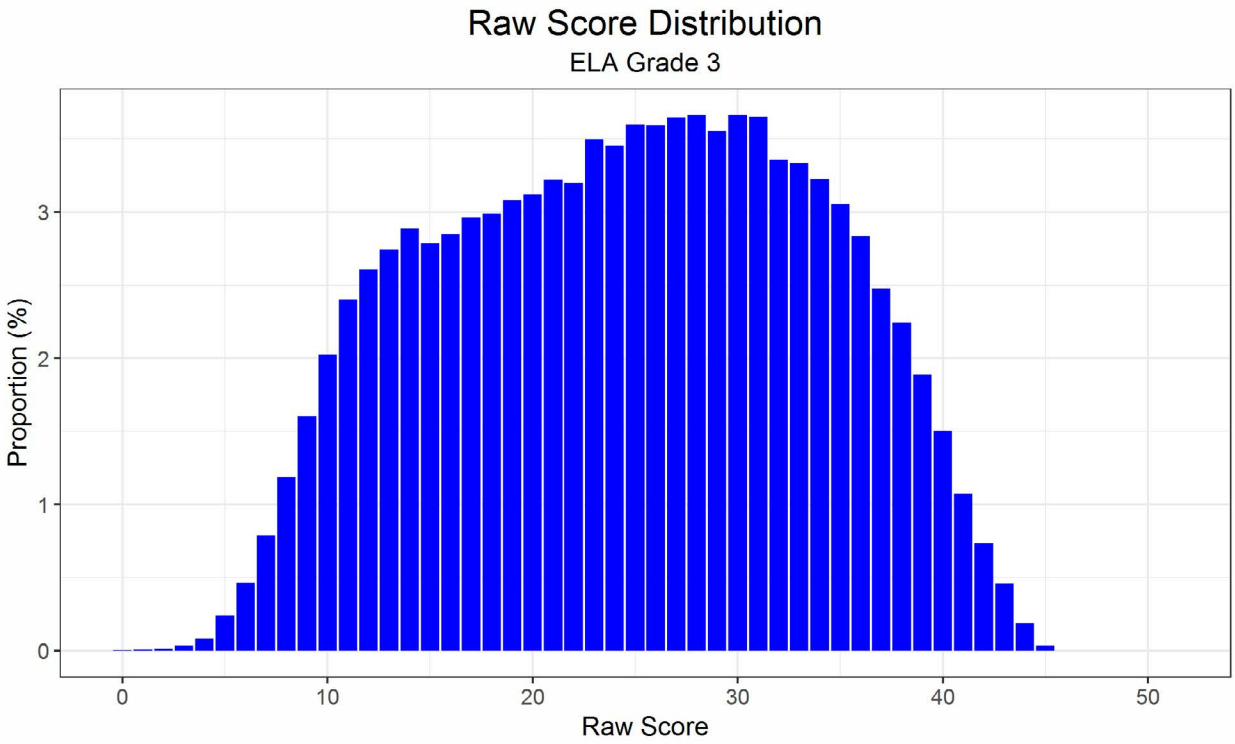


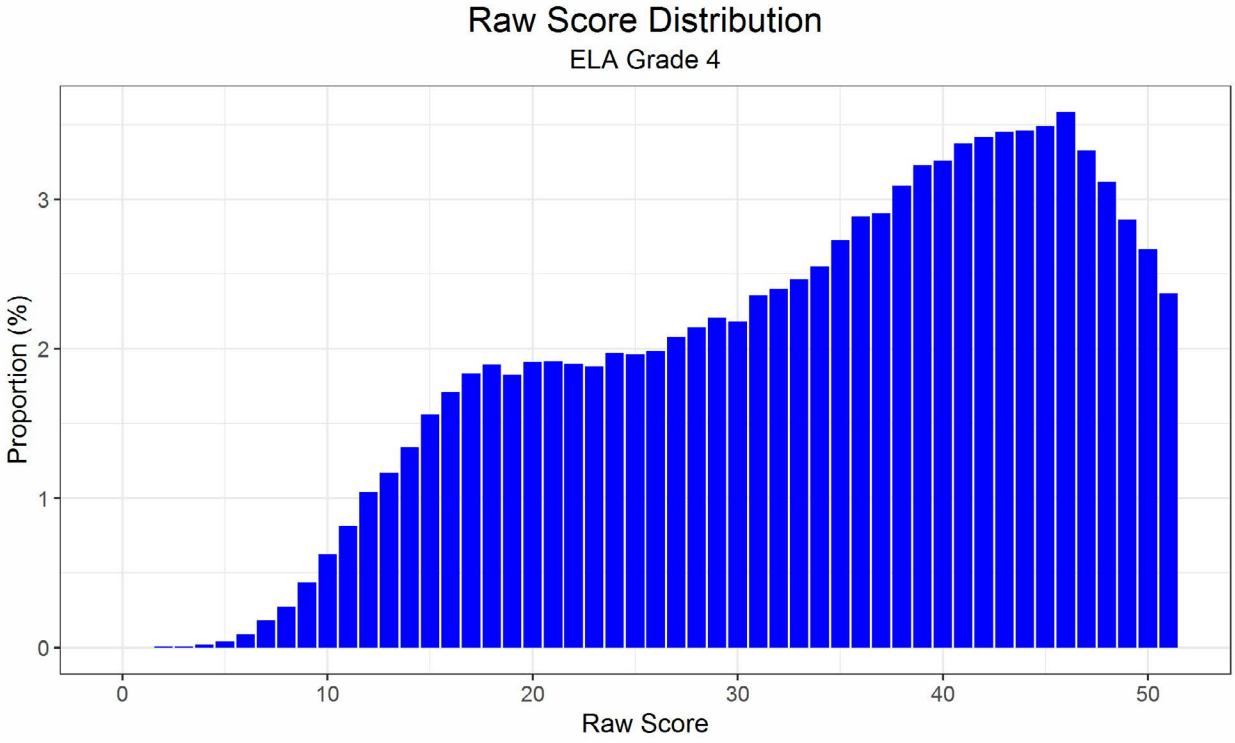

Raw Score Distribution
Mathematics Grade 5
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score

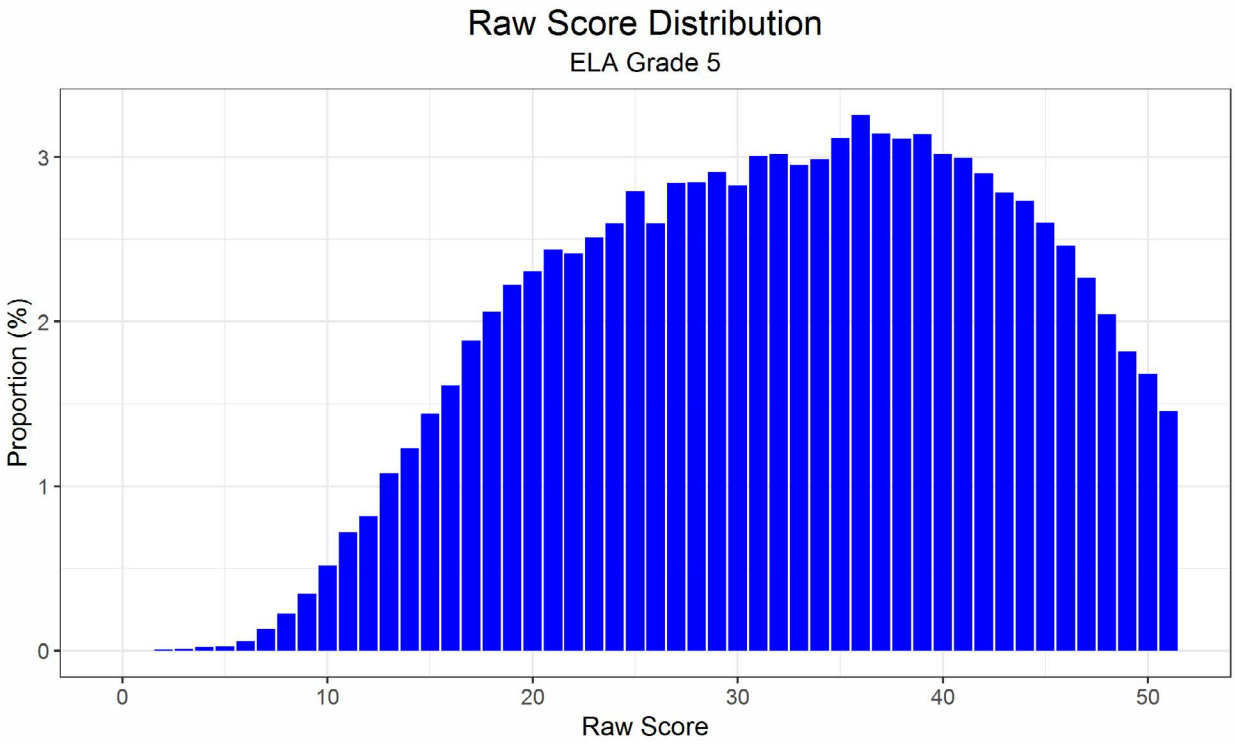

Raw Score Distribution
Mathematics Grade 6
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score

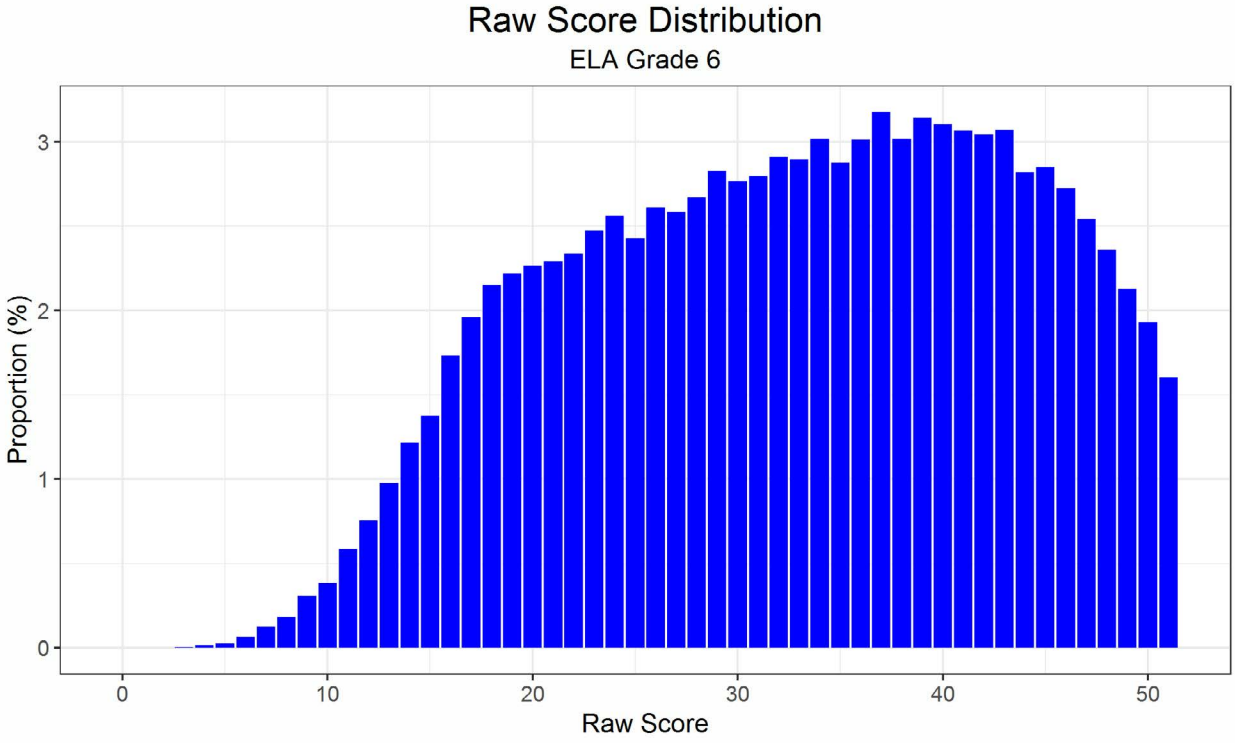

Raw Score Distribution
Mathematics Grade 7
Proportion (%)
0
1
2
3
4
0
10
20
30
40
50
Raw Score

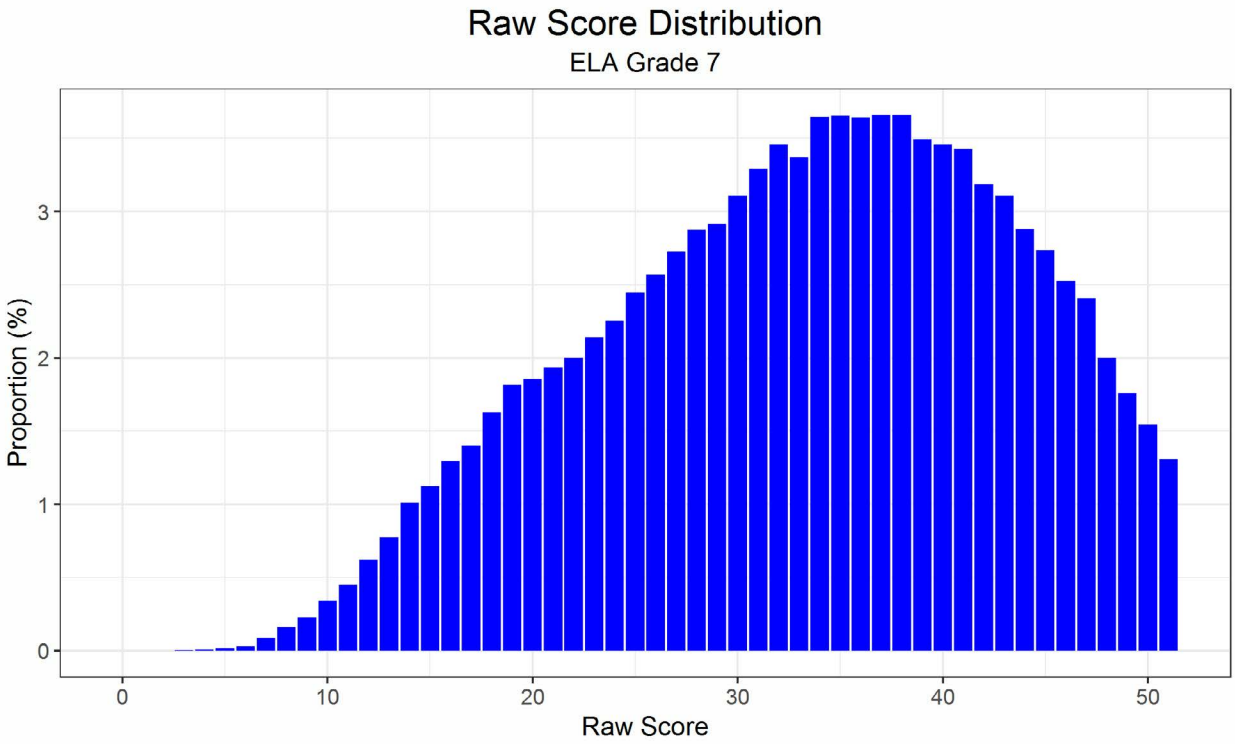

Raw Score Distribution
Mathematics Grade 8
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score

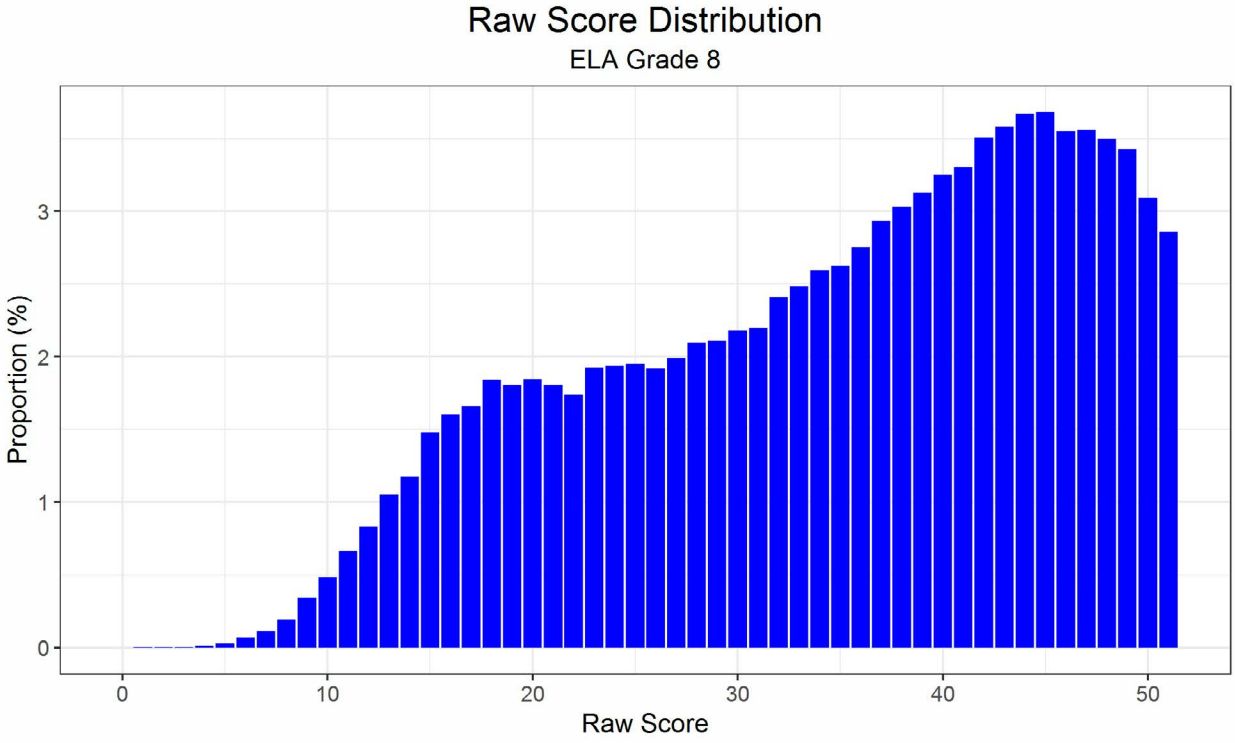

Raw Score Distribution
ELA Grade 3
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score

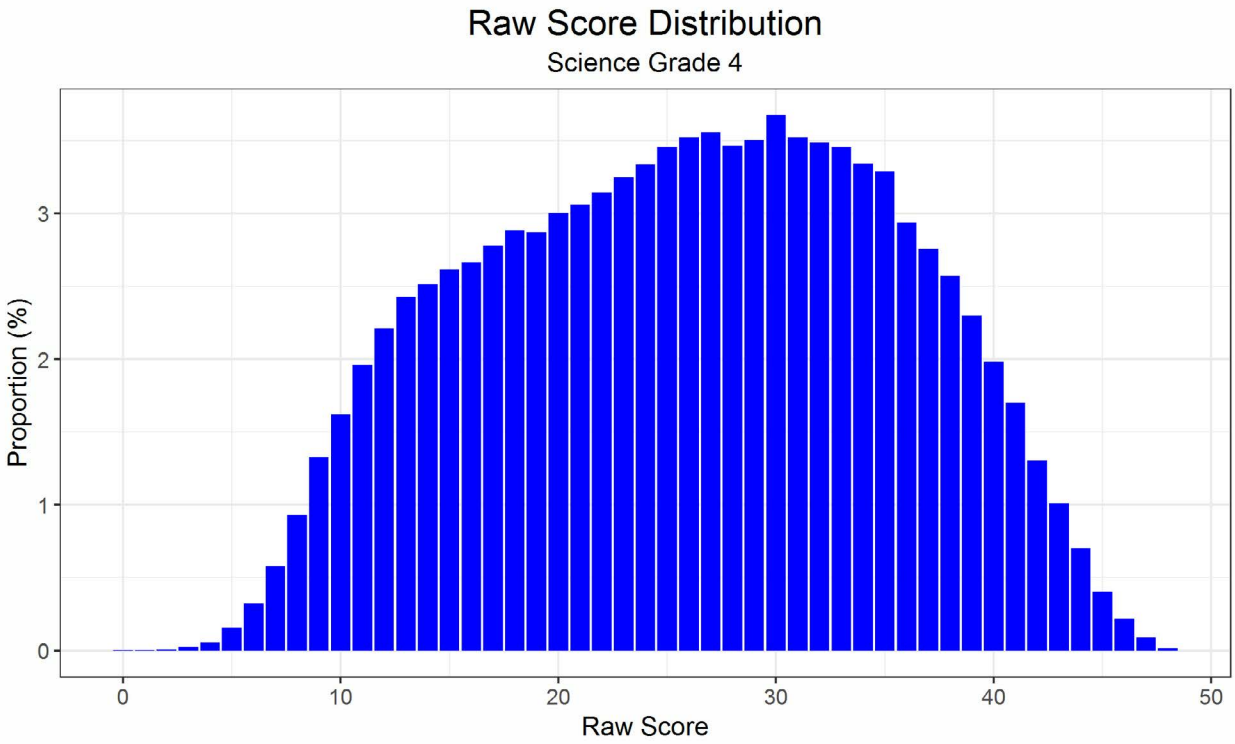

Raw Score Distribution
ELA Grade 4
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score

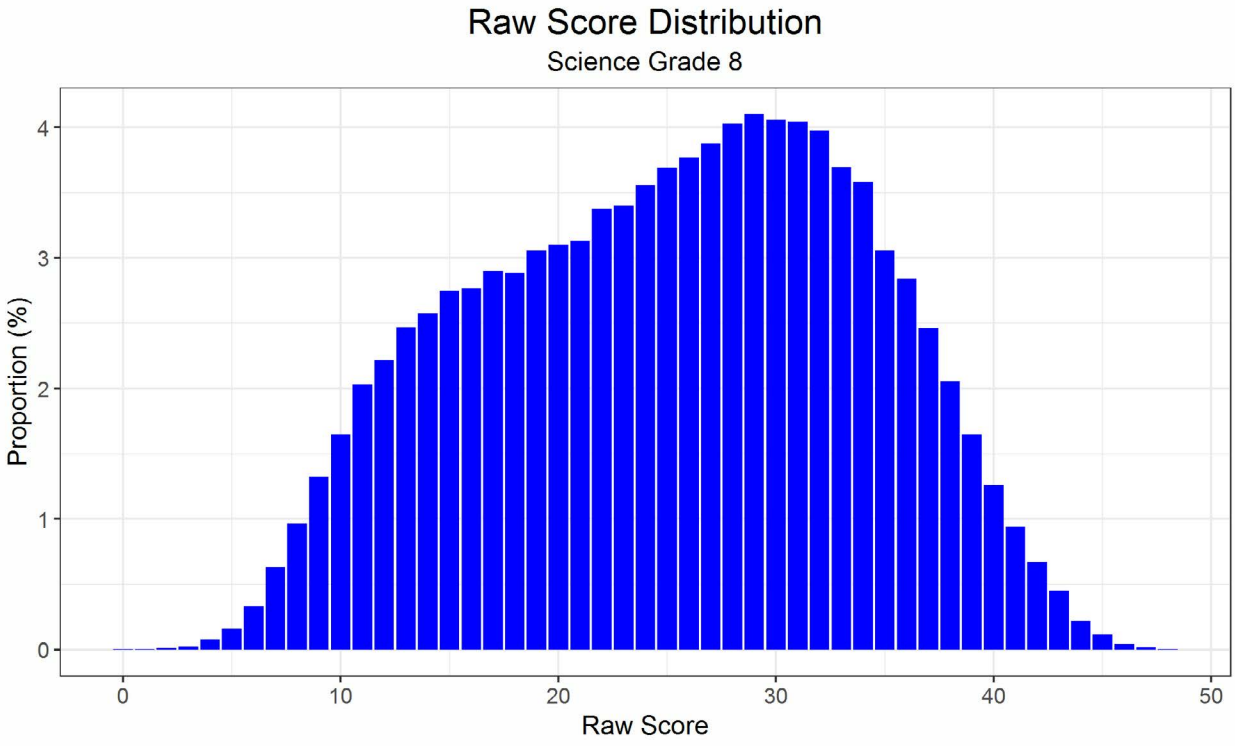

Raw Score Distribution
ELA Grade 5
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score


Raw Score Distribution
ELA Grade 6
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score


Raw Score Distribution
ELA Grade 7
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score


Raw Score Distribution
ELA Grade 8
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score


Raw Score Distribution
Science Grade 4
Proportion (%)
0
1
2
3
0
10
20
30
40
50
Raw Score


Raw Score Distribution
Science Grade 8
Proportion (%)
0
1
2
3
4
0
10
20
30
40
50
Raw Score

CHAPTER EIGHTEEN: RELIABILITY

This chapter addresses the reliability of PSSA test scores. According to the *Standards for Educational and Psychological Testing (*AERA, APA, & NCME, 2014), the general notion of reliability/precision refers to:

> the consistency of scores across replications of a testing procedure, regardless of how this consistency is estimated or reported (p.33).

This chapter will use the term reliability.

Frisbie (2005) highlighted several elements of reliability. First, reliability is a property of test scores, not a test itself. Many may appreciate this distinction, but in casual usage, individuals frequently refer to a reliable test. While reliability concerns test scores (and not the test specifically), it is important to emphasize the fact that test scores can be affected by characteristics of the instrument. For example, all other things being equal, tests with more items or points tend to be more reliable than tests with fewer items or points. Second, reliability coefficients are group specific. Reliabilities tend to be higher in populations that are more heterogeneous and lower in populations that are more homogeneous. Consequently, both test length and population heterogeneity should be considered when evaluating reliability.

There is a reliability consideration that may be less evident from the *Standard's* definition, yet still important for test users to understand. While freedom from measurement error is very important, reliability is specifically concerned with random sources of error. Indeed, the degree of inconsistency due to random error sources is what determines reliability: less consistency is associated with lower reliability and more consistency is associated with higher reliability. Of course, systematic error sources also exist. These can artificially increase reliability and decrease validity. (Validity is further discussed in Chapter Nineteen.)

Another noteworthy issue is that multiple sources of error exist (e.g., the day of testing, the items used, the raters who score the items). However, most widely used reliability indices only reflect a single type of error. Consequently, it is important for test users to understand what specific type of error is being considered in a reliability study, and equally, if not more important, what types are not.

Understanding the distinction between relative error and absolute error is also important as many reliability indices only reflect relative error. Relative error is of interest whenever the relative ordering of individuals respective to their test performance is of interest. Understanding examinee rank-order stability is important; however, such stability might be well achieved even when the specific score values are considerably different. When specific score values are considered important (e.g., if cuts cores are used), then absolute error is too. Generally, there is more error variance when considering the absolute scores of examinees, which in turn suggests lower reliability.

As suggested, reliability is a complex, nonunitary notion that cannot be adequately represented by a single number. There are several reliability indices available, and these may not provide the same results (Frisbie, 2005). The remainder of this chapter covers the following:

- Reliability coefficients and their interpretation
- Unconditional and conditional standard errors of measurement (SEMs and CSEMs)
- Decision consistency
- Rater agreement

RELIABILITY INDICES

As the equation shows below, the reliability coefficient expresses the consistency of test scores as the ratio of true score variance to total score variance. The total variance contains two components: 1) the variance in true scores and 2) the variance due to the imperfections in the measurement process. Put differently, total variance equals true score variance plus error variance.[1]

$$\rho_X^2 = \frac{\sigma_T^2}{\sigma_X^2} = \frac{\sigma_T^2}{\sigma_T^2 + \sigma_E^2}$$

Reliability coefficients indicate the degree to which differences in test scores reflect true differences in the attribute being tested rather than random fluctuations. Total test score variance (i.e., individual differences) is partly due to real differences in the attribute (true variance) and partly due to random error in the measurement process (error variance).

Reliability coefficients range from 0.0 to 1.0. If all test score variances were true, the index would equal 1.0. The index will be 0.0 if none of the test score variances were true. Such scores would be pure random noise (i.e., all measurement error). A reliability index of 1.0 would indicate that scores were perfectly consistent (i.e., contain no measurement error). Although values of 1.0 are never achieved in practice, larger coefficients are more desirable because they indicate that test scores are less influenced by random error. (How big is big enough and how small is too small are issues considered in a later section.)

As previously noted, there are several different indices that can be used to estimate this ratio. One approach is referred to as internal consistency, which is derived from analyzing the performance consistency of individuals over the items within a test. As discussed below, these internal consistency indices do not account for other sources of error, for example, variations due to random errors associated with the linking process, day-to-day variations (student health, testing environment, etc.), and rater inconsistency.

COEFFICIENT ALPHA

Although several reliability indices exist, perhaps the one most frequently reported for achievement tests is Coefficient Alpha. Consequently, this index is the one reported for the PSSA. Alpha indicates the internal consistency over the responses to a set of items measuring an underlying trait, in this case, academic achievement in subject areas such as mathematics, ELA, and science.

Alpha is an internal consistency index. It can be conceptualized as the extent to which an exchangeable set of items from the same domain would result in a similar rank ordering of students. Note that relative error is reflected in this index. Consider two hypothetical vocabulary tests intended for the same group of students. Each test contains different sets of unique words that are believed to be randomly equivalent, perhaps like the ones shown below.

Table 18–1. Two Hypothetical Vocabulary Tests

Test One	Test Two
Abase	Abate
Boon	Bilk
Capricious	Circuitous
Deface	Debase
....	....
Zealous	Zenith

[1] A covariance term is not required as true scores and error are assumed to be uncorrelated in classical test theory.

If a representative group of students could take both tests, and the correlation between the scores could be obtained, then that result would represent the parallel forms reliability of the test scores. However, such data-collection designs are impractical in large-scale settings and experimental confounds like fatigue and practice effects are likely to affect the results. Internal-consistency reliability indices arose in part to provide reliability measures using the data from just a single test administration. So, if students only took Test One and the Coefficient Alpha index for those test scores was high, then this would suggest that Test Two would provide a very similar rank ordering of the students if they had taken it instead. If Coefficient Alpha were low, dissimilar rank orderings would likely be observed—again, relative-error variance is reflected in Alpha. (It should also be noted that Coefficient Alpha is algebraically identical to a *Person* × *Item* design under Generalizability Theory when relative error variance is assumed.)

FORMULA

Consider the data matrix in Table 18-2 representing the scores of persons (*p*) in rows, and items (*i*) in columns. Each cell is the score of person "*p*" on item i, and Y represents each item raw score for each person.

Table 18–2. Person × Item Score (X_{pi}) Infinite (Population-Universe) Matrix

Person	Item 1	Item 2	Item i
1	Y_{11}	Y_{12}	$\ldots Y_{1i}$
2…	Y_{21}	Y_{22}	$\ldots Y_{2i}$
p	Y_{p1}	Y_{p2}	$\ldots Y_{pi}$

The general computational formula for Alpha is as follows:

$$\alpha = \frac{N}{N-1}\left(1 - \frac{\sum_{i=1}^{N}\sigma_{Yi}^2}{\sigma_X^2}\right),$$

where *N* is the number of parts (items or testlets), σ_X^2 is the variance of total test scores, and σ_{Yi}^2 is the variance of part i.

FURTHER INTERPRETATIONS

RULES OF THUMB

What reliability value is considered high enough? What values are considered too low? Although frequently asked for, any rules of thumb for interpreting the magnitude of reliability indices are mostly arbitrary. Another approach is to research the reliabilities from similar testing instruments to see what values are commonly observed. For the PSSA, comparisons to tests of similar lengths that were administered to similar student populations from other large-scale assessment programs would be relevant. For many other state assessment programs, reliabilities in the low 0.90s are usually the highest ever observed and reliabilities in the high 0.80s are very common.

The lower a given reliability coefficient, the greater the potential for over-interpretation of the associated results. As suggested above, there is no firm guideline regarding how low is too low. However, as an informative point of reference, a reliability coefficient of 0.50 would suggest that there is as much error variance as true-score variance in the scores.

IS ALPHA A LOWER LIMIT TO RELIABILITY?

According to Brennan (1998), "the conventional wisdom that Coefficient Alpha is a lower limit to reliability is based largely on a misunderstanding." In reflecting on the 50th anniversary of his seminal 1951 article, Cronbach—in Cronbach and Shavelson (2004)—expressed similar misgivings about this conventional wisdom:

> one could argue that alpha was almost an unbiased estimate of the desired reliability…. the almost in the preceding sentence refers to a small mathematical detail that causes the alpha coefficient to run a trifle lower than the desired value. This detail is of no consequence and does not support the statement made frequently in textbooks or in articles that alpha is a lower value to the reliability coefficient. That statement is justified by reasoning that starts with the definition of the desired coefficient as the expected consistency among measurements that had a higher degree of parallelism than the random parallel concept implied.

The assumptions for three common parallelism models are presented in Table 18–3. Alpha's assumptions come from the Essentially-Tau Equivalent model, which does not require equal means or equal variances across test parts. Based on this, Brennan (1998) asserts that the lower-limit issue, as conceptualized by many, provides an answer to a question that is of minimal importance. Reframed differently, the goal of selecting a reliability coefficient is not to find the one that provides the highest coefficient, but the one that most accurately reflects the test data under study.

It is important to note that there are factors encountered in practice that may legitimately make Coefficient Alpha an underestimate of reliability. However, there are also factors that might make Coefficient Alpha an overestimate of reliability. Both possibilities are discussed further below and generally arise when the Essentially-Tau Equivalent assumptions are strained.

Table 18–3. Summary of Expectations/Observable Relationships for Different Parallelism Models

Relationship	Classically Parallel	Essentially-Tau Equivalent	Congeneric
Content Similarity	Yes	Yes	Yes
Equal Means across Parts	Yes	No	No
Equal Variances across Parts	Yes	No	No
Equal Covariances across Parts	Yes	Yes	No
Equal Covariances with Other Variables	Yes	Yes	No

* Other models exist, but are not considered here due to their limited application in practice.

FACTORS OR BIASES THAT MAY UNDERESTIMATE ALPHA

There are factors that might negatively bias Coefficient Alpha, which possibly lower the resultant reliability coefficients. Two situations frequently encountered in practice that might cause this include tests that are composed of mixed item types (e.g., multiple-choice (MC) and open-ended (OE) items) and tests that include a planned stratification of the test items according to topics or subdomains.

Although both situations strictly violate the assumptions on which Coefficient Alpha is derived (i.e., the tests are not based on equal part lengths in the former case and are not randomly parallel in the latter case), neither necessarily guarantees that the reliability will be markedly lower. In the latter case, reliability will be underestimated only when strand items are homogeneous enough for the average covariance within strata to exceed the average covariance between strata. Although both are potential influences for the PSSAs, most of the total test score reliabilities reported in Appendix P are all close to or above 0.90, indicating highly consistent test scores for these instruments.

BIASES THAT MIGHT MAKE ALPHA AN OVERESTIMATE OF RELIABILITY

As emphasized in earlier sections, Coefficient Alpha only takes into account measurement error that arises from the selection of items used on a particular test form. There are other sources of random inaccuracy. One is due to the occasion of testing. Other various random conditions that might affect students on any particular testing occasions include illness, fatigue, and anxiety. Also, when a test includes OE items, as the PSSA does, another source that

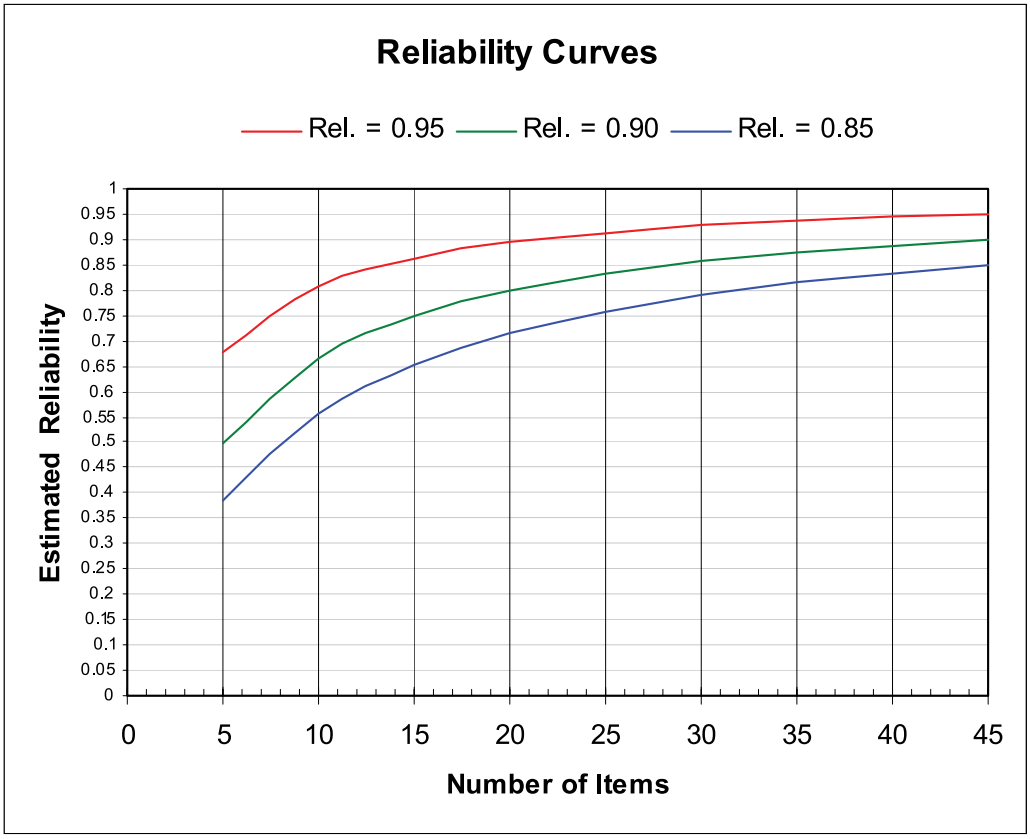
can cause random fluctuation is the OE item scorers. In a sense, Alpha may be positively biased because it does not take into account these other important sources of random error. Any internal consistency reliability index could understate the overall problem of measurement error because it ignores such sources or random error.

Another positive bias can occur when items are associated (clustered) with a common stimulus. Item bundles and testlets are other frequently used terms for this situation. One concrete example is when multiple reading comprehension items are associated with a common passage selection. Again, such a situation does not guarantee that the reliability estimate will be markedly affected, but the potential exists.

STRAND SCORES

As noted in the introduction, reliabilities tend to go up in value with an increase in test length and go down in value with a decrease in test length. Figure 18–1 illustrates this relationship for a hypothetical 45-point test with three total score reliabilities: 0.95, 0.90, and 0.85. As an example, the curve for reliability equal to 0.90 suggests that a 10-item strand would be expected to have a score reliability of just over 0.65. The use of the Spearman-Brown prophecy formula assumes all items are exchangeable, which in practice they may not be. While such a chart may not perfectly model actual strand correlations, the intent is only to illustrate the substantial impact that limited numbers of strand items can have on strand-score reliability. One should not be surprised that strand scores with more points tend to show higher reliability coefficients and those with fewer points tend to show lower reliability coefficients. Further, what is most important for PSSA users to note is that some strand score reliabilities may be too low to warrant interpretation at the individual student level.

Figure 18–1. Example of the Relationship between Test Length and Reliability



Note. Tabled values derived using the Spearman-Brown formula.

INDIVIDUAL-LEVEL VERSUS GROUP-LEVEL SCORES

The results presented in this chapter pertain to the reliability of individual scores. Group results (e.g., is state and district levels) are also provided on PSSA score reports, but the reliability of those scores is not specifically calculated here. However, as a general rule, the reliabilities of group mean scores are almost always higher (sometimes substantially) than the corresponding reliabilities for individual scores. This is especially important to remember for strand scores because those scores can be quite reliable at the group level, even though their individual reliabilities may be too low. Because the reliability of group mean scores (e.g., school or district means) tends to be higher than that of individual scores, the interpretation of strand scores at these aggregate levels is likely very reasonable in most instances. Even though the reliability for means scores based on only a few items might be adequate, the validity of those same scores might be suspect because use of only a few items may not adequately cover the construct of interest. Validity is further discussed in Chapter Nineteen.

RELIABILITY OF WRITING SCORES

An extension of Coefficient Alpha that was derived to specifically fit stratified parallel tests (sometimes called stratified alpha; Cronbach, Schonemann, & McKie, 1965) was used to compute the PSSA ELA score reliabilities. This approach is often used when it is believed that Alpha may be yielding a lower coefficient than it should for the reasons noted above. Although originally developed for content-stratified tests, Qualls (1995) demonstrated its utility for mixed-format tests as well when the stratification is based on item type. It may be computed as

$$_{strat\alpha}\rho_{xx'} = 1 - \frac{\Sigma\sigma^2 x_h (1 - {}_{\alpha}\rho_{x_h x_{h'}})}{\sigma^2 x},$$

where *h* indexes the individual strata.

The reliability of ELA assessments (and many other performance-based tests) with mixed-format tends to be lower than reliabilities for other tests. Part of the reason for this is that there can be student-by-task, rater-by-task, and rater-by-examinee response interactions on such assessments. In the case of ELA, individual student performance may fluctuate significantly across text-dependent analysis (TDA) and evidence-based selected response (EBSR) item types on the same test. In principle, adding more prompts and items can improve reliability to a more acceptable level. However, this is challenging in practice because of costs, testing time, and student fatigue. These conditions can result in reliabilities for ELA assessments that are slightly lower than those for mathematics and science assessments.

STANDARD ERROR OF MEASUREMENT

The reliability coefficient is a unit-free indicator that reflects the degree to which scores are free of measurement error. It always ranges between 0.0 and 1.0 regardless of the test's scale. Reliability coefficients best reflect the extent to which measurement inconsistencies may be present or absent in a group. However, they are not that useful for helping users interpret test scores. The standard error of measurement (SEM) is another indicator of degree of consistency for the scores obtained by individual examinees. A relatively large SEM indicates relatively low reliability. The conditional SEMs (CSEM) discussed further below is SEM at that score level.

TRADITIONAL STANDARD ERROR OF MEASUREMENT

A precise, theoretical interpretation of the SEM is somewhat unwieldy. A beginning point for understanding the concept is as follows. If everyone being tested had the same true score,[2] there would still be some variation in observed scores due to imperfections in the measurement process, such as random differences in attention during instruction or concentration during testing and the sampling of test items. The standard error is defined as the standard deviation[3] of the distribution of observed scores for students with identical true scores. Because the SEM is an index of the random variability in test scores in actual score units, it represents very important information for test score users.

---

[2] True score is the score the person would receive if the measurement process were perfect.

[3] The standard deviation of a distribution is a measure of the dispersion of the observations. For the normal distribution, about 16 percent of the observations are more than one standard deviation above the mean.

The SEM formula is provided below.

$$SEM = SD\sqrt{1—reliability}$$

This formula indicates the value of the SEM depends on both the reliability coefficient and the standard deviation of test scores. If the reliability were equal to 0.00 (the lowest possible value) the SEM would be equal to the standard deviation of the test scores. If test reliability were equal to 1.00 (the highest possible value) the SEM would be 0.0. In other words, a perfectly reliable test has no measurement error (Harvill, 1991). Additionally, the value of the SEM takes the group variation (i.e., score standard deviation) into account. Consider that an SEM of 3 on a 10point test would be very different than an SEM of 3 on a 100-point test.

TRADITIONAL STANDARD ERROR OF MEASUREMENT CONFIDENCE INTERVALS

The SEM is an index of the random variability in test scores in actual score units, which is why it has such great utility for test score users. SEMs allow statements regarding the precision of individual test scores. SEMs help place 'reasonable limits' (Gulliksen, 1950) around observed scores through construction of an approximate score band. Often referred to as confidence intervals, these bands are constructed by taking the observed scores, *X*, and adding and subtracting a multiplicative factor of the SEM. As an example, students with a given true score will have observed scores that fall between +/-1 SEM about two-thirds of the time.[4] For +/-2 SEM confidence intervals, this increases to about 95 percent.

FURTHER INTERPRETATIONS

ONE STANDARD ERROR OF MEASUREMENT FOR ALL TEST SCORES

The SEM approach described above only provides a single numerical estimate for constructing the confidence intervals for examinees regardless of their score level. However, such confidence intervals vary according to a student's score. Consequently, care should be taken using the SEM for students with extreme scores. (In the next sections, an alternate approach is described that conditions the SEM on a student's score estimate.)

GROUP SPECIFIC

As noted in the introduction, reliabilities are group specific. The same is true for SEMs because both score reliabilities and score standard deviations vary across groups.

RAW-SCORE METRIC

The SEM approach is calculated using raw scores, and as such, the resulting confidence interval bands are on the raw score metric. Error bands on the scaled score metric are considered in the next section.

TYPE OF ERROR REFLECTED

The interpretation of the SEM should be driven by the type of score reliability that underpins it. So, the PSSA SEMs involve the same source of error relevant to internal consistency indices. As noted earlier, a precise technical explanation of the SEM (and resulting confidence intervals) can be unwieldy. Because of this, score users are often provided less complex interpretations.

One simpler description is that a confidence interval represents the possible score range one would observe if a student could be tested twice with the same instrument. Taking the same test on a different day implies the only source of random error being considered is related to the occasion of testing, such as a student might be sleepier one day than another, or may be sick, or did not get a good breakfast. There is a reliability index that captures this source of random error, and it is referred to as the test-retest reliability coefficient. This is not the type of reliability computed for the PSSAs. When internal consistency reliability estimates are used, such an explanation blurs the fact that random error based on testing is not considered.

[4] Some prefer the following interpretation: if a student were tested an infinite number of times, the +/-1 SEM confidence intervals constructed for each score would capture the student's true score 68 percent of the time.

When SEMs are derived from internal consistency reliability estimates, a better approach is to describe the confidence interval as providing reasonable bounds for the range of scores that a student might receive if he or she took an equivalent version of the test; that is, the student took a test that covered exactly the same content but included a different set of items (if an infinite number of tests with equivalent content were taken, the student's true score will lie within the constructed confidence intervals 68 percent of the time). As an example, if the PSSA score was 1150 and the SEM band was 1100 to 1200, then a student would be likely to receive a score somewhere between 1100 and 1200 if a different version of the test had been taken.

RESULTS AND OBSERVATIONS

Coefficient Alpha results and associated (traditional) SEMs for various PSSA scores are documented in Table 18–4 and Appendix P. Values were derived using the PSSA final data file (see Chapter Nine). The results are organized by subject area and grade. Each table in Appendix P also disaggregates the various reporting categories and groups of interest (i.e., the total student population, gender and ethnic groups, English learners (EL), students with individualized education plan (IEP), and students who are economically disadvantaged). The statistics reported in Appendix P include number of points possible (Total Points), number of items (N Items), number of students tested (N), mean number of score points received (Mean), standard deviation of test scores (SD), reliability (r), traditional standard error of measurement (SEM), and item types (Item Types). Reliabilities for reporting category "E" for ELA grades 4 to 8 are not computed because it only consists of one Text Dependent Analysis (TDA) item and reliabilities cannot be computed for only one item.

The reliabilities and standard errors are reported in Table 18-4. The reliability of mathematics scores ranges from .91 to .92, the reliability of ELA scores ranges from .89 (Grade 7) to .91 (Grade 3), and the reliability of scores for Science range from .88 (Grade 8) to .89 (Grade 4).

Table 18–4. Reliabilities and Standard Errors of Measurement

Subject	Grade	Reliability	*SEM*
Mathematics	3	0.92	3.35
Mathematics	4	0.92	3.23
Mathematics	5	0.91	3.33
Mathematics	6	0.91	3.46
Mathematics	7	0.92	3.23
Mathematics	8	0.91	3.40
ELA	3	0.89	3.05
ELA	4	0.91	3.12
ELA	5	0.89	3.12
ELA	6	0.89	3.28
ELA	7	0.87	3.18
ELA	8	0.91	3.14
Science	4	0.89	3.10
Science	8	0.88	3.03

Note. Raw scores are not weighted

Note that these tables in Appendix P report the standard deviations of observed scores. Assuming normally distributed scores, one would expect about two-thirds of the observations to be within one standard deviation of the mean. An estimate of the standard deviation of the true scores can be computed as

$$\hat{\sigma}_T = \sqrt{\hat{\sigma}_x^2 - \hat{\sigma}_x^2(1-\hat{\rho}_{xx})}.$$

The results are historically consistent with past PSSA reliability results. The overall test score reliability values are strong, at 0.81 or above. In theory and in practice, test reliability is influenced by test length. However, theory and practice also provide methods to offset this tendency, and facilitate the production of reliable assessments under different test length scenarios. These methods focus on the statistical information that is provided by items. When this information is proven to be high during field testing, and is balanced with test blueprint requirements, the use of such items allows for the optimization of content validity and test reliability. This is the approach that was used for construction of the 2019 PSSAs and will continue to be used moving forward as the item pool is routinely replenished with similarly high-quality items.

Across the grades and subjects tabled in Appendix P, reliabilities for each reporting category are also provided. Reporting categories are detailed in Chapter Two. Reporting categories with more items tend to show higher reliability coefficients, but the test length reductions implemented in 2018 resulted in a larger decrease of score reliability at the reporting category level compared to the total test level. Also, groups exhibiting more variability in test scores tended to have higher reliability coefficients. Perhaps the most significant result pertains to an earlier caution (i.e., that some reporting category reliabilities may be too low to warrant interpretation at the individual student level). Once again, there is no firm guideline regarding how low is too low. The lower a given reliability coefficient, the greater the potential for over-interpretation. As a point of reference, a reliability coefficient of 0.50 would suggest that there is as much error variance as true-score variance in the scores. It should be noted that the reliability of group mean scores (e.g., school or district means) tends to be higher than that of individual scores, suggesting interpretation of strand scores at these aggregate levels is likely reasonable.

RASCH CONDITIONAL STANDARD ERROR OF MEASUREMENT

The CSEM also indicates the degree of measurement error but does so in scaled-score units and varies as a function of a student's actual scaled score. Therefore, the CSEM may be especially useful in characterizing measurement precision with respect to score levels used for decision-making—such as cut scores for identifying students who meet a performance standard.

Technically, when a Rasch model is applied, the CSEM at any given point on the ability continuum is defined as the reciprocal of the square root of the test information function derived from the Rasch scaling model.

$$CSEM(\hat{\theta}) = \frac{1}{\sqrt{I(\hat{\theta})}}$$

where $CSEM(\hat{\theta})$ is the conditional standard error of measurement and $I(\hat{\theta})$ is the test information function. Test information depends on the sum of the corresponding information functions for the test items. Item information depends on each item's difficulty and conditional item score variance. The formula above utilizes the Rasch ability (θ) metric. The conditional standard error on the scaled score (SS) metric is determined by simply multiplying the $CSEM(\hat{\theta})$ by the slope (multiplicative constant, m) of the linear transformation equation used to convert the Rasch ability estimates to scaled scores.

$$\text{CSEM(SS)} = CSEM(\hat{\theta}) * m$$

Chapter Fourteen provides the linear transformation formulas for each PSSA test.

RASCH CONDITIONAL STANDARD ERROR OF MEASUREMENT CONFIDENCE INTERVALS

CSEMs also allow statements regarding the precision of individual tests scores. And like SEMs, they help place reasonable limits around observed scaled scores through construction of an approximate score band. The confidence intervals are constructed by adding and subtracting a multiplicative factor of the CSEM and may be interpreted as described in the earlier section.

FURTHER INTERPRETATIONS

DIFFERENT CONDITIONAL STANDARD ERROR OF MEASUREMENT FOR DIFFERENT TEST SCORES

The CSEM approach provides different numerical estimates for constructing the confidence intervals for examinees depending on their specific score level. The magnitude of the CSEM values is U-shaped with larger CSEM values associated with lower and higher scores.

GROUP SPECIFIC

Assuming reasonable model-data fit—as explored in Chapter Twelve—the Rasch based CSEMs (conditioned on score level) should not vary across groups.

SCALED-SCORE METRIC

The CSEM and associated confidence interval bands are on the scaled score metric.

TYPE OF ERROR REFLECTED

The SEMs documented on the PSSA score reports are the Rasch-based conditional standard errors of measurement described above. These are provided by the WINSTEPS scaling program described in Chapter Twelve. As noted earlier, these CSEMs are based on the concept of statistical information. To provide a simpler explanation of SEMs to test score users, the earlier description of SEMs framed using the idea of internal consistency reliability was provided in the PSSA score report interpretive documents.[5] Score report content is considered in greater detail in Chapter Sixteen.

RESULTS AND OBSERVATIONS

Figure 18–2 shows the Rasch CSEMs associated across the scaled score distribution. (This information is also provided in the raw-to-scaled score conversion tables in Appendix N.) Values were derived using the pre-equated data file described in Chapter Nine, and the post-equated data file described in Chapter Fifteen. The values are consistent across a large range of the scaled scores, as demonstrated by the relatively flat bottoms of most plots. The values increase at both extremes (i.e., at smaller and larger scaled scores) giving these figures their typical U-shaped pattern. (Only the SEMs for scores greater than the lowest observable scaled scores [LOSS] are shown in the figures; consequently, the complete U-shape does not appear in most plots.) The three red-dashed lines represent the Basic, Proficient, and Advanced scaled score cuts, respectively, moving from lower to higher scaled score values. CSEM values at the cut score lines were generally associated with smaller CSEM values, indicating more precise measurement occurs at these points on the scales. The curves are presented for 2019 for both pre- and post-equating are shown with the curves for the three most recent prior years to demonstrate their relative stability under the reduced test length condition. Note that the curves for 2018 and 2019 are quite similar, whereas a comparison of the curves for 2016 and 2017 reflects intentional shifts in difficulty to better align with student test performance. Similar to the small changes in reliability, the CSEM comparisons show generally that the test length reduction resulted in minimal increases in conditional error and are within expectations for a shorter test.

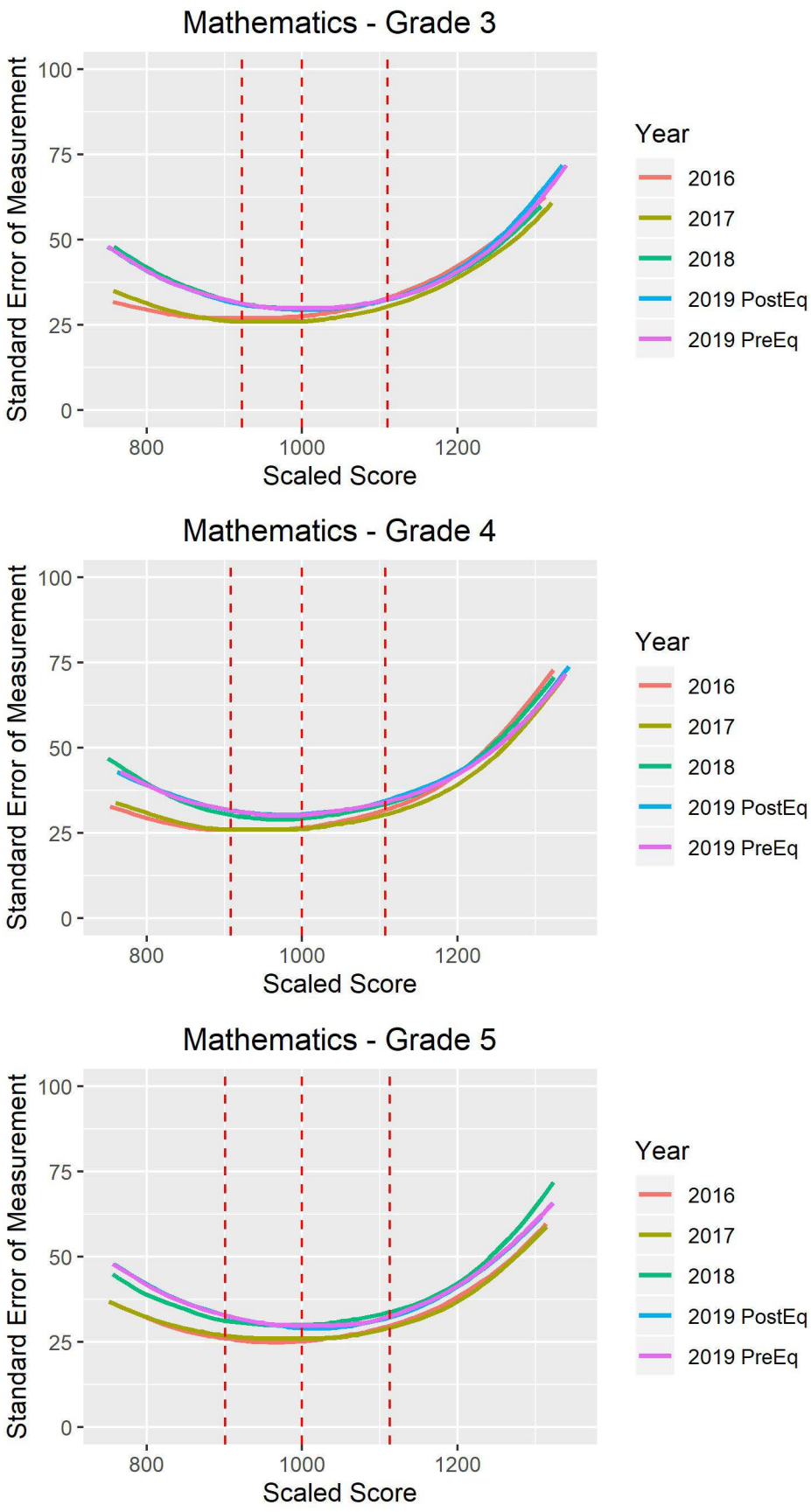
Because the 2019 examinations were pre-equated, considerable effort was placed on producing tables with CSEM as comparable as possible to the 2018 full length tests. Grade 4 Science showed the largest differences in test information around the basic and proficient cut scores, and a corresponding increase in CSEMs in this range. This is primarily due to the result of an effort to shift test difficulty during construction of the 2017 PSSAs to better align

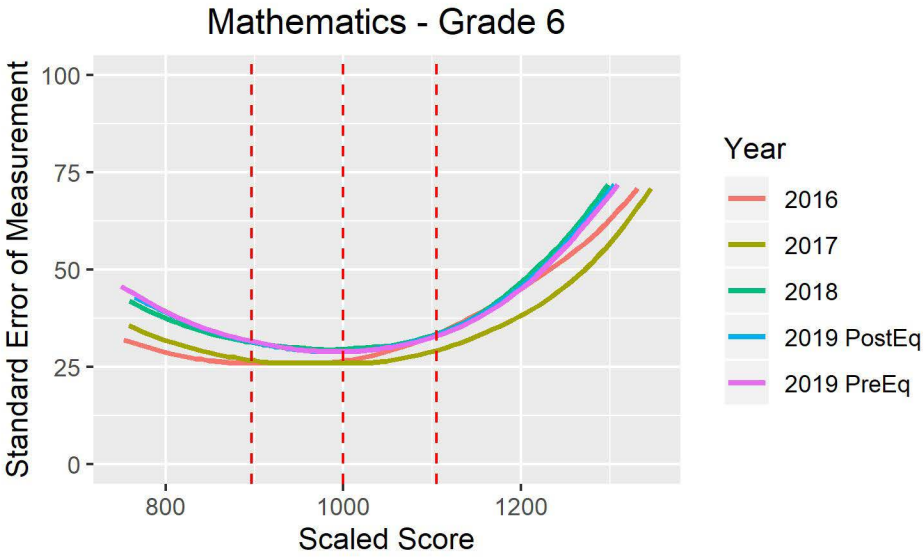
[5] Because IRT CSEMs are based on statistical information, it is questionable whether they account for error variance due to items. However, it seems difficult to construct a simple explanation of IRT CSEMs for the general public.

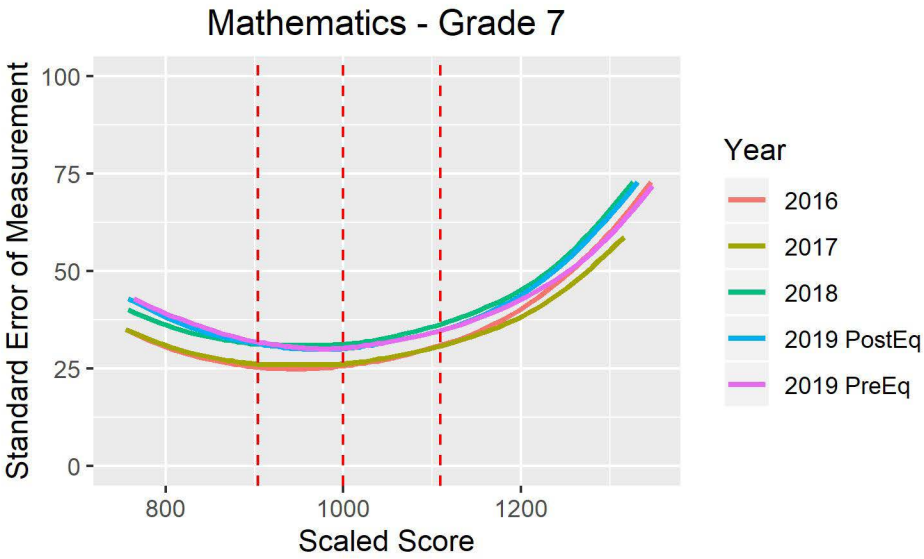
test difficulty with student performance distributions in support of providing the best measurement where the most students are in the distribution. The mean scale score for grade 4 science in 2017 was 1405.9 with a standard deviation of 170.8. Looking at the CSEMs, we note that this centers the distribution well above the proficient cut score, so future test construction efforts will attend to maintaining the difficulty targets, but will work toward selecting some more items around the proficient and basic cut scores to improve test information at these points, while still providing strong measurement of examinees through the center of the distribution.

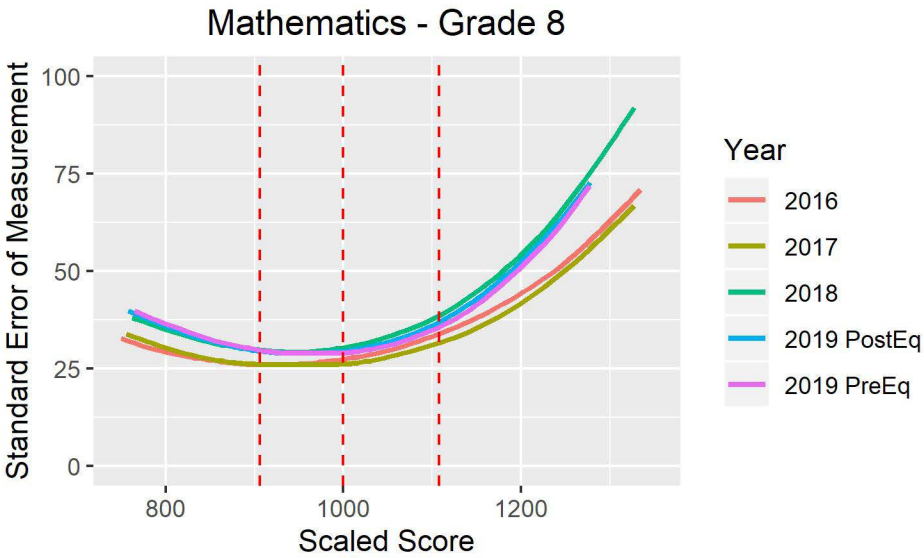
Figure 18-2 provides a view of the conditional standard errors for each of the 14 PSSA's from 2016 through 2019, and includes the CSEM curves for the pre-equated and post-equated solutions. Generally, small differences are noted for the shortened tests, with increases of roughly 5-8 across the cut points for all tests. Some larger increases are noted in at the low end of the scales, but some decreases are noted at the upper end of the scales. For example, the science tests for 2018 and 2019 show a notable reduction in CSEM at the advanced cut point, which is also an artifact of the shift in test difficulty that occurred in 2018. In fact, across all plots, the shape of the 2017 and 2019 curves is quite similar, pointing to good isolation of the statistical impact of the reduction alone as the primary source of difference. The greatest change in CSEM is noted at the basic cut point for the two science tests. This is also likely to be the result of the 2017 shift to test difficulty, impacting science more than ELA and mathematics.

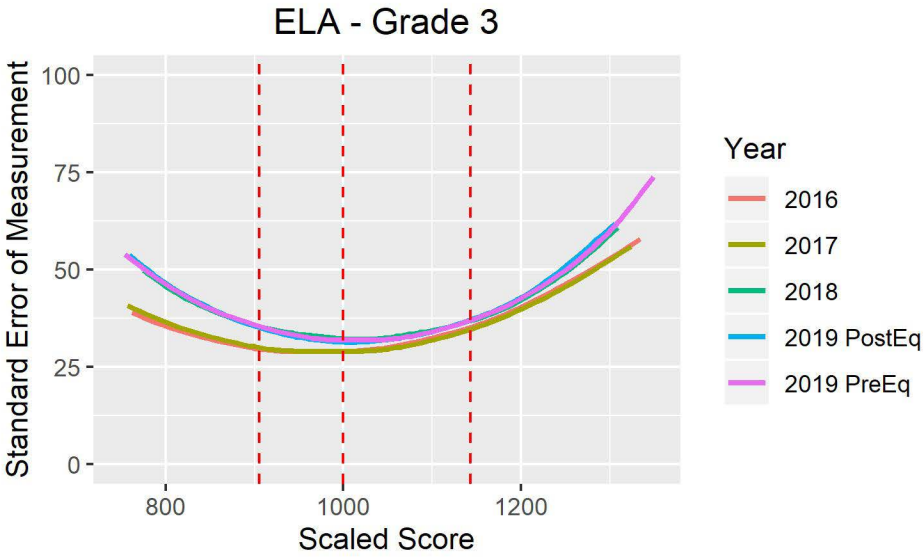
Figure 18–2. Conditional Standard Error Plots for Each Grade and Subject

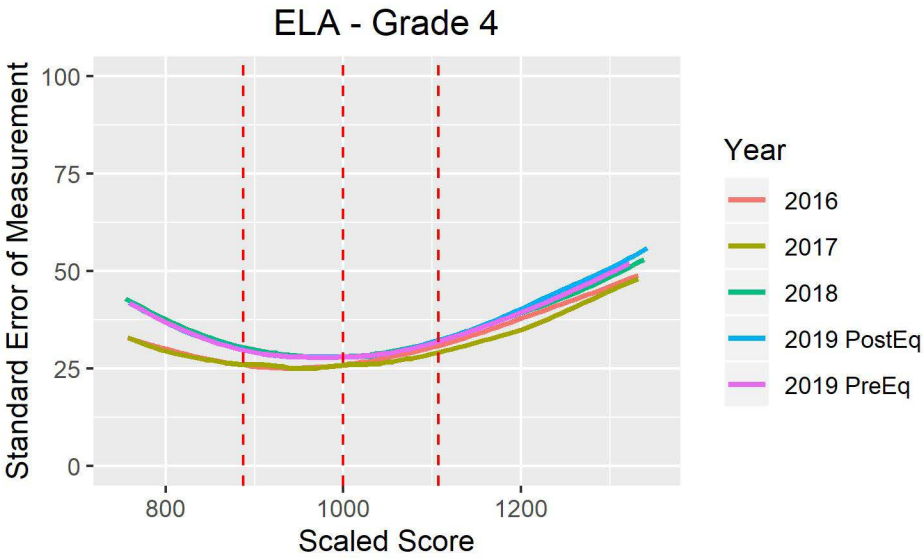


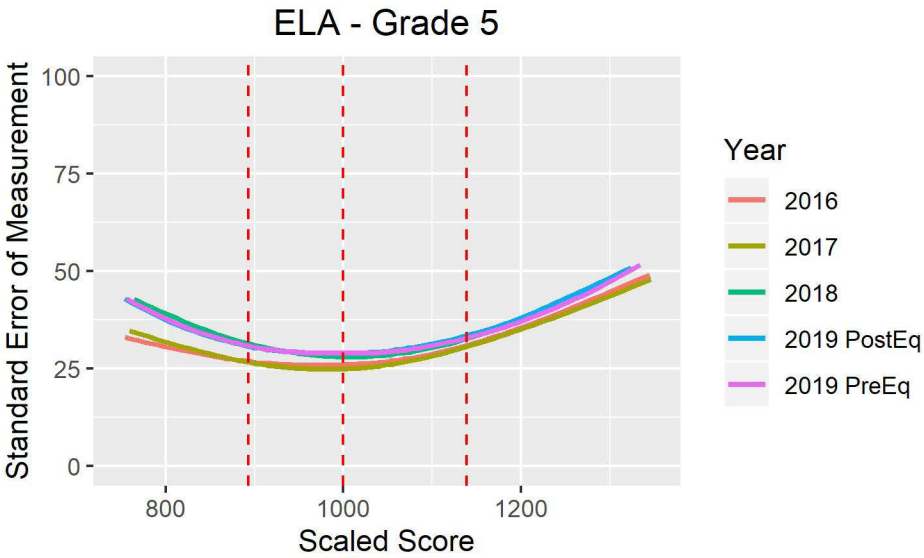

Mathematics - Grade 6
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq

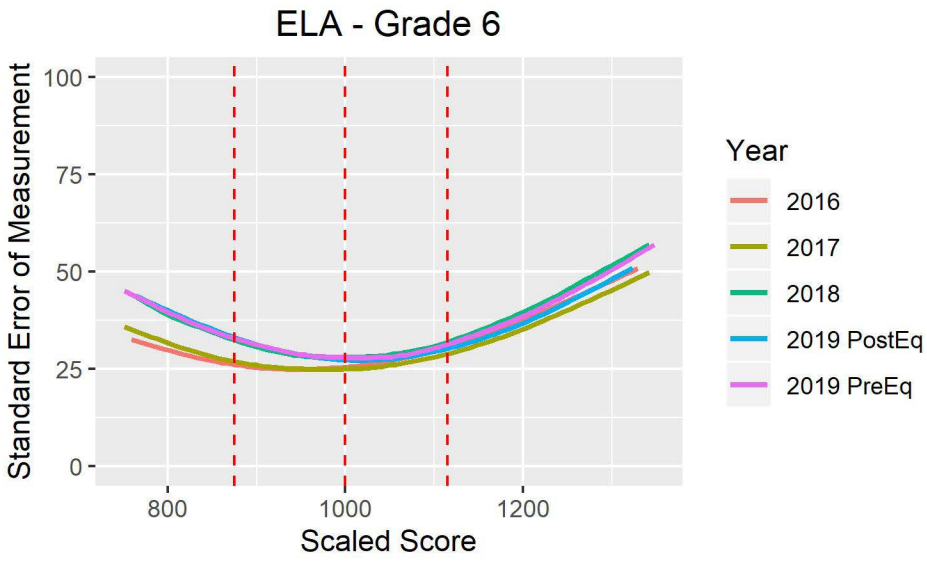

Mathematics - Grade 7
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq

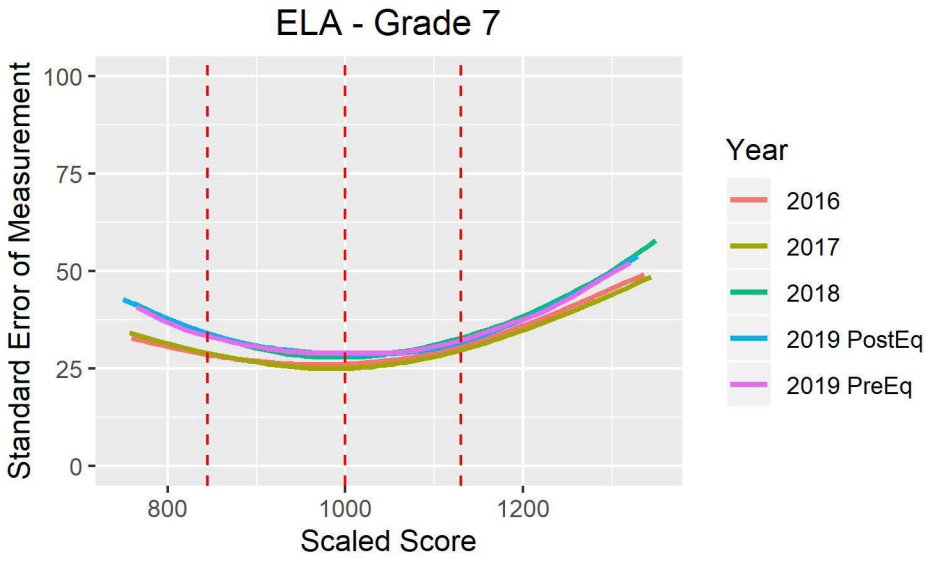

Mathematics - Grade 8
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq

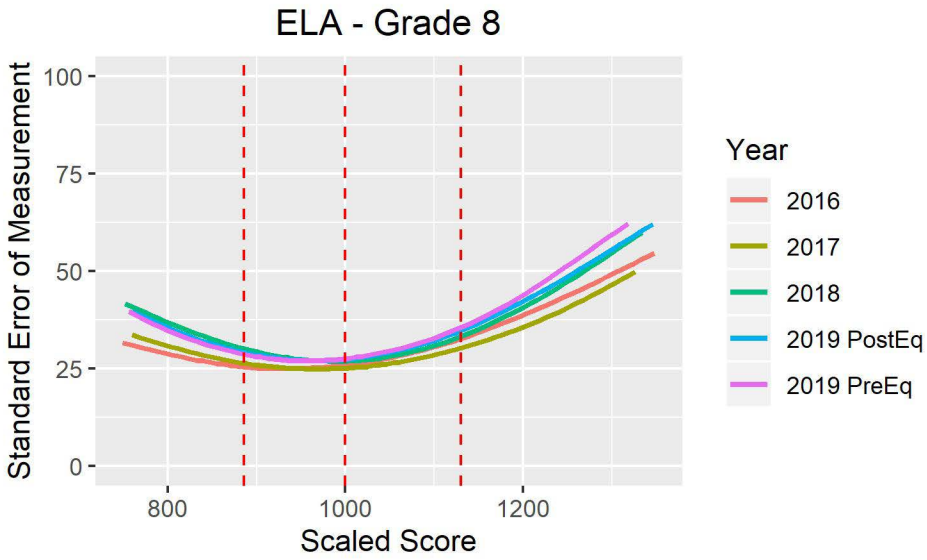

ELA - Grade 3
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq

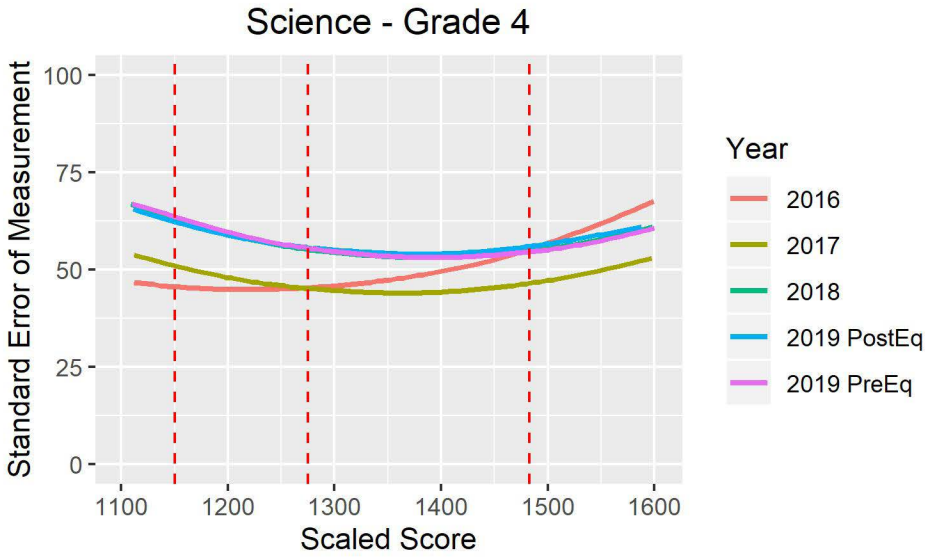

ELA - Grade 4
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq

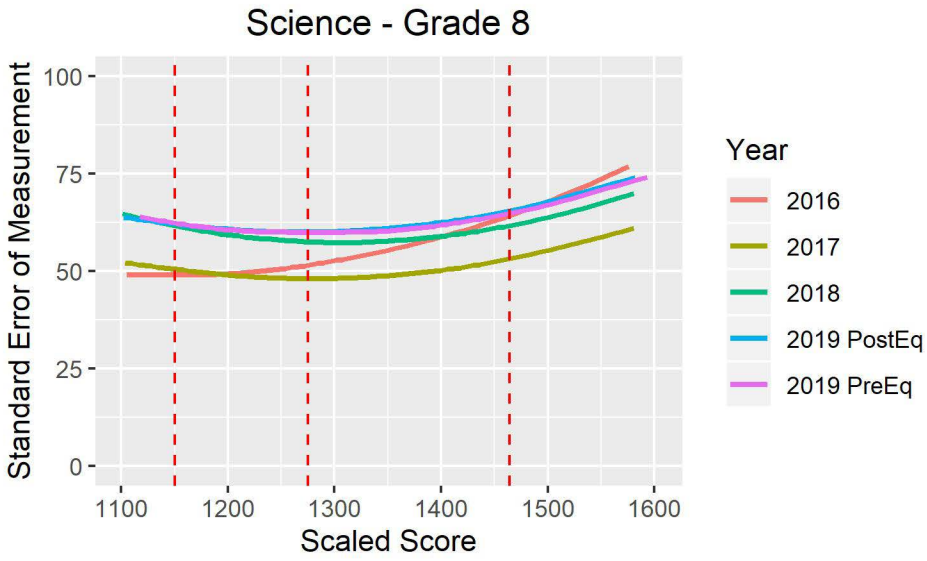

ELA - Grade 5
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq


ELA - Grade 6
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq


ELA - Grade 7
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq


ELA - Grade 8
Standard Error of Measurement
100
75
50
25
0
800
1000
1200
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq


Science - Grade 4
Standard Error of Measurement
100
75
50
25
0
1100
1200
1300
1400
1500
1600
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq


Science - Grade 8
Standard Error of Measurement
100
75
50
25
0
1100
1200
1300
1400
1500
1600
Scaled Score
Year
2016
2017
2018
2019 PostEq
2019 PreEq

DECISION CONSISTENCY AND ACCURACY

In a standards-based testing program there should be great interest in knowing how accurately students are classified into performance categories. In contrast to Coefficient Alpha that is concerned with the relative rank-ordering of students, it is the absolute values of student scores that are important in decision consistency and accuracy.

Classification consistency refers to the degree to which the achievement level for each student can be replicated upon retesting using an equivalent form (Huynh, 1976). Decision consistency answers the question: What is the agreement between the classifications based on two non-overlapping, equally difficult forms of the test. If two parallel forms of the test were given to the same students, the consistency of the measure would be reflected by the extent that the classification decisions made from the first set of test scores matched the decisions based on the second set of test scores. Consider Tables 18–5 and 18–6 below.

Table 18–5. Pseudo-Decision Table for Two Hypothetical Categories

Tests One and Two	Test One Level I	Test One Level II	Test One Marginal
Test Two Level I	φ11	φ12	φ1●
Test Two Level II	φ21	φ22	φ2●
Test Two Marginal	φ●1	φ●2	1

Table 18–6. Pseudo-Decision Table for Four Hypothetical Categories

Tests One and Two	Test One Level I	Test One Level II	Test One Level III	Test One Level IV	Test One Marginal
Test Two Level I	φ11	φ12	φ13	φ14	φ1●
Test Two Level II	φ21	φ22	φ23	φ24	φ2●
Test Two Level III	φ31	φ32	φ33	φ34	φ3●
Test Two Level IV	φ41	φ42	φ43	φ44	φ4●
Test Two Marginal	φ●1	φ●2	φ●3	φ●4	1

If a student is classified as being in one category based on Test One's score, how probable would it be that the student would be reclassified as being in the same category if he or she took Test Two (a non-overlapping, equally difficult form of the test)?

The proportions of correct decisions, φ, for two and four categories are computed by the following two formulas, respectively:

$$\varphi = \varphi_{11} + \varphi_{22}$$

$$\varphi = \varphi_{11} + \varphi_{22} + \varphi_{33} + \varphi_{44}$$

It is the sum of the diagonal entries—that is, the proportion of students classified by the two forms into the same achievement level—that signifies the overall consistency.

Classification accuracy refers to the agreement of the observed classifications of students with the classifications made based on their true scores. An observed score contains measurement error while a true score is free of measurement error. A student's observed score can be formulated by the sum of his or her true score plus measurement error, or. Decision accuracy is an index to determine the extent to which measurement error causes a classification different than expected from the true score.

Since true scores are unobserved and since it is not feasible to repeat PSSA testing to estimate the proportion of students who would be reclassified in the same performance levels, a statistical model needs to be imposed on the data to estimate the true scores and to project the consistency and accuracy of classifications solely using data from the available administration (Hambleton & Novick, 1973). Although several procedures are available, one well-known method was developed by Livingston and Lewis (1995) utilizing a specific True Score Model. This approach is fairly complex, and the cited source contains details regarding the statistical model used to calculate decision consistency and accuracy from the single PSSA administration.

FURTHER INTERPRETATIONS

Several factors might affect decision consistency and accuracy. One important factor is the reliability of the scores. All other things being equal, more reliable test scores tend to result in more similar reclassifications and less measurement error. Another factor is the location of the cut score in the score distribution. More consistent and accurate classifications are observed when the cut scores are located away from the mass of the score distribution. For example, when scores are close to being normally distributed, the mass is concentrated in the middle of the distribution, and, thus classifications tend to become more consistent when cut scores go up from 70 percent to 80 percent to 90 percent or, alternatively, go down from 30 percent to 20 percent to 10 percent. The number of performance levels is also a consideration. Consistency and accuracy indices for four performance levels should be lower than those based on two categories. This is not surprising since classification and accuracy using four levels would allow more opportunity to change achievement levels. Hence, there would be more classification errors and less accuracy with four achievement levels, resulting in lower consistency indices.

RESULTS AND OBSERVATIONS

The results for the overall consistency across all four performance levels as well as for the dichotomies created by the three cut scores are presented in Table 18–7. The tabled values, derived using the program *BB-Class* (Brennan, 2004) applies the Livingston and Lewis (1995) method. Across all subjects and grade levels, the overall decision accuracy ranged from the 0.72 to 0.81 while the decision consistency ranged from 0.63 to 0.72. It should be noted that the overall consistency and accuracy indices across the four performance levels should be lower than those based on two categories (discussed above). Dichotomous decisions between each adjacent pair of performance level classifications have consistency values that range from 0.82 to 0.97 (M = 0.89) and accuracy values that range from 0.87 to 0.98 (M = 0.92).

Table 18–7. Decision Consistency and Accuracy Results

Subject	Grade	Statistic	Overall	Bel. Basic/ Basic	Basic/ Proficient	Proficient/ Advanced
Mathematics	3	accuracy	0.78	0.93	0.92	0.93
Mathematics	3	consistency	0.70	0.91	0.89	0.90
Mathematics	4	accuracy	0.79	0.92	0.92	0.94
Mathematics	4	consistency	0.71	0.89	0.89	0.92
Mathematics	5	accuracy	0.78	0.91	0.92	0.95
Mathematics	5	consistency	0.69	0.87	0.89	0.93
Mathematics	6	accuracy	0.78	0.90	0.92	0.95
Mathematics	6	consistency	0.69	0.86	0.89	0.93
Mathematics	7	accuracy	0.80	0.92	0.93	0.95
Mathematics	7	consistency	0.72	0.88	0.90	0.93
Mathematics	8	accuracy	0.81	0.92	0.93	0.96
Mathematics	8	consistency	0.73	0.88	0.90	0.94
ELA	3	accuracy	0.78	0.94	0.91	0.93
ELA	3	consistency	0.69	0.92	0.87	0.90
ELA	4	accuracy	0.74	0.95	0.91	0.88
ELA	4	consistency	0.64	0.93	0.87	0.84
ELA	5	accuracy	0.75	0.94	0.89	0.92
ELA	5	consistency	0.65	0.92	0.84	0.88
ELA	6	accuracy	0.75	0.96	0.89	0.90
ELA	6	consistency	0.65	0.94	0.85	0.86
ELA	7	accuracy	0.76	0.98	0.87	0.91
ELA	7	consistency	0.66	0.97	0.82	0.87
ELA	8	accuracy	0.72	0.94	0.90	0.88
ELA	8	consistency	0.63	0.92	0.86	0.84
Science	4	accuracy	0.79	0.96	0.92	0.91
Science	4	consistency	0.71	0.95	0.89	0.87
Science	8	accuracy	0.75	0.93	0.91	0.91
Science	8	consistency	0.65	0.90	0.87	0.87

Note. Results derived using PSSA final data file (see Chapter Nine).

RATER AGREEMENT

Because open-ended items are included on the PSSAs, another source of random error is related to the scorers of those items. Frisbie (2005) noted that "test score reliability differs from scorer reliability" and that "the need for one kind of estimate cannot be satisfied by the other." Additionally, the data most easily obtainable that captures this information comes from the "10 percent read behinds" collected during the scoring process (see Chapter Eight for a description). Partly because of the way that this data is obtained and reported (i.e., it is not a ratio of true score variance over observed score variance), the term rater agreement or inter-rater agreement are used here, rather than rater reliability or inter-rater reliability as these terms are somewhat misleading as explained above.

FURTHER INTERPRETATIONS

For the PSSAs, both within-year and across-year rater consistency are available. As part of the data collected for that process, additional across-year rater consistency data is available for consideration.

RESULTS AND OBSERVATIONS

Within-year rater agreement information is provided in Chapter Eight. This information is reformatted in Tables 18–8 through 18–10 for PSSA mathematics, ELA, and science OE items, respectively. In addition, the percentages awarded to each score point are also presented in these tables. As seen from these tables, the inter-rater exact agreement percentages range from 84 percent to 95 percent for mathematics, 73 percent to 85 percent for ELA, and 83 percent to 97 percent for science. Mathematics had validity ranging from 87 percent to 95 percent; ELA had validity ranging from 75 percent to 84 percent; and science had validity ranging from 92 percent to 98 percent. (Validity in terms of scoring practices is discussed further in Chapter Eight.)

Table 18–8a. Inter-Rater Agreement for OE Items—Mathematics

Grade	Item	Percent Exact	Percent Adjacent	Validity
3	1	90	10	92
3	2	87	13	91
3	3	94	6	94
4	1	85	15	89
4	2	87	13	88
4	3	95	5	95
5	1	91	9	95
5	2	84	15	91
5	3	90	10	88
6	1	80	20	88
6	2	90	9	90
6	3	85	14	91
7	1	88	12	89
7	2	95	5	95
7	3	94	6	91
8	1	88	12	94
8	2	88	12	87
8	3	88	12	90

Note. For more information regarding validity, see the section on Handscoring Validity Process in Chapter Eight.

Table 18–8b. Percentage Awarded for Each Score Point for OE Items—Mathematics

Grade	Item	0	1	2	3	4	Blank or non-scoreable
3	1	20	22	20	21	14	2
3	2	24	29	19	14	9	5
3	3	16	26	27	17	12	2
4	1	15	27	24	19	11	4
4	2	21	32	21	13	3	8
4	3	28	28	27	7	6	4
5	1	26	34	18	12	7	3
5	2	30	23	18	14	8	7
5	3	20	46	9	19	3	3
6	1	33	25	17	13	9	4
6	2	45	20	10	9	7	9
6	3	19	18	18	13	28	4
7	1	35	22	16	15	6	6
7	2	42	28	11	5	4	11
7	3	31	31	24	7	2	6
8	1	19	25	16	17	15	8
8	2	30	33	10	9	5	13
8	3	25	27	16	16	8	8

Table 18–9a. Inter-Rater Agreement for OE Items—ELA

Grade	Item	Item Type	Exact	Adjacent	Validity
3	1	SA	73	27	79
3	2	SA	77	22	75
4	1	TDA	85	15	83
5	1	TDA	84	15	84
6	1	TDA	80	20	76
7	1	TDA	81	18	77
8	1	TDA	82	17	87

Note. EBSR items are machine scored because they are two-part MC like items and not shown in this table. For more information regarding validity, see the section on Handscoring Validity Process in Chapter Eight.

Table 18–9b. Percentage Awarded for Each Score Point for OE Items—ELA

Grade	Item	Item Type	0	1	2	3	4	Blank or non-scoreable
3	1	SA	11	37	36	9	-	6
3	2	SA	15	44	26	8	-	7
4	1	TDA	-	31	42	12	1	14
5	1	TDA	-	28	46	12	1	13
6	1	TDA	-	30	45	15	2	8
7	1	TDA	-	23	41	23	2	10
8	1	TDA	-	22	41	23	2	12

Note. EBSR items are machine scored because they are two-part MC like items and not shown in this table.

Table 18–10a. Inter-Rater Agreement for OE Items—Science

Grade	Item	Exact	Adjacent	Validity
4	1	83	15	92
4	2	87	13	93
4	3	89	11	97
4	4	84	16	92
4	5	90	10	96
8	1	93	7	93
8	2	97	3	98
8	3	97	3	97
8	4	92	8	96
8	5	81	19	88

Note. For more information regarding validity, see the section on Handscoring Validity Process in Chapter Eight.

Table 18–10b. Percentage Awarded for Each Score Point for OE Items—Science

Grade	Item	0	1	2	Blank or non-scoreable
4	1	20	34	41	4
4	2	23	44	28	4
4	3	52	24	18	6
4	4	23	51	22	4
4	5	36	35	24	4
8	1	34	45	13	8
8	2	59	28	2	10
8	3	26	58	6	9
8	4	43	27	20	10
8	5	11	48	34	7

CHAPTER NINETEEN: VALIDITY

As defined in the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), validity refers to "the degree to which evidence and theory support the interpretation of test scores entailed by proposed uses of tests" (p. 11). The *Standards* provides a framework for describing the sources of evidence that should be considered when evaluating validity. These sources include evidence based on 1) test content, 2) response processes, 3) the internal structure of the test, 4) the relationships between test scores and other variables, and 5) the consequences of testing. In addition, when Item Response Theory (IRT) models are used to analyze assessment data, validity considerations related to those processes should also be explored.

The validity process involves the collection of evidence from a variety of sources to support the proposed test score interpretations and uses. This technical report describes throughout, the technical aspects of the PSSA tests in support of their score interpretations and uses. Each of the previous chapters contributes important evidence components that pertain to score validation: test development, test administration, test scoring, item analysis, Rasch calibration, scaling, linking, score reporting, and reliability. This chapter summarizes and synthesizes the evidence based on the *Standards'* framework. The purposes and intended uses of PSSA test scores are reviewed first, then each type of validity evidence is addressed in turn.

PURPOSES AND INTENDED USES OF THE PSSA

The *Standards* emphasize that validity pertains to how test scores are used. To help contextualize the evidence that will be presented below, the purposes of the PSSA will be reviewed first. As stated in Chapter One, the purpose of the PSSA is to measure how well students acquire the knowledge and skills described in the *Pennsylvania Assessment Anchor Content Standards* (Assessment Anchors) as defined by the Eligible Content for mathematics, ELA, and Science. The intended uses of the PSSA are to:

1. Provide information for use in school and district accountability systems
2. Improve curricular and instructional practices to help students reach proficiency in the Pennsylvania Core Standards (ELA and Mathematics) or the Pennsylvania Academic Standards (Science)

TEST LENGTH REDUCTION

The Pennsylvania Department of Education (PDE) established new, reduced length PSSA test designs in 2017 for administration beginning in 2018. The PSSA test length reductions were designed to reduce PSSA testing burdens while maintaining rigor in test reliabilities, and test score validity arguments. The approved test design changes can be briefly summarized as:

- Mathematics
  - Proportional reduction of each reporting category
  - Grades 3-8: 72 to 52 total raw score points
- ELA
  - Removed writing prompt and selection of standalone multiple-choice language items
  - Grade 3: 62 to 45 total raw score points (weighted)
  - Grades 4-8: 84 to 63 total raw score points (weighted)
- Science
  - Proportional reduction of each reporting category
  - Grades 4 and 8: 68 to 48 total raw score points

The PSSA tests have been consistently constructed with attention to balancing content and statistical requirements to optimize test score reliability and validity. This remained true during construction of the reduced length tests. Although test reliability is influenced by test length (Spearman & Brown, 1910), the use of high quality items, with strong statistical features, can facilitate the production of reliable assessments under different test length scenarios. As discussed in Chapter Eighteen, reliability results for the shortened tests continued to show strong internal consistency of scores.

As there was a change to the test blueprint for ELA beyond a proportional reduction of the content, caution was used to ensure that the original 2015 standards appropriately defined performance on the reduced length ELA tests. Consequently, a standards validation was conducted in June of 2018 prior to formally reporting ELA scores. The purpose of the standards validation was to consider if the 2015 cut scores continued to reflect appropriate distinctions in performance on the ELA tests, given the removal of the writing prompt and nine language items. Pennsylvania educators participated in a four-day workshop to review the new tests and applied a modified Bookmark standard setting procedure. Results of the standards validation confirmed that the existing standards still appropriately classify examinee performance into the four levels of Below Basic, Basic, Proficient, and Advance. For example, a score of 1000 was determined to appropriately separate examinee performance on the ELA tests between the below basic and proficient levels. The same was true for each of the remaining cut scores for grades 3 through 8, below basic and advanced. Please refer to the Pennsylvania System of School Assessment Grades 3-8 English Language Arts Standards Validation 2018 Final Technical Report for full details regarding the standards validation design, implementation, committee review, and final results.

Beyond standards validation, the provision of ongoing of validity evidence will continue to be a central feature in the PSSA technical documentation. This chapter proceeds with a discussion of five sources of validity evidence for the PSSA, including studies that were conducted to evaluate the PSSAs for evidence of any shifts in the ELA construct related to the test design modification for ELA, i.e. removal of the writing prompt and nine language items.

EVIDENCE BASED ON TEST CONTENT

Test content validity evidence for the PSSA rests greatly on establishing a link between each component of the assessment (i.e., the items) and what the students should know and be able to do as required by the Assessment Anchors, Eligible Content, and/or the Academic Content Standards (refer to Chapter Two for a description of each of these elements). The PSSA tests are intended to measure students' knowledge and skills described in the Assessment Anchors as defined by the Eligible Content for mathematics, ELA, and science. Thus, the evidence supporting the alignment among the PSSA tasks, the Assessment Anchors as defined by the Eligible Content and the Academic Content Standards should be provided.

Lane (1999) suggests taking the following steps to support the content validity of tests:

- Evaluate the degree to which the test specifications represent and align with the knowledge and skills described in the Assessment Anchors as defined by the Eligible Content for mathematics, ELA, and science.
- Evaluate the alignment between the test items and test specifications to ensure representativeness.
- Evaluate the extent to which the curriculum aligns with the Assessment Anchors. If some contents are not included in the curriculum, then low scores on the test should not be interpreted as meaning that instruction was ineffective.
- Conduct content reviews of the test items using a panel of content experts to see whether they measure the intended construct or are the sources of construct-irrelevant variance.
- Conduct fairness reviews of the items to avoid issues related to a specific subpopulation.
- Evaluate procedures for administration and scoring, such as the appropriateness of instructions to examinees, time limit for the assessment, and training of raters.
- Submit operational tests to third-party, independent reviews.

Chapters Two through Eight of this report present evidence related to test content. As described in these chapters, all PSSA test blueprints (specifications) and items were developed and aligned with the PSSA Assessment Anchors and Eligible Content for mathematics, ELA, and science, consistently following well-established procedures. After the items were developed, they underwent multiple rounds of content and bias reviews. After they were field tested, they were reviewed with respect to their statistical properties. Items selected for the operational assessment had to pass content, psychometric, and PDE reviews. Tests were administered according to standardized procedures with allowable accommodations. The following summarizes the efforts described in in greater detail in Chapters Two through Eight:

- DRC used Webb's (1999) Depth of Knowledge (DOK) model to ensure the PSSA items aligned with the Assessment Anchors as defined by the Eligible Content and the Academic Content Standards in terms of both content and cognitive levels.
- DRC established detailed test and item/passage development specifications and ensured the items were sufficient in number and adequately distributed across content and levels of cognitive complexity and difficulty.
- DRC selected qualified item writers and provided training to help ensure they wrote high-quality items.
- Each newly-developed item was first reviewed by content specialists and editors at DRC to make sure that all items measured the intended Assessment Anchors, as defined by the Eligible Content for Mathematics, ELA, and Science. Appropriateness for the intended grade was also considered, as well as depth of knowledge, graphics, grammar/punctuation, language demand, and distractor reasonableness.
- Before field testing, the test items were submitted to content committees (composed of Pennsylvania educators) for review using, but not limited to, the following categories:
    - Overall quality and clarity
    - Anchor, eligible content, and/or standard alignment
    - Grade-level appropriateness
    - Difficulty level
    - Depth of knowledge
    - Appropriate sources of challenge (e.g., unintended content and skills)
    - Correct answer
    - Quality of distractors
    - Graphics
    - Appropriate language demand
    - Freedom from bias
- The items were also submitted to a Bias, Fairness, and Sensitivity Committee for review. This committee reviewed items for issues related to diversity, gender, and other pertinent factors.
- Items passing all the prior hurdles were tried out in a field test event. Several statistical analyses were conducted on the field test data, including classical item analyses, distractor analyses, and differential item functioning (DIF). Items were once again carefully reviewed by DRC staff and a committee of Pennsylvania teachers with respect to their statistical characteristics. DIF was used to detect test items that might bias test scores for subgroups. Empirical investigation of DIF strengthens the validity evidence related to score interpretations for student groups by eliminating potential sources of construct-irrelevant variance as such, DIF results might be better considered as internal structure validity evidence.

- The PSSA tests were administered according to standardized procedures with allowable accommodations and recommended testing times.
- As shown in Chapter Eight, the raters for open-ended (OE) items were carefully recruited and well trained. Their scoring was monitored throughout the scoring session to ensure that an acceptable level of scoring accuracy was maintained.

In addition to the foundational and routine procedures described above and in Chapters Two through Five, and summarized in Appendix C, two external studies were conducted to assess the alignment of the PSSA tests to the PSSA Assessment Anchors and Eligible Content. Achieve, Inc., Washington, D.C., conducted a preliminary review of the science Assessment Anchors in 2003 to evaluate the alignment with the Academic Standards and produced a follow-up report on the anchors in 2005.

EVIDENCE BASED ON RESPONSE PROCESSES

Response-process evidence is used to examine the extent to which the cognitive skills and processes employed by students match that identified in the test developer's defined construct domains for all students and for each subgroup. Think-aloud procedures or cognitive labs can be used to collect this type of evidence. In addition, when an assessment includes OE items, an examination of the extent to which the raters interpret and apply the scoring criteria accurately when assigning scores to students' responses on OE items also provides validity of the response-processes evidence.

For the PSSA science tests, DRC conducted a science cognitive lab study to gather relative information about the thinking processes students used to solve science scenario items. The use of the cognitive lab helped ensure that the intended response processes were employed by students.

For all the PSSA tests, well-organized scorer training and subsequent monitoring of rating accuracy helped ensure that raters strictly followed the scoring criteria to minimize rater biases that may affect their scoring. Refer to Chapter Eight for a detailed description of all hand-scoring procedures, and to Chapter Eighteen for statistical information regarding inter-rater reliability.

EVIDENCE BASED ON INTERNAL STRUCTURE

As described in the *Standards* (2014), internal-structure evidence refers to the degree to which the relationships between test items and test components conform to the construct on which the proposed test interpretations are based. For each PSSA test, one total test score as well as strand scores are reported (see Chapter Sixteen for more information about PSSA scores). Additionally, principle component and parallel analyses were conducted and provide strong internal-structure evidence of the unidimensionality of the PSSAs.

ITEM DIFFICULTY RANGES AND DISCRIMINATION

Multiple sources of evidence are provided that address the appropriateness of the range of difficulty and discrimination of the items on the PSSA tests. Plots of item *p*-values by point biserial correlations are provided in Chapter Eleven, and summary statistics are provided for IRT item difficulty parameters in Chapter Twelve.

ITEM RESPONSE THEORY DIMENSIONALITY

Results from principle component and parallel analyses were presented in Chapter Twelve. The PSSA mathematics, ELA and science tests are shown through a principle components analysis to be strongly unidimensional, providing evidence that the tests are measuring a single construct without undue irrelevant variance.

A confirmatory factor analysis was also applied to the 2017 original length and 2019 reduced length test data to assess the degree to which the intended construct for each test explains performance on the operational test items. Specifically, significant factor loadings, consistency of standardized variances of the unique factor scores, and model fit were examined across the CFA models for the original and reduced length tests, for each PSSA test.

Using *Mplus* (Muthén & Muthén, 1998-2012) a single factor model was specified for the original and reduced length tests, for each PSSA test as:

$$y_i = \tau + \Lambda\eta_i + \varepsilon_i$$

where y_2 is the outcome vector, t is the intercept vector, Λ is the factor loading matrix, η_i is the common factor score, and represents the unique factor scores. For each model, the factor variance was fixed to 1.0 for model identification purposes. As the indicators in these models are ordered categorical variables and likely violate the assumption of multivariate normality required for maximum likelihood estimation, the models were fit using robust weighted least squares estimation. Model fit was evaluated for each model using adjusted Chi-Square tests of fit (Satorra & Bentler, 1994; Asparouhov & Muthén, 2010), Root Mean Square Error of Approximation (RMSEA), and the comparative fit index (CFI). RMSEA values below 0.06 and CFI values of 0.90 and above were considered to represent good fit (Hu & Bentler, 1999).

Results for the single factor mathematics model show that factor loadings for all items are statistically significant, with most factor loading values falling above 0.30. This indicates that for both the 2017 and 2019 tests, the construct is explaining individual item performance reasonably well.

The Chi-square test of fit results for the CFAs show that, for all tests, the model does not fit perfectly in the population with p-values < 0.000. MacCallum (2001) notes that this is often the finding with larger sample sizes. Consistent with results from the shortened test in 2018, the RMSEA results indicate good fit for the 2019 PSSA with values ranging between 0.015 and 0.025 for the original length tests and between 0.018 and 0.026 for the reduced length tests. The CFI results also show good fit with values ranging from 0.926 to 0.972 for the original length tests and from 0.970 to 0.991 for the reduced length tests. Table 19-1 provide a summary of the CFA results for the 2019 PSSA.

Note that as the models are not nested, a direct statistical comparison of model fit would not be informative. Procedures that allows for the comparison of non-nested models such as Akaike's Information Criterion (AIC; Akaike, 1973) and the Bayesian Information Criterion (BIC; Schwarz, 1978) are designed primarily for model selection purposes, so are less useful here where the model has been chosen based on based on criteria external to the test.

Overall, the factor analysis results suggest that a single factor (the ELA construct as detailed in Chapter Two) is explaining the variance in responses well for both the 2017 and 2019 (Table 19-1) reduced length tests, supporting an overall conclusion of construct stability between the original and reduced length tests.

Table 19–1. CFA Model Fit for Reduced Length PSSAs – 2019

Subject	Grade	N Items	N	RMSEA	CFI	Chi-Square DF	Chi-Square Adj. *P*-Value
Mathematics	3	43	120604	0.023	0.983	860	<0.000
Mathematics	4	43	123286	0.021	0.986	860	<0.000
Mathematics	5	43	127592	0.021	0.984	860	<0.000
Mathematics	6	43	127496	0.025	0.977	860	<0.000
Mathematics	7	43	125808	0.019	0.988	860	<0.000
Mathematics	8	43	123186	0.019	0.988	860	<0.000
ELA	3	35	120564	0.020	0.985	560	<0.000
ELA	4	39	123172	0.016	0.991	702	<0.000
ELA	5	39	127550	0.020	0.982	702	<0.000
ELA	6	39	127560	0.021	0.979	702	<0.000
ELA	7	39	125998	0.024	0.970	702	<0.000
ELA	8	39	123503	0.020	0.986	702	<0.000
Science	4	43	123093	0.015	0.988	860	<0.000
Science	8	43	122654	0.016	0.986	860	<0.000

EVIDENCE RELATED TO THE USE OF THE RASCH MODEL

Since the Rasch model is the basis of all calibration, scaling, and linking analyses associated with the PSSA, the validity of the inferences from these results depends on the degree to which the assumptions of the model are met as well as the fit between the model and test data. As discussed at length in Chapter Twelve, the underlying assumptions of Rasch models were essentially met for all the PSSA data, indicating the appropriateness of using the Rasch models to analyze the PSSA data.

In addition, the Rasch model was also used to link science operational PSSA tests across years. The accuracy of the linking also affects the accuracy of student scores and the validity of score uses. As described in Chapter Fifteen, DRC Psychometric Services staff utilize a linking procedure previously vetted by the Pennsylvania National TAC. Moreover, DRC internal replication and review ensured the accuracy of the linking and equating results.

TEST RELIABILITY, ERRORS OF MEASUREMENT, AND DECISION CONSISTENCY AND ACCURACY

Reliability estimates, SEM, and decision consistency and accuracy results are presented in Chapter Eighteen and provide important evidence that the PSSA tests have strong internal consistency, expected measurement errors, and that examinees are being appropriately classified into performance levels based on the test scores and standards set on those scores.

STRAND CORRELATIONS

Correlations and disattenuated correlations between strand scores within each subject area are presented below. Values were computed using the PSSA final data file (see Chapter Nine). This data can also provide information on score dimensionality that is part of internal-structure validity evidence. As noted in Chapter Two, the PSSA mathematics tests have four strands (denoted by M.A, M.B, M.C, and M.D). The PSSA ELA tests have four strands (denoted by E.A, E.B, E.D, and E.E), except grade 3 which has three strands (E.A, E.B, and E.D). Note again that E.C (writing prompt) for all grades was removed in the 2019 tests. The PSSA science tests have four strands (denoted by S.A, S.B, S.C, and S.D).

For each grade, Pearson's correlation coefficients between these strands are reported in Tables 19–2a through 19–2f. The inter-correlations between the strands within the content areas are positive and generally range from moderate to high in value, and correlations between strands across content areas are generally slightly lower, providing contrasting evidence of convergent and discriminant validity.

Table 19–2a. Correlations between Mathematics and ELA Strands for Grade 3

	M.A	M.B	M.C	M.D	E.A	E.B	E.D
M.A	-						
M.B	0.80	-					
M.C	0.64	0.62	-				
M.D	0.81	0.80	0.66	-			
E.A	0.69	0.69	0.58	0.69	-		
E.B	0.71	0.71	0.59	0.72	0.78	-	
E.D	0.61	0.60	0.51	0.61	0.63	0.63	-

Table 19–2b. Correlations between Mathematics, ELA, and Science Strands for Grade 4

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	E.E	S.A	S.B	S.C	S.D
M.A	-											
M.B	0.81	-										
M.C	0.70	0.68	-									
M.D	0.77	0.75	0.68	-								
E.A	0.67	0.65	0.61	0.62	-							
E.B	0.70	0.69	0.63	0.64	0.79	-						
E.D	0.63	0.62	0.57	0.57	0.65	0.66	-					
E.E	0.50	0.49	0.46	0.47	0.53	0.53	0.49	-				
S.A	0.73	0.72	0.68	0.69	0.76	0.76	0.65	0.52	-			
S.B	0.61	0.60	0.56	0.56	0.62	0.63	0.53	0.41	0.71	-		
S.C	0.58	0.56	0.54	0.54	0.57	0.58	0.49	0.38	0.65	0.56	-	
S.D	0.58	0.57	0.53	0.54	0.56	0.58	0.49	0.38	0.64	0.55	0.51	-

Table 19–2c. Correlations between Mathematics and ELA Strands for Grade 5

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	E.E
M.A	-							
M.B	0.68	-						
M.C	0.74	0.58	-					
M.D	0.75	0.59	0.66	-				
E.A	0.68	0.55	0.60	0.57	-			
E.B	0.71	0.59	0.63	0.63	0.74	-		
E.D	0.58	0.48	0.51	0.50	0.59	0.61	-	
E.E	0.56	0.45	0.49	0.45	0.59	0.57	0.48	-

Table 19–2d. Correlations between Mathematics and ELA Strands for Grade 6

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	E.E
M.A	-							
M.B	0.76	-						
M.C	0.75	0.72	-					
M.D	0.71	0.66	0.66	-				
E.A	0.69	0.65	0.62	0.60	-			
E.B	0.69	0.65	0.61	0.59	0.75	-		
E.D	0.59	0.57	0.54	0.52	0.63	0.60	-	
E.E	0.54	0.50	0.48	0.48	0.56	0.53	0.49	-

Table 19–2e. Correlations between Mathematics and ELA Strands for Grade 7

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	E.E
M.A	-							
M.B	0.83	-						
M.C	0.71	0.68	-					
M.D	0.72	0.68	0.61	-				
E.A	0.65	0.63	0.53	0.57	-			
E.B	0.66	0.64	0.54	0.58	0.70	-		
E.D	0.60	0.59	0.51	0.53	0.59	0.59	-	
E.E	0.52	0.53	0.43	0.45	0.52	0.52	0.47	-

Table 19–2f. Correlations between Mathematics, ELA, and Science Strands for Grade 8

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	E.E	S.A	S.B	S.C	S.D
M.A	-											
M.B	0.70	-										
M.C	0.61	0.76	-									
M.D	0.58	0.75	0.63	-								
E.A	0.51	0.69	0.56	0.58	-							
E.B	0.54	0.73	0.60	0.61	0.77	-						
E.D	0.50	0.65	0.56	0.55	0.62	0.65	-					
E.E	0.46	0.61	0.50	0.50	0.61	0.59	0.51	-				
S.A	0.59	0.78	0.66	0.66	0.73	0.76	0.65	0.58	-			
S.B	0.45	0.60	0.51	0.50	0.60	0.61	0.51	0.50	0.65	-		
S.C	0.47	0.62	0.54	0.52	0.59	0.62	0.52	0.45	0.68	0.55	-	
S.D	0.42	0.55	0.48	0.46	0.51	0.53	0.46	0.39	0.59	0.47	0.51	-

The correlations in Tables 19–2a through 19–2f are based on the observed strand scores. These observed-score correlations are weakened by the existing measurement error contained within each strand. As a result, disattenuating the observed correlations can provide an estimate of the relationships between strands if there were

no measurement error. (An important caveat is provided further below.) The disattenuated correlation coefficients (R_{xy}) can be computed by using the formula (Spearman 1904, 1910) below:

$$R_{xy} = \frac{r_{xy}}{\sqrt{r_{xx} r_{yy}}},$$

where r_{xy} is the observed correlation, and r_{xx} and r_{yy} are the reliabilities for strand X and strand Y. Disattenuated correlations very near 1.00 might suggest that the same or very similar constructs are being measured. Values somewhat less than 1.00 might suggest that different strands are measuring slightly different aspects of the same construct. Values markedly less than 1.00 might suggest the strands reflect different constructs.

Tables 19–3a through 19–3f show the corresponding disattenuated correlations for the 2019 PSSA tests for each grade. Note that with ELA, text dependent analysis (TDA) items belongs to a separate strand and is the only item for the strand. Given that this strand (E.E) has only one item, reliability cannot be computed. Therefore, disattenuated correlation cannot be computed with these strands and is not included in Table 19-3. Where reliability can be computed, the disattenuated strand correlations are higher than their observed score counterparts, given that strand scores do not have perfect reliabilities (see Chapter Eighteen).

Some within-subject correlations are very high (e.g., above 0.95), suggesting that the within-subject strands appear to be measuring essentially the same construct. This, in turn, suggests that some strand scores might not provide entirely unique information about the strengths or weaknesses of students.

Table 19–3a. Disattenuated Strand Correlations for Mathematics and ELA for Grade 3

	M.A	M.B	M.C	M.D	E.A	E.B	E.D
M.A	-						
M.B	1.07	-					
M.C	0.95	0.91	-				
M.D	1.06	1.04	0.95	-			
E.A	0.92	0.91	0.85	0.90	-		
E.B	0.93	0.92	0.85	0.92	1.02	-	
E.D	0.89	0.87	0.83	0.87	0.91	0.90	-

Table 19–3b. Disattenuated Strand Correlations for Mathematics and ELA for Grade 4

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	S.A	S.B	S.C	S.D
M.A	-										
M.B	1.03	-									
M.C	1.06	1.06	-								
M.D	1.01	1.00	1.09	-							
E.A	0.84	0.83	0.94	0.81	-						
E.B	0.87	0.87	0.97	0.84	0.98	-					
E.D	0.88	0.89	0.98	0.85	0.92	0.94	-				
S.A	0.90	0.90	1.02	0.88	0.93	0.94	0.90	-			
S.B	0.86	0.86	0.98	0.83	0.89	0.90	0.85	1.00	-		
S.C	0.90	0.90	1.02	0.88	0.89	0.90	0.86	1.00	1.00	-	
S.D	0.93	0.94	1.03	0.91	0.91	0.93	0.90	1.01	1.00	1.02	-

Table 19–3c. Disattenuated Strand Correlations for Mathematics and ELA for Grade 5

	M.A	M.B	M.C	M.D	E.A	E.B	E.D
M.A	-						
M.B	1.01	-					
M.C	1.11	1.11	-				
M.D	0.97	0.97	1.09	-			
E.A	0.85	0.88	0.95	0.78	-		
E.B	0.88	0.91	0.98	0.86	0.96	-	
E.D	0.85	0.88	0.96	0.81	0.92	0.93	-

Table 19–3d. Disattenuated Strand Correlations for Mathematics and ELA for Grade 6

	M.A	M.B	M.C	M.D	E.A	E.B	E.D
M.A	-						
M.B	1.03	-					
M.C	1.06	1.09	-				
M.D	0.97	0.97	1.01	-			
E.A	0.89	0.90	0.90	0.84	-		
E.B	0.90	0.91	0.91	0.84	1.01	-	
E.D	0.87	0.91	0.91	0.83	0.95	0.94	-

Table19–3e. Disattenuated Strand Correlations for Mathematics and ELA for Grade 7

	M.A	M.B	M.C	M.D	E.A	E.B	E.D
M.A	-						
M.B	1.05	-					
M.C	1.03	1.05	-				
M.D	1.00	1.02	1.02	-			
E.A	0.83	0.86	0.82	0.85	-		
E.B	0.88	0.92	0.88	0.90	1.00	-	
E.D	0.87	0.91	0.89	0.89	0.92	0.95	-

Table 19–3f. Disattenuated Strand Correlations for Mathematics, ELA, and Science for Grade 8

	M.A	M.B	M.C	M.D	E.A	E.B	E.D	S.A	S.B	S.C	S.D
M.A	-										
M.B	0.98	-									
M.C	1.05	1.08	-								
M.D	0.97	1.04	1.08	-							
E.A	0.75	0.84	0.83	0.83	-						
E.B	0.80	0.89	0.90	0.89	0.98	-					
E.D	0.86	0.91	0.96	0.93	0.92	0.97	-				
S.A	0.85	0.94	0.97	0.94	0.91	0.96	0.94	-			
S.B	0.81	0.90	0.93	0.90	0.93	0.96	0.92	1.01	-		
S.C	0.81	0.89	0.94	0.89	0.88	0.93	0.90	1.00	1.00	-	
S.D	0.82	0.88	0.95	0.89	0.85	0.90	0.89	0.98	0.98	1.02	-

Some caution is needed in interpreting the disattenuated results because the reliabilities used to calculate the disattenuated correlations are subject to both upward and downward biases. (These are also discussed in some detail in Chapter Eighteen.) Consequently, some of the values tabled above may be higher or lower than they should be, depending on which bias prevails for any given pair of strand scores. When the reliabilities are lower than they should be, the disattenuated correlations will be inflated (and in some instances, can appear larger than the theoretical correlation maximum value of 1.00).

EVIDENCE BASED ON RELATIONSHIPS WITH OTHER VARIABLES

As described in the *Standards* (2014), "Evidence based on relationships with other variables provides evidence about the degree to which relationships are consistent with the construct underlying the proposed test score interpretations" (p. 16). This category of evidence is classified by three types—convergent, discriminant, and criterion-related evidence. Convergent evidence is provided by relationships between students' performance on different assessments intended to measure a similar construct. Discriminant evidence is provided by relationships between students' performance on different tests intended to measure different constructs. Criterion-related evidence, either predictive or concurrent, is provided by relationships between students' test scores and their performance on a criterion measure (Cronbach, 1971; Messick, 1989).

Evidence of the relationship of the PSSA with other variables for previous PSSA mathematics and reading tests has been examined by HumRRO in a series of independent studies using 2001–2003 PSSA data (Koger, Thacker & Dickinson, 2004; Sinclair & Thacker, 2005; Thacker, Dickinson, & Koger, 2004).

As useful validity studies rely heavily on the technical quality of the criteria measures, the Pennsylvania Classroom Diagnostic Tools (CDT) assessments were used to assess convergent and discriminant validity. The CDT is a well-documented high-quality computer-based series of assessments aligned to the same Assessment Anchors and Eligible Content as the PSSA tests. Table 19-4 shows the correlations between the PSSA and CDT assessments. The within subject correlations are strong, ranging from 0.756 to 0.83, where performance on mathematics-based assessments is slightly stronger than ELA. This illustrates a strong positive relationship between the PSSA and the CDT where the subjects are the same or similar. Conversely, the correlations between different content areas in 2019 are noticeably lower, ranging from 0.67 to 0.74. These patterns demonstrate reasonable convergent and discriminant validity of performance on PSSA.

Table 19–4. Correlations among Student Performance on PSSA and CDT

PSSA	CDT	N	R
ELA Grade 3	Mathematics- Lower Grades	21418	0.71
ELA Grade 3	Reading - Lower Grades	18951	0.80
ELA Grade 3	Science - Lower Grades	2086	0.75
ELA Grade 3	Writing - Lower Grades	1963	0.78
ELA Grade 4	Mathematics- Lower Grades	23409	0.73
ELA Grade 4	Reading - Lower Grades	20710	0.82
ELA Grade 4	Science - Lower Grades	12407	0.75
ELA Grade 4	Writing - Lower Grades	2349	0.81
ELA Grade 5	Mathematics- Lower Grades	27200	0.73
ELA Grade 5	Reading - Lower Grades	23568	0.82
ELA Grade 5	Science - Lower Grades	4321	0.77
ELA Grade 5	Writing - Lower Grades	3336	0.78
ELA Grade 6	Mathematics	30747	0.73
ELA Grade 6	Reading/Literature	25663	0.79
ELA Grade 6	Science	11748	0.74
ELA Grade 6	Writing/English Comprehension	5051	0.79
ELA Grade 7	Mathematics	33113	0.72
ELA Grade 7	Reading/Literature	29167	0.79
ELA Grade 7	Science	17771	0.72
ELA Grade 7	Writing/English Comprehension	7861	0.77
ELA Grade 8	Mathematics	27494	0.73
ELA Grade 8	Reading/Literature	28428	0.78
ELA Grade 8	Science	28297	0.71
ELA Grade 8	Writing/English Comprehension	6957	0.75
Math Grade 3	Mathematics- Lower Grades	21400	0.79
Math Grade 3	Reading - Lower Grades	18947	0.73
Math Grade 3	Science - Lower Grades	2090	0.72
Math Grade 3	Writing - Lower Grades	1966	0.70
Math Grade 4	Mathematics- Lower Grades	23412	0.81
Math Grade 4	Reading - Lower Grades	20712	0.73
Math Grade 4	Science - Lower Grades	12422	0.69
Math Grade 4	Writing - Lower Grades	2352	0.69
Math Grade 5	Mathematics- Lower Grades	27187	0.80
Math Grade 5	Reading - Lower Grades	23567	0.71
Math Grade 5	Science - Lower Grades	4332	0.68
Math Grade 5	Writing - Lower Grades	3333	0.67
Math Grade 6	Mathematics	30743	0.82
Math Grade 6	Reading/Literature	25650	0.71

Table 19–4 (continued). Correlations among Student Performance on PSSA and CDT

PSSA	CDT	N	R
Math Grade 6	Science	11730	0.68
Math Grade 6	Writing/English Comprehension	5044	0.70
Math Grade 7	Mathematics	33055	0.83
Math Grade 7	Reading/Literature	29124	0.72
Math Grade 7	Science	17757	0.71
Math Grade 7	Writing/English Comprehension	7849	0.70
Math Grade 8	Mathematics	27431	0.80
Math Grade 8	Reading/Literature	28342	0.71
Math Grade 8	Science	28228	0.68
Math Grade 8	Writing/English Comprehension	6932	0.67
Science Grade 4	Mathematics- Lower Grades	23376	0.73
Science Grade 4	Reading - Lower Grades	20677	0.77
Science Grade 4	Science - Lower Grades	12392	0.78
Science Grade 4	Writing - Lower Grades	2347	0.73
Science Grade 8	Mathematics	27328	0.74
Science Grade 8	Reading/Literature	28227	0.76
Science Grade 8	Science	28136	0.77
Science Grade 8	Writing/English Comprehension	6902	0.70

To further assess discriminant validity for the 2019 PSSA tests, correlations between students' test scores on different PSSA tests, including mathematics, ELA, and science are shown in Table 19–5. In this table, both the observed and disattenuated correlations are reported.

Table 19–5. Correlations among Students' Performance on All PSSA Tests

Grade	Mathematics/ELA	Mathematics/Science	ELA/Science
3	0.82 (0.91)		
4	0.79 (0.89)	0.81 (0.90)	0.82 (0.93)
5	0.79 (0.90)		
6	0.80 (0.91)		
7	0.77 (0.90)		
8	0.79 (0.90)	0.81 (0.90)	0.83 (0.95)

Note. Numbers in the parenthesis are disattenuated correlations. The PSSA final data file was used for these calculations (see Chapter Nine). Case-wise elimination of missing data was used.

Each PSSA assessment measures a different construct, so the correlations between them were not expected to be extremely high. The values in this table are consistent with this expectation. As can be seen, the correlations between the PSSA subject tests range from 0.77 to 0.83.

As 2015 was the first year of new PSSA mathematics and ELA, several additional analyses were conducted in 2017 in support of the federal peer review process for the PSSA. These studies included 1) an analysis of how well the PSSA scores predict performance (predictive validity) on high school exams in Algebra I and Literature (Keystone exams), and 2) multiple comparisons of PSSA mathematics and ELA results with other external criteria. These studies provide additional evidence in support of arguments for the convergent and discriminant validity of the PSSA test results detailed in the 2015 and 2016 PSSA Technical Reports referenced above. This report provides a summary of these seven additional analyses and results:

- Keystone predictions
- PSSA relation to other variables:
    - PSSA mathematics and ELA relationship with NAEP
    - PSSA mathematics and ELA relationship with Classroom Diagnostic Tools (CDT)
    - PSSA ELA relationship with GRADE (Group Reading Assessment and Diagnostic Evaluation) literacy assessments
    - PSSA mathematics and ELA relationship with Terra Nova Complete Battery ELA and mathematics
    - PSSA mathematics and ELA relationship with teacher ratings of student proficiency
    - PSSA mathematics and ELA subscore correlations

The results of these analyses provide reasonably strong evidence of the convergent and discriminant validity of the PSSA, as well its predictive relationship with college and career readiness expectations. Results for this set of analyses are reported in Appendix T of the 2018 PSSA Technical Report.

EVIDENCE BASED ON CONSEQUENCES OF TESTING

Based on the *Standards* (2014), evidence supporting the appropriateness of the consequences of testing is an additional source of validity information. Often, this part of the validity argument for a test includes evidence that the test serves all students comparably. The most common methods that are used for this purpose are those that examine the invariance of construct measurement across student groups, and those that seek to detect bias in test content that might lead to some construct irrelevant variation in examinee responses.

As reported in Chapter Five and Appendix F, review and consideration of differential item functioning results with respect to gender and ethnicity offers some evidence that construct-irrelevant variance affecting these groups differentially is not present. The presence of construct-irrelevant variance is generally considered to be a serious a threat to the validity of inferences made from test scores, where those differences are due to content that is unrelated to the intended construct for one or more groups. A distinct limitation of DIF methods is that they treat such variance at the examinee group level and not at the individual level. As not all members of a defined group can ever be assumed to share the exact same characteristics, it can be inappropriate to generalize the group level results to all group members. Nevertheless, the presence of suspected group level construct irrelevant variance may indicate the need to review and reconsider the inclusion of items that have been statistically flagged for DIF. As noted in that chapter, field test items are screened and reviewed for DIF. Only items approved by teacher committees are eligible for operational use.

Additionally, analyses were conducted to assess the comparability of scores across paper-pencil and computer-based modes of assessment (PPT and CBT) by evaluating differences in person fit. Results of these analyses indicate that the PSSA tests are functioning similarly across mode and mode by subgroups. Refer to Appendix S for a detailed discussion of these analyses and findings.

A comprehensive independent study of the invariance of scores across accommodations was also conducted by Sireci and Wells (2016) with results that support claims of measurement invariance across the PSSA tests for accommodated groups with sufficient cases for analysis.

As evidence of consequential validity is related to its uses, as well as to statistical measures of invariance, it is difficult to directly measure all aspects of consequential validity. Test data provide important evidence of the validity of PSSA scores for their intended uses, and as such, may serve to warrant the intended purpose and use that is defined in this technical report and supporting documentation. Generally, the results of the many content development and review procedures, and the statistical analyses discussed throughout this report, provide evidence that PSSA scores are sufficiently comparable across all examinees, regardless of conditions of gender, ethnicity, test mode, and accommodations used. This has remained true under the reduced test length design. Population invariance, however, will be monitored annually for violations.

Regarding the use of test scores, Chapter Sixteen provides an explanation of the different types of scores and shows samples of the various score reports distributed for the PSSA. Chapter Sixteen also provides accurate and clear test score and report information to help users avoid unintended uses and interpretations of the PSSA results. The extent to which various groups of users (e.g., students, teachers, and parents) interpret these scores and reports appropriately affects the validity of subsequent uses of these results. PDE continues to gather evidence to improve or guide decisions pertaining to all aspects of intended and unintended consequences of the PSSA program.

VALIDITY EVIDENCE SUMMARY

Validity evidence related to test content was reviewed earlier in this chapter. Overall, the early chapters of this technical report show that a strong link can be established between each PSSA item and its associated eligible content. Details regarding how the PSSA operational assessments were assembled to reflect the state content standards and detailed information regarding educator reviews (including content, bias, data, and sensitivity reviews) are presented in Chapters Three and Five.

Evidence of the validity of score interpretations is also provided as it relates to response processes. Cognitive labs for Science scenario-based items showed that examinees were responding as intended and routine hand-scoring processes describe in Chapter Eight provide evidence that ratings show reasonable consistency and that rigorous scoring processes are in place to reduce rater bias and increase consistency.

Evidence of the validity related to internal test structure is provided through the results of multiple analyses including, high test score reliabilities, reasonable SEM and CSEM values, good decision consistency and accuracy, strongly unidimensional constructs, and selections of items that have appropriate difficulty ranges, and discriminate performance well.

Strand score inter-correlations are also presented in this chapter. In general, within-subject-area strands (e.g., mathematics) correlate more highly with themselves than they do with other subject-area strands (e.g., ELA). These results, as well as the additional analyses of the relationship between the PSSA ELA and Mathematics tests with other established measures and classroom performance provides evidence of their convergent, discriminant and predictive validity.

A study of the relationship of PSSA scores with CDT scores shows a strong relationship between similar content areas, and a slightly weaker relationship across different content areas, providing useful convergent and discriminant validity evidence.

Last, evidence that PSSA test scores are largely invariant across multiple subgroups of students is also provided through the results of DIF analyses and subsequent item selection processes, a multi-method study on the invariance of accommodated test scores, and a person fit analysis to investigate the comparability of scores from different modes of administration for different populations of students.

APPENDIX A: GENERAL SCORING GUIDELINES

GENERAL DESCRIPTION OF SCORING GUIDELINES FOR READING SHORT-ANSWER QUESTIONS

GENERAL DESCRIPTION OF SCORING GUIDELINES FOR READING SHORT-ANSWER QUESTIONS

3 Points

- The response provides a complete answer to the task (e.g., a statement that offers a correct answer as well as text-based support).
- The response provides specific, appropriate, and accurate details (e.g., naming, describing, explaining, or comparing) or examples.

2 Points

- The response provides a partial answer to the task (e.g., indicates some awareness of the task and at least one text-based detail).
- The response attempts to provide sufficient, appropriate details (e.g., naming, describing, explaining, or comparing) or examples; may contain minor inaccuracies.

1 Point

- The response provides an incomplete answer to the task (e.g., indicating either a misunderstanding of the task or no text-based details).
- The response provides insufficient or inappropriate details or examples that have a major effect on accuracy.
- The response consists entirely of relevant copied text.

0 Points

- The response provides insufficient material for scoring.
- The response is inaccurate in all aspects.

Categories within zero reported separately:

BLK (blank).....No response or written refusal to respond or too brief to determine response

OT .....Off task/topic

LOE.....Response in a language other than English

IL.....Illegible

TEXT-DEPENDENT ANALYSIS SCORING GUIDELINES

Score	Description
4	• Effectively addresses all parts of the task demonstrating in-depth analytic understanding of the text(s) • Effective introduction, development, and conclusion identifying an opinion, topic, or controlling idea related to the text(s) • Strong organizational structure that effectively supports the focus and ideas • Thorough analysis of explicit and implicit meanings from text(s) to effectively support claims, opinions, ideas, and inferences • Substantial, accurate, and direct reference to the text(s) using relevant key details, examples, quotes, facts, and/or definitions • Substantial reference to the main idea(s) and relevant key details of the text(s) to support the writer's purpose • Skillful use of transitions to link ideas • Effective use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events • Few errors, if any, are present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present do not interfere with meaning
3	• Adequately addresses all parts of the task demonstrating sufficient analytic understanding of the text(s) • Clear introduction, development, and conclusion identifying an opinion, topic, or controlling idea related to the text(s) • Appropriate organizational structure that adequately supports the focus and ideas • Clear analysis of explicit and implicit meanings from text(s) to support claims, opinions, ideas, and inferences • Sufficient, accurate, and direct reference to the text(s) using relevant details, examples, quotes, facts, and/or definitions • Sufficient reference to the main idea(s) and relevant key details of the text(s) to support the writer's purpose • Appropriate use of transitions to link ideas • Appropriate use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events • Some errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present seldom interfere with meaning

Score	Description
2	• Inconsistently addresses some parts of the task demonstrating partial analytic understanding of the text(s) • Weak introduction, development, and/or conclusion identifying an opinion, topic, or controlling idea somewhat related to the text(s) • Weak organizational structure that inconsistently supports the focus and ideas • Weak or inconsistent analysis of explicit and/or implicit meanings from text(s) that somewhat supports claims, opinions, ideas, and inferences • Vague reference to the text(s) using some details, examples, quotes, facts, and/or definitions • Weak reference to the main idea(s) and relevant details of the text(s) to support the writer's purpose • Inconsistent use of transitions to link ideas • Inconsistent use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events • Errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present may interfere with meaning
1	• Minimally addresses part(s) of the task demonstrating inadequate analytic understanding of the text(s) • Minimal evidence of an introduction, development, and/or conclusion • Minimal evidence of an organizational structure • Insufficient or no analysis of the text(s); may or may not support claims, opinions, ideas, and inferences • Insufficient reference to the text(s) using few details, examples, quotes, facts, and/or definitions • Minimal reference to the main idea(s) and/or relevant details of the text(s) • Few, if any, transitions to link ideas • Little or no use of precise language or domain-specific vocabulary drawn from the text(s) • Many errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present often interfere with meaning

GENERAL DESCRIPTION OF SCORING GUIDELINES FOR MATHEMATICS OPEN-ENDED QUESTIONS

4 – The response demonstrates a *thorough* understanding of the mathematical concepts and procedures required by the task.

The response provides correct answer(s) with clear and complete mathematical procedures shown and a correct explanation, as required by the task. Response may contain a minor "blemish" or omission in work or explanation that does not detract from demonstrating a *thorough* understanding.

3 – The response demonstrates a *general* understanding of the mathematical concepts and procedures required by the task.

The response and explanation (as required by the task) are mostly complete and correct. The response may have minor errors or omissions that do not detract from demonstrating a *general* understanding.

2 – The response demonstrates a *partial* understanding of the mathematical concepts and procedures required by the task.

The response is somewhat correct with *partial* understanding of the required mathematical concepts and/or procedures demonstrated and/or explained. The response may contain some work that is incomplete or unclear.

1 – The response demonstrates a *minimal* understanding of the mathematical concepts and procedures required by the task.

0 – The response has no correct answer and *insufficient* evidence to demonstrate any understanding of the mathematical concepts and procedures required by the task for that grade level.

Response may show only information copied from the question.

Special Categories within zero reported separately:

BLK (blank).....Blank, entirely erased, or written refusal to respond
OT.....Off task
LOE .....Response in a language other than English
IL .....Illegible

GENERAL DESCRIPTION OF SCORING GUIDELINES FOR SCIENCE OPEN-ENDED QUESTIONS

GENERAL 2-POINT SCORING GUIDELINES FOR SCIENCE

2 – The response demonstrates a *thorough* understanding of the scientific content, concepts, and procedures required by the task(s).

The response provides a clear, complete, and correct response as required by the task(s). The response may contain a minor blemish or omission in work or explanation that does not detract from demonstrating a *thorough* understanding.

1 – The response demonstrates a *partial* understanding of the scientific content, concepts, and procedures required by the task(s).

The response is somewhat correct with *partial* understanding of the required scientific content, concepts, and/or procedures demonstrated and/or explained. The response may contain some work that is incomplete or unclear.

0 – The response provides *insufficient* evidence to demonstrate any understanding of the scientific content, concepts, and procedures as required by the task(s) for that grade level.

The response may show only information copied or rephrased from the question or *insufficient* correct information to receive a score of 1.

Special categories within zero reported separately:

BLK (blank) – No response or written refusal to respond or too brief to determine response
OT – Off task/topic
LOE – Response in a language other than English
IL – Illegible

APPENDIX B: TALLY SHEETS

Grade 03 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-T: Numbers and Operations in Base Ten	1			Use place-value understanding and properties of operations to perform multi-digit arithmetic.														
	1	1		Apply place-value strategies to solve problems.	2				2		2	2				2		2
	1	1	1	Round two- and three-digit whole numbers to the nearest ten or hundred, respectively.	2				2		2	2				2		2
	1	1	2	Add two- and three-digit whole numbers and/or subtract two- and three-digit numbers from three-digit whole numbers.	1		1		2		2	1		1		2		2
	1	1	3	Multiply one-digit whole numbers by two-digit multiples of ten.	1		1		2		2	1		1		2		2
	1	1	4	Order a set of whole numbers from least to greatest or greatest to least.	1				1		1	1				1		1
	Total for Assessment Anchor A-T.1 Use place-value understanding and properties of operations to perform multi-digit arithmetic.				7		2		9		9	7		2		9		9
Total For Reporting Category A-T					7		2		9		9	7		2		9		9

Grade 03 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-F: Numbers and Operations—Fractions	1			Develop an understanding of fractions as numbers.	1				1		1	1				1		1
	1	1		Develop and apply number theory concepts to compare quantities and magnitudes of fractions and whole numbers.			1		1		1			1		1		1
	1	1	1	Demonstrate that when a whole or set is partitioned into y equal parts, the fraction 1/y represents 1 part of the whole and/or the fraction x/y represents x equal parts of the whole.		4				4	4		1				1	1
	1	1	2	Represent fractions on a number line.														
	1	1	3	Recognize and generate simple equivalent fractions.														
	1	1	4	Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers.	1		1		2		2	1		1		2		2
	1	1	5	Compare two fractions with the same denominator, using the symbols >, =, or <, and/or justify the conclusions.	1				1		1	1				1		1
	Total for Assessment Anchor A-F.1 Develop an understanding of fractions as numbers.				3	4	2		5	4	9	3	1	2		5	1	6
Total For Reporting Category A-F					3	4	2		5	4	9	3	1	2		5	1	6

Grade 03 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
B-O: Operations and Algebraic Thinking	1			Represent and solve problems involving multiplication and division.														
	1	1		Understand various meanings of multiplication and division.														
	1	1	1	Interpret and/or describe products of whole numbers.	1				1		1	1				1		1
	1	1	2	Interpret and/or describe whole-number quotients of whole numbers.	1		1		2		2	1		1		2		2
	1	2		Solve mathematical and real-world problems using multiplication and division, including determining a missing number in a multiplication and/or division equation.														
	1	2	1	Use multiplication and/or division to solve word problems in situations involving equal groups, arrays, and/or measurement quantities.	1				1		1	1				1		1
	1	2	2	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-O.1 Represent and solve problems involving multiplication and division.				4		2		6		6	4		2		6		6
	2			Understand properties of multiplication and the relationship between multiplication and division.	1				1		1	1				1		1
	2	1		Use properties to simplify and solve multiplication problems.														
	2	1	1	Apply the commutative property of multiplication (not identification or definition of the property).	1				1		1	1				1		1
	2	1	2	Apply the associative property of multiplication (not identification or definition of the property).	1				1		1	1				1		1
	2	2		Relate division to a missing-number multiplication equation.														
	2	2	1	Interpret and/or model division as a multiplication equation with an unknown factor.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-O.2 Understand properties of multiplication and the relationship between multiplication and division.				4		1		5		5	4		1		5		5

3			Solve problems involving the four operations, and identify and explain patterns in arithmetic.		4				4	4		1				1	1
3	1		Use operations, patterns, and estimation strategies to solve problems (may include word problems).	1		1		2		2	1		1		2		2
3	1	1	Solve two-step word problems using the four operations. Limit to problems with whole numbers and having whole-number answers.														
3	1	2	Represent two-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers.	1		1		2		2	1		1		2		2
3	1	3	Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers.														
3	1	4	Solve two-step equations using order of operations (equation is explicitly stated with no grouping symbols).														
3	1	5	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations.														
3	1	6	Create or match a story to a given combination of symbols and numbers.	1				1		1	1				1		1
3	1	7	Identify the missing symbol that makes a number sentence true.			1		1		1			1		1		1
Total For Assessment Anchor B-O.3 Solve problems involving the four operations, and identify and explain patterns in arithmetic.				3	4	3		6	4	10	3	1	3		6	1	7
Total For Reporting Category B-O				11	4	6		17	4	21	11	1	6		17	1	18

Grade 03 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items Core		Number of Items EB		Total Number of Items (Core & EB)		
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
C-G: Geometry	1			Reason with shapes and their attributes.	1				1		1	1				1		1
	1	1		Analyze characteristics of polygons.	2		1		3		3	2		1		3		3
	1	1	1	Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category.	1		1		2		2	1		1		2		2
	1	1	2	Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories.	2		1		3		3	2		1		3		3
	1	1	3	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor C-G.1 Reason with shapes and their attributes.				7		4		11		11	7		4		11		11
Total For Reporting Category C-G					7		4		11		11	7		4		11		11

Grade 03 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
	1			Solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects.														
	1	1		Determine or calculate time and elapsed time.														
	1	1	1	Tell, show, and/or write time (analog) to the nearest minute.	1				1		1	1				1		1
	1	1	2	Calculate elapsed time to the minute in a given situation.	1				1		1	1				1		1
	1	2		Use the attributes of liquid volume, mass, and length of objects.														
	1	2	1	Measure and estimate liquid volumes and masses of objects using standard units and metric units.														
	1	2	2	Add, subtract, multiply, and divide to solve one-step word problems involving masses or liquid volumes that are given in the same units.	1				1		1	1				1		1
	1	2	3	Use a ruler to measure lengths to the nearest quarter inch or centimeter.	1				1		1	1				1		1
	1	3		Count, compare, and make change using a collection of coins and one-dollar bills.														
	1	3	1	Compare total values of combinations of coins and/or dollar bills less than $5.00.			1		1		1			1		1		1
	1	3	2	Make change for an amount up to $5.00 with no more than $2.00 change given.														
	1	3	3	Round amounts of money to the nearest dollar.	1				1		1	1				1		1
	Total For Assessment Anchor D-M.1 Solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects.				5		1		6		6	5		1		6		6

D-M: Measurement and Data	2			Represent and interpret data.														
	2	1		Organize, display, and answer questions based on data.														
	2	1	1	Complete a scaled pictograph and a scaled bar graph to represent a data set with several categories.	1		1		2		2	1		1		2		2
	2	1	2	Solve one- and two-step problems using information to interpret data presented in scaled pictographs and scaled bar graphs.	1				1		1	1				1		1
	2	1	3	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters.	1				1		1	1				1		1
	2	1	4	Translate information from one type of display to another. Limit to pictographs, tally charts, bar graphs, and tables.	1				1		1	1				1		1
	Total For Assessment Anchor D-M.2 Represent and interpret data.				4		1		5		5	4		1		5		5
	3			Geometric measurement: understand concepts of area and relate area to multiplication and to addition.		4				4	4		1				1	1
	3	1		Find the areas of plane figures.														
	3	1	1	Measure areas by counting unit squares.			1		1		1			1		1		1
	3	1	2	Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.														
	Total For Assessment Anchor D-M.3 Geometric measurement: understand concepts of area and relate area to multiplication and to addition.					4	1		1	4	5		1	1		1	1	2

4			Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	1		1		2		2	1		1		2		2
4	1		Find and use the perimeters of plane figures.	1				1		1	1				1		1
4	1	1	Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problem.	1				1		1	1				1		1
Total For Assessment Anchor D-M.4 Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.				3		1		4		4	3		1		4		4
Total For Reporting Category D-M				12	4	4		16	4	20	12	1	4		16	1	17

Grade 04 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-T: Numbers and Operations in Base Ten	1			Generalize place-value understanding for multi-digit whole numbers.		4				4	4		1				1	1
	1	1		Apply place-value and numeration concepts to compare, find equivalencies, and round.														
	1	1	1	Demonstrate an understanding that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.	1				1		1	1				1		1
	1	1	2	Read and write whole numbers in expanded, standard, and word form through 1,000,000.			1		1		1			1		1		1
	1	1	3	Compare two multi-digit numbers through 1,000,000 based on meanings of the digits in each place, using >, =, and < symbols.	1		1		2		2	1		1		2		2
	1	1	4	Round multi-digit whole numbers to any place.														
	Total For Assessment Anchor A-T.1 Generalize place-value understanding for multi-digit whole numbers.				2	4	2		4	4	8	2	1	2		4	1	5
	2			Use place-value understanding and properties of operations to perform multi-digit arithmetic.	1		1		2		2	1		1		2		2
	2	1		Use operations to solve problems.	1				1		1	1				1		1
	2	1	1	Add and subtract multi-digit whole numbers.														
	2	1	2	Multiply a whole number of up to four digits by a one-digit whole number and multiply 2 two-digit numbers.	1				1		1	1				1		1
	2	1	3	Divide up to four-digit dividends by one-digit divisors with answers written as whole-number quotients and remainders.	1				1		1	1				1		1
	2	1	4	Estimate the answer to addition, subtraction, and multiplication problems using whole numbers through six digits.														
	Total For Assessment Anchor A-T.2 Use place-value understanding and properties of operations to perform multi-digit arithmetic.				4		1		5		5	4		1		5		5
Total For Reporting Category A-T					6	4	3		9	4	13	6	1	3		9	1	10

Grade 04 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-F: Numbers and Operations—Fractions	1			Extend understanding of fraction equivalence and ordering.														
	1	1		Find equivalencies and compare fractions.	1				1		1	1				1		1
	1	1	1	Recognize and generate equivalent fractions.	1		1		2		2	1		1		2		2
	1	1	2	Compare two fractions with different numerators and different denominators using the symbols >, =, or < and justify the conclusions.	1				1		1	1				1		1
	Total For Assessment Anchor A-F.1 Extend understanding of fraction equivalence and ordering.				3		1		4		4	3		1		4		4
	2			Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.														
	2	1		Solve problems involving fractions and whole numbers (straight computation or word problems).														
	2	1	1	Add and subtract fractions with a common denominator.														
	2	1	2	Decompose a fraction or a mixed number into a sum of fractions with the same denominator.	1				1		1	1				1		1
	2	1	3	Add and subtract mixed numbers with a common denominator.	1				1		1	1				1		1
	2	1	4	Solve word problems involving addition and subtraction of fractions referring to the same whole or set and having like denominators.	1				1		1	1				1		1
	2	1	5	Multiply a whole number by a unit fraction.														
	2	1	6	Multiply a whole number by a non-unit fraction.														
	2	1	7	Solve word problems involving multiplication of a whole number by a fraction.	1				1		1	1				1		1
	Total For Assessment Anchor A-F.2 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.				4				4		4	4				4		4

	3			Understand decimal notation for fractions and compare decimal fractions.	1				1		1	1				1		1
	3	1		Use operations to solve problems involving decimals, including converting between fractions and decimals.	1		1		2		2	1		1		2		2
	3	1	1	Add two fractions with respective denominators 10 and 100.	1				1		1	1				1		1
	3	1	2	Use decimal notation for fractions with denominators of 10 or 100.	1				1		1	1				1		1
	3	1	3	Compare two decimals to hundredths using the symbols >, =, or <, and justify the conclusions.			1		1		1			1		1		1
	Total For Assessment Anchor A-F.3 Understand decimal notation for fractions and compare decimal fractions.				4		2		6		6	4		2		6		6
Total For Reporting Category A-F					11		3		14		14	11		3		14		14

Grade 04 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items Core		Number of Items EB		Total Number of Items (Core & EB)		
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
B-O: Operations and Algebraic Thinking	1			Use the four operations with whole numbers to solve problems.														
	1	1		Use numbers and symbols to model the concepts of expressions and equations.	1				1		1	1				1		1
	1	1	1	Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations.			1		1		1			1		1		1
	1	1	2	Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison.														
	1	1	3	Solve multi-step word problems posed with whole numbers using the four operations. Answers will be either whole numbers or have remainders that must be interpreted yielding a final answer that is a whole number. Represent these problems using equations with a symbol or letter standing for the unknown quantity.	1		1		2		2	1		1		2		2
	1	1	4	Identify the missing symbol that makes a number sentence true.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-O.1 Use the four operations with whole numbers to solve problems.				3		3		6		6	3		3		6		6
	2			Gain familiarity with factors and multiples.		4				4	4		1				1	1
	2	1		Develop and apply number theory concepts to represent numbers in various ways.	1		1		2		2	1		1		2		2
	2	1	1	Find all factor pairs for a whole number in the interval 1 through 100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the interval 1 through 100 is a multiple of a given one-digit number. Determine whether a given whole number in the interval 1 through 100 is prime or composite.	1				1		1	1				1		1
	Total For Assessment Anchor B-O.2 Gain familiarity with factors and multiples.				2	4	1		3	4	7	2	1	1		3	1	4

	3			Generate and analyze patterns.	1				1		1	1				1		1
	3	1		Recognize, describe, extend, create, and replicate a variety of patterns.	1				1		1	1				1		1
	3	1	1	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.			1		1		1			1		1		1
	3	1	2	Determine the missing elements in a function table.	1				1		1	1				1		1
	3	1	3	Determine the rule for a function given a table.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-O.3 Generate and analyze patterns.				4		2		6		6	4		2		6		6
Total For Reporting Category B-O					9	4	6		15	4	19	9	1	6		15	1	16

Grade 04 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
C-G: Geometry	1			Draw and identify lines and angles, and classify shapes by properties of their lines and angles.														
	1	1		List properties, classify, draw, and identify geometric figures in two dimensions.			1		1		1			1		1		1
	1	1	1	Draw points, lines, line segments, rays, angles, and perpendicular and parallel lines. Identify these in two-dimensional figures.	2	4			2	4	6	2	1			2	1	3
	1	1	2	Classify two-dimensional figures based on the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	1				1		1	1				1		1
	1	1	3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into mirroring parts. Identify line-symmetric figures and draw lines of symmetry.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor C-G.1 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.				4	4	2		6	4	10	4	1	2		6	1	7
Total For Reporting Category C-G					4	4	2		6	4	10	4	1	2		6	1	7

Grade 04 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
D-M: Measurement and Data	1			Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.														
	1	1		Solve problems involving length, weight (mass), liquid volume, time, area, and perimeter.	1				1		1	1				1		1
	1	1	1	Know relative sizes of measurement units within one system of units including standard units, metric units, and time. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.	1				1		1	1				1		1
	1	1	2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects; money, including problems involving simple fractions or decimals; and problems that require expressing measurements given in a larger unit in terms of a smaller unit.	1				1		1	1				1		1
	1	1	3	Apply the area and perimeter formulas for rectangles in real-world and mathematical problems.														
	1	1	4	Identify time (analog or digital) as the amount of minutes before or after the hour.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor D-M.1 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.				4		1		5		5	4		1		5		5

2			Represent and interpret data.			1		1		1			1		1		1
2	1		Organize, display, and answer questions based on data.			1		1		1			1		1		1
2	1	1	Make a line plot to display a data set of measurements in fractions of a unit.	1				1		1	1				1		1
2	1	2	Solve problems involving addition and subtraction of fractions by using information presented in line plots.	1				1		1	1				1		1
2	1	3	Translate information from one type of display to another.														
Total For Assessment Anchor D-M.2 Represent and interpret data.				2		2		4		4	2		2		4		4
3			Geometric measurement: understand concepts of angle; measure and create angles.	1		1		2		2	1		1		2		2
3	1		Use appropriate tools and units to sketch an angle and determine angle measurements.														
3	1	1	Measure angles in whole-number degrees using a protractor. With the aid of a protractor, sketch angles of a specified measure.	2				2		2	2				2		2
3	1	2	Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.	1				1		1	1				1		1
Total For Assessment Anchor D-M.3 Geometric measurement: understand concepts of angle; measure and create angles.				4		1		5		5	4		1		5		5
Total For Reporting Category D-M				10		4		14		14	10		4		14		14

Grade 05 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-T: Numbers and Operations in Base Ten	1			Understand the place-value system.														
	1	1		Demonstrate understanding of place-value of whole numbers and decimals, and compare quantities or magnitudes of numbers.	1				1		1	1				1		1
	1	1	1	Demonstrate an understanding that in a multi-digit number, a digit in one place represents 1/10 of what it represents in the place to its left.	1		1		2		2	1		1		2		2
	1	1	2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10 and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	1				1		1	1				1		1
	1	1	3	Read and write decimals to thousandths using base-ten numerals, word form, and expanded form.		4	1		1	4	5		1	1		1	1	2
	1	1	4	Compare two decimals to thousandths based on meanings of the digits in each place using >, =, and < symbols.	1		1		2		2	1		1		2		2
	1	1	5	Round decimals to any place.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor A-T.1 Understand the place-value system.				5	4	4		9	4	13	5	1	4		9	1	10
	2			Perform operations with multi-digit whole numbers and with decimals to hundredths.														
	2	1		Use whole numbers and decimals to compute accurately.	1				1		1	1				1		1
	2	1	1	Multiply multi-digit whole numbers.	2				2		2	2				2		2
	2	1	2	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.														
	2	1	3	Add, subtract, multiply, and divide decimals to hundredths.	1				1		1	1				1		1
	Total For Assessment Anchor A-T.2 Perform operations with multi-digit whole numbers and with decimals to hundredths.				4				4		4	4				4		4
Total For Reporting Category A-T					9	4	4		13	4	17	9	1	4		13	1	14

Grade 05 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-F: Numbers and Operations—Fractions	1			Use equivalent fractions as a strategy to add and subtract fractions.	2				2		2	2				2		2
	1	1		Solve addition and subtraction problems involving fractions.	2		1		3		3	2		1		3		3
	1	1	1	Add and subtract fractions with unlike denominators.	2		1		3		3	2		1		3		3
	Total For Assessment Anchor A-F.1 Use equivalent fractions as a strategy to add and subtract fractions.				6		2		8		8	6		2		8		8
	2			Apply and extend previous understandings of multiplication and division to multiply and divide fractions.														
	2	1		Solve multiplication and division problems involving fractions and whole numbers.	1	4	2		3	4	7	1	1	2		3	1	4
	2	1	1	Solve word problems involving division of whole numbers leading to answers in the form of fractions.			1		1		1			1		1		1
	2	1	2	Multiply a fraction by a fraction.	1				1		1	1				1		1
	2	1	3	Demonstrate an understanding of multiplication as scaling.	1				1		1	1				1		1
	2	1	4	Divide unit fractions by whole numbers and whole numbers by unit fractions.	1				1		1	1				1		1
	Total For Assessment Anchor A-F.2 Apply and extend previous understandings of multiplication and division to multiply and divide fractions.				4	4	3		7	4	11	4	1	3		7	1	8
Total For Reporting Category A-F					10	4	5		15	4	19	10	1	5		15	1	16

Grade 05 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
B-O: Operations and Algebraic Thinking	1			Write and interpret numerical expressions.	1				1		1	1				1		1
	1	1		Analyze and complete calculations by applying the order of operations.	1		1		2		2	1		1		2		2
	1	1	1	Use multiple grouping symbols in numerical expressions and evaluate expressions containing these symbols.	1		1		2		2	1		1		2		2
	1	1	2	Write simple expressions that model calculations with numbers and interpret numerical expressions without evaluating them.	2				2		2	2				2		2
	Total For Assessment Anchor B-O.1 Write and interpret numerical expressions.				5		2		7		7	5		2		7		7
	2			Analyze patterns and relationships.														
	2	1		Create, extend, and analyze patterns.	2				2		2	2				2		2
	2	1	1	Generate two numerical patterns using two given rules.														
	2	1	2	Identify apparent relationships between corresponding terms of two patterns with the same starting numbers that follow different rules.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-O.2 Analyze patterns and relationships.				3		1		4		4	3		1		4		4
Total For Reporting Category B-O					8		3		11		11	8		3		11		11

Grade 05 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
C-G: Geometry	1			Graph points on the coordinate plane to solve real-world and mathematical problems.			1		1		1			1		1		1
	1	1		Identify parts of a coordinate grid and describe or interpret points given an ordered pair.	1	4			1	4	5	1	1			1	1	2
	1	1	1	Identify parts of the coordinate plane and the ordered pair. Limit the coordinate plane to quadrant I.														
	1	1	2	Represent real-world and mathematical problems by plotting points in quadrant I of the coordinate plane and interpret coordinate values of points in the context of the situation.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor C-G.1 Graph points on the coordinate plane to solve real-world and mathematical problems.				2	4	2		4	4	8	2	1	2		4	1	5
	2			Classify two-dimensional figures into categories based on their properties.			1		1		1			1		1		1
	2	1		Use basic properties to classify two-dimensional figures.	1				1		1	1				1		1
	2	1	1	Classify two-dimensional figures in a hierarchy based on properties.	1				1		1	1				1		1
	Total For Assessment Anchor C-G.2 Classify two-dimensional figures into categories based on their properties.				2		1		3		3	2		1		3		3
Total For Reporting Category C-G					4	4	3		7	4	11	4	1	3		7	1	8

Grade 05 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
D-M: Measurement and Data	1			Convert like measurement units within a given measurement system.														
	1	1		Solve problems using simple conversions.														
	1	1	1	Convert between different-sized measurement units within a given measurement system.	3				3		3	3				3		3
	Total for Assessment Anchor D-M.1 Convert like measurement units within a given measurement system.				3				3		3	3				3		3
	2			Represent and interpret data.														
	2	1		Organize, display, and answer questions based on data.														
	2	1	1	Solve problems involving computation of fractions by using information presented in line plots.	1		1		2		2	1		1		2		2
	2	1	2	Display and interpret data shown in tallies, tables, charts, pictographs, bar graphs, and line graphs, and use a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs.	3		1		4		4	3		1		4		4
	Total For Assessment Anchor D-M.2 Represent and interpret data.				4		2		6		6	4		2		6		6
	3			Geometric measurement: understand concepts of volume and relate volume to mutliplication and to addition.														
	3	1		Use, describe, and develop procedures to solve problems involving volume.	1				1		1	1				1		1
	3	1	1	Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems.														
	3	1	2	Find volumes of solid figures composed of two non-overlapping right rectangular prisms.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor D-M.3 Geometric measurement: understand concepts of volume and relate volume to mutliplication and to addition.				2		1		3		3	2		1		3		3
Total For Reporting Category D-M					9		3		12		12	9		3		12		12

Grade 06 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-N: The Number System	1			Apply and extend previous understandings of multiplication and division to divide fractions by fractions.														
	1	1		Solve real-world and mathematical problems involving division of fractions.														
	1	1	1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions.	2	4			2	4	6	2	1			2	1	3
	Total For Assessment Anchor A-N.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.				2	4			2	4	6	2	1			2	1	3
	2			Compute with multi-digit numbers and find common factors and multiples.														
	2	1		Compute with multi-digit numbers using the four arithmetic operations with or without a calculator.														
	2	1	1	Solve problems involving operations with whole numbers, decimals, straight computation, or word problems.	2				2		2	2				2		2
	2	2		Apply number theory concepts.			1		1		1			1		1		1
	2	2	1	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.	1				1		1	1				1		1
	2	2	2	Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor.														
	Total For Assessment Anchor A-N.2 Compute with multi-digit numbers and find common factors and multiples.				3		1		4		4	3		1		4		4

3			Apply and extend previous understandings of numbers to the system of rational numbers.															
3	1		Understand that positive and negative numbers are used together to describe quantities having opposite directions or values and locations on the number line and coordinate plane.															
3	1	1	Represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation.															
3	1	2	Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself.	1				1		1	1				1		1	
3	1	3	Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.	1				1		1	1				1		1	
3	2		Understand ordering and absolute value of rational numbers.			1		1		1			1		1		1	
3	2	1	Write, interpret, and explain statements of order for rational numbers in real-world contexts.															
3	2	2	Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real-world situation.															
3	2	3	Solve real-world and mathematical problems by plotting points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.															
Total For Assessment Anchor A-N.3 Apply and extend previous understandings of numbers to the system of rational numbers.				2		1		3		3	2		1		3		3	
Total For Reporting Category A-N				7	4	2		9	4	13	7	1	2		9	1	10	

Grade 06 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-R: Ratios and Proportional Relationships	1			Understand ratio concepts and use ratio reasoning to solve problems.														
	1	1		Represent and/or solve real-world and mathematical problems using rates, ratios, and/or percents.	2				2		2	2				2		2
	1	1	1	Use ratio language and notation to describe a ratio relationship between two quantities.	1		1		2		2	1		1		2		2
	1	1	2	Find the unit rate a/b associated with a ratio a:b and use rate language in the context of a ratio relationship.	1		1		2		2	1		1		2		2
	1	1	3	Construct tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios.	1		1		2		2	1		1		2		2
	1	1	4	Solve unit rate problems including those involving unit pricing and constant speed.	2		1		3		3	2		1		3		3
	1	1	5	Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percentage.	2				2		2	2				2		2
	Total For Assessment Anchor A-R.1 Understand ratio concepts and use ratio reasoning to solve problems.				9		4		13		13	9		4		13		13
Total For Reporting Category A-R					9		4		13		13	9		4		13		13

Grade 06 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
B-E: Expressions and Equations	1			Apply and extend previous understandings of arithmetic to numerical and algebraic expressions.														
	1	1		Identify, write, and evaluate numerical and algebraic expressions.	2				2		2	2				2		2
	1	1	1	Write and evaluate numerical expressions involving whole-number exponents.	1		1		2		2	1		1		2		2
	1	1	2	Write algebraic expressions from verbal descriptions.	1				1		1	1				1		1
	1	1	3	Identify parts of an expression using mathematical terms.	1				1		1	1				1		1
	1	1	4	Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems.			1		1		1			1		1		1
	1	1	5	Apply the properties of operations to generate equivalent expressions.														
	Total For Assessment Anchor B-E.1 Apply and extend previous understandings of arithmetic to numerical and algebraic expressions.				5		2		7		7	5		2		7		7
	2			Interpret and solve one-variable equations and inequalities.		4				4	4		1				1	1
	2	1		Create, solve, and interpret one-variable equations or inequalities in real-world and mathematical problems.	1				1		1	1				1		1
	2	1	1	Use substitution to determine whether a given number in a specified set makes an equation or inequality true.														
	2	1	2	Write algebraic expressions to represent real-world or mathematical problems.	1				1		1	1				1		1
	2	1	3	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all non-negative rational numbers.	1				1		1	1				1		1
	2	1	4	Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem and/or represent solutions of such inequalities on number lines.			1		1		1			1		1		1
	Total For Assessment Anchor B-E.2 Interpret and solve one-variable equations and inequalities.				3	4	1		4	4	8	3	1	1		4	1	5

3			Represent and analyze quantitative relationships between dependent and independent variables.	2				2		2	2				2		2
3	1		Use variables to represent two quantities in a real-world problem that change in relationship to one another.	1				1		1	1				1		1
3	1	1	Write an equation to express the relationship between the dependent and independent variables.			1		1		1			1		1		1
3	1	2	Analyze the relationship between the dependent and independent variables using graphs and tables and/or relate these to an equation.			1		1		1			1		1		1
Total For Assessment Anchor B-E.3 Represent and analyze quantitative relationships between dependent and independent variables.				3		2		5		5	3		2		5		5
Total For Reporting Category B-E				11	4	5		16	4	20	11	1	5		16	1	17

Grade 06 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
C-G: Geometry	1			Solve real-world and mathematical problems involving area, surface area, and volume.														
	1	1		Find area, surface area, and volume by applying formulas and using various strategies.	1		1		2		2	1		1		2		2
	1	1	1	Determine the area of triangles and special quadrilaterals.														
	1	1	2	Determine the area of irregular or compound polygons.	1	4	1		2	4	6	1	1	1		2	1	3
	1	1	3	Determine the volume of right rectangular prisms with fractional edge lengths.														
	1	1	4	Given coordinates for the vertices of a polygon in the plane, use the coordinates to find side lengths and area of the polygon.	1				1		1	1				1		1
	1	1	5	Represent three-dimensional figures using nets made of rectangles and triangles.	1				1		1	1				1		1
	1	1	6	Determine the surface area of triangular and rectangular prisms.			1		1		1			1		1		1
	Total For Assessment Anchor C-G.1 Solve real-world and mathematical problems involving area, surface area, and volume.				4	4	3		7	4	11	4	1	3		7	1	8
Total For Reporting Category C-G					4	4	3		7	4	11	4	1	3		7	1	8

Grade 06 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
D-S: Statistics and Probability	1			Demonstrate understanding of statistical variability by summarizing and describing distributions.	1				1		1	1				1		1
	1	1		Display, analyze, and summarize numerical data sets in relation to their context.	1		1		2		2	1		1		2		2
	1	1	1	Display numerical data in plots on a number line, including line plots, histograms, and box-and-whisker plots.	2		1		3		3	2		1		3		3
	1	1	2	Determine quantitative measures of center and variability.	2				2		2	2				2		2
	1	1	3	Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.	2		1		3		3	2		1		3		3
	1	1	4	Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor D-S.1 Demonstrate understanding of statistical variability by summarizing and describing distributions.				9		4		13		13	9		4		13		13
Total For Reporting Category D-S					9		4		13		13	9		4		13		13

Grade 07 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-N: The Number System	1			Apply and extend previous understandings of operations to add, subtract, multiply, and divide rational numbers.		4				4	4		1				1	1
	1	1		Solve real-world and mathematical problems involving the four operations with rational numbers.	1				1		1	1				1		1
	1	1	1	Apply properties of operations to add and subtract rational numbers, including real-world contexts.	2				2		2	2				2		2
	1	1	2	Represent addition and subtraction on a horizontal or vertical number line.	1		1		2		2	1		1		2		2
	1	1	3	Apply properties of operations to multiply and divide rational numbers, including real-world contexts; demonstrate that the decimal form of a rational number terminates or eventually repeats.	1				1		1	1				1		1
	Total For Assessment Anchor A-N.1 Apply and extend previous understandings of operations to add, subtract, multiply, and divide rational numbers.				5	4	1		6	4	10	5	1	1		6	1	7
Total For Reporting Category A-N					5	4	1		6	4	10	5	1	1		6	1	7

Grade 07 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items Core		Number of Items EB		Total Number of Items (Core & EB)		
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-R: Ratios and Proportional Relationships	1			Demonstrate an understanding of proportional relationships.														
	1	1		Analyze, recognize, and represent proportional relationships and use them to solve real-world and mathematical problems.	1		1		2		2	1		1		2		2
	1	1	1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units.	2		1		3		3	2		1		3		3
	1	1	2	Determine whether two quantities are proportionally related.	2				2		2	2				2		2
	1	1	3	Identify the constant of proportionality in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	2		1		3		3	2		1		3		3
	1	1	4	Represent proportional relationships by equations.	1		1		2		2	1		1		2		2
	1	1	5	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r), where r is the unit rate.	2		1		3		3	2		1		3		3
	1	1	6	Use proportional relationships to solve multi-step ratio and percent problems.	2		1		3		3	2		1		3		3
	Total For Assessment Anchor A-R.1 Demonstrate an understanding of proportional relationships.				12		6		18		18	12		6		18		18
Total For Reporting Category A-R					12		6		18		18	12		6		18		18

Grade 07 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
B-E: Expressions and Equations	1			Represent expressions in equivalent forms.	1				1		1	1				1		1
	1	1		Use properties of operations to generate equivalent expressions.	1		1		2		2	1		1		2		2
	1	1	1	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients.	2				2		2	2				2		2
	Total For Assessment Anchor B-E.1 Represent expressions in equivalent forms.				4		1		5		5	4		1		5		5
	2			Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.														
	2	1		Solve multi-step real-world and mathematical problems posed with positive and negative rational numbers.			1		1		1			1		1		1
	2	1	1	Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate.	1	4			1	4	5	1	1			1	1	2
	2	2		Use variables to represent quantities in a real-world or mathematical problem and construct simple equations and inequalities to solve problems.	1		1		2		2	1		1		2		2
	2	2	1	Solve word problems leading to equations of the form $px + q = r$ and $p(x+q) = r$, where p, q, and r are specific rational numbers.	2				2		2	2				2		2
	2	2	2	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers, and graph the solution set of the inequality.	1		1		2		2	1		1		2		2
	2	3		Determine the reasonableness of the answer(s) in problem-solving situations.														
	2	3	1	Determine the reasonableness of answer(s) or interpret the solution(s) in the context of the problem.	1				1		1	1				1		1
	Total For Assessment Anchor B-E.2 Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.				6	4	3		9	4	13	6	1	3		9	1	10
Total For Reporting Category B-E					10	4	4		14	4	18	10	1	4		14	1	15

Grade 07 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
	1			Demonstrate an understanding of geometric figures and their properties.														
	1	1		Demonstrate and apply properties of geometric figures.	1	4			1	4	5	1	1			1	1	2
	1	1	1	Solve problems involving scale drawings of geometric figures, including finding length and area.														
	1	1	2	Identify or describe the properties of all types of triangles based on angle and side measures.			1		1		1			1		1		1
	1	1	3	Use and apply the triangle inequality theorem.														
	1	1	4	Describe the two-dimensional figures that result from slicing three-dimensional figures.	1				1		1	1				1		1
	Total For Assessment Anchor C-G.1 Demonstrate an understanding of geometric figures and their properties.				2	4	1		3	4	7	2	1	1		3	1	4

C-G: Geometry	2			Solve real-world and mathematical problems involving angle measure, circumference, area, surface area, and volume.															
	2	1		Identify, use, and describe properties of angles and their measures.	1				1		1	1				1		1	
	2	1	1	Identify and use properties of supplementary, complementary, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.															
	2	1	2	Identify and use properties of angles formed when two parallel lines are cut by a transversal.	1		1		2		2	1		1		2		2	
	2	2		Determine circumference, area, surface area, and volume.	1				1		1	1				1		1	
	2	2	1	Find the area and circumference of a circle. Solve problems involving area and circumference of a circle(s).			1		1		1			1		1		1	
	2	2	2	Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.			1		1		1			1		1		1	
	Total For Assessment Anchor C-G.2 Solve real-world and mathematical problems involving angle measure, circumference, area, surface area, and volume.				3		3		6		6	3		3		6		6	
Total For Reporting Category C-G					5	4	4		9	4	13	5	1	4		9	1	10	

Grade 07 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
D-S: Statistics and Probability	1			Use random sampling to draw inferences about a population.														
	1	1		Use random samples.														
	1	1	1	Determine whether a sample is a random given a real-world situation.	1		1		2		2	1		1		2		2
	1	1	2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.	1				1		1	1				1		1
	Total For Assessment Anchor D-S.1 Use random sampling to draw inferences about a population.				2		1		3		3	2		1		3		3
	2			Draw comparative inferences about populations.			1		1		1			1		1		1
	2	1		Use statistical measures to compare two numerical data distributions.	1				1		1	1				1		1
	2	1	1	Compare two numerical data distributions using measures of center and variability.														
	Total For Assessment Anchor D-S.2 Draw comparative inferences about populations.				1		1		2		2	1		1		2		2
	3			Investigate chance processes and develop, use, and evaluate probability models.														
	3	1		Predict or determine the likelihood of outcomes.														
	3	1	1	Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible.	1		1		2		2	1		1		2		2
	3	2		Use probability to predict outcomes.	1				1		1	1				1		1
	3	2	1	Determine the probability of a chance event given relative frequency. Predict the approximate relative frequency given the probability.	1				1		1	1				1		1
	3	2	2	Find the probability of a simple event, including the probability of a simple event not occurring.	1				1		1	1				1		1
	3	2	3	Find probabilities of independent compound events using organized lists, tables, tree diagrams, and simulation.	1				1		1	1				1		1
	Total For Assessment Anchor D-S.3 Investigate chance processes and develop, use, and evaluate probability models.				5		1		6		6	5		1		6		6
Total For Reporting Category D-S					8		3		11		11	8		3		11		11

Grade 08 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
A-N: The Number System	1			Demonstrate an understanding of rational and irrational numbers.														
	1	1		Apply concepts of rational and irrational numbers.	2				2		2	2				2		2
	1	1	1	Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats.	1		1		2		2	1		1		2		2
	1	1	2	Convert a terminating or repeating decimal to a rational number.	1		1		2		2	1		1		2		2
	1	1	3	Estimate the value of irrational numbers without a calculator.	1				1		1	1				1		1
	1	1	4	Use rational approximations of irrational numbers to compare and order irrational numbers.	1				1		1	1				1		1
	1	1	5	Locate/identify rational and irrational numbers at their approximate locations on a number line.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor A-N.1 Demonstrate an understanding of rational and irrational numbers.				7		3		10		10	7		3		10		10
Total For Reporting Category A-N					7		3		10		10	7		3		10		10

Grade 08 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
	1			Demonstrate an understanding of expressions and equations with radicals and integer exponents.	1		1		2		2	1		1		2		2
	1	1		Represent and use expressions and equations to solve problems involving radicals and integer exponents.	1				1		1	1				1		1
	1	1	1	Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator.	1				1		1	1				1		1
	1	1	2	Use square root and cube root symbols to represent solutions to equations of the form x^2 = p and x^3 = p, where p is a positive rational number. Evaluate square roots of perfect squares and cube roots of perfect cubes without a calculator.	1				1		1	1				1		1
	1	1	3	Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another.														
	1	1	4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology.	1				1		1	1				1		1
Total For Assessment Anchor B-E.1 Demonstrate an understanding of expressions and equations with radicals and integer exponents.					5		1		6		6	5		1		6		6

B-E: Expressions and Equations	2			Understand the connections between proportional relationships, lines, and linear equations.		4				4	4		1				1	1
	2	1		Analyze and describe linear relationships between two variables, using slope.	1		1		2		2	1		1		2		2
	2	1	1	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	1				1		1	1				1		1
	2	1	2	Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.	1		1		2		2	1		1		2		2
	2	1	3	Derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-E.2 Understand the connections between proportional relationships, lines, and linear equations.				4	4	3		7	4	11	4	1	3		7	1	8

3			Analyze and solve linear equations and pairs of simultaneous linear equations.	1				1		1	1				1		1
3	1		Write, solve, graph, and interpret linear equations in one or two variables, using various methods.														
3	1	1	Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form x = a, a = a, or a = b results.	1		1		2		2	1		1		2		2
3	1	2	Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.														
3	1	3	Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.			1		1		1			1		1		1
3	1	4	Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection.	1				1		1	1				1		1
3	1	5	Solve real-world and mathematical problems leading to two linear equations in two variables.	1				1		1	1				1		1
Total For Assessment Anchor B-E.3 Analyze and solve linear equations and pairs of simultaneous linear equations.				4		2		6		6	4		2		6		6
Total For Reporting Category B-E				13	4	6		19	4	23	13	1	6		19	1	20

Grade 08 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
B-F: Functions	1			Analyze and interpret functions.	1				1		1	1				1		1
	1	1		Define, evaluate, and compare functions displayed algebraically, graphically, or numerically in tables or by verbal descriptions.	1				1		1	1				1		1
	1	1	1	Determine whether a relation is a function.	1				1		1	1				1		1
	1	1	2	Compare properties of two functions, each represented in a different way.	1		1		2		2	1		1		2		2
	1	1	3	Interpret the equation y = mx + b as defining a linear function whose graph is a straight line; give examples of functions that are not linear.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor B-F.1 Analyze and interpret functions.				5		2		7		7	5		2		7		7
	2			Use functions to model relationships between quantities.														
	2	1		Represent or interpret functional relationships between quantities using tables, graphs, and descriptions.		4				4	4		1				1	1
	2	1	1	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.	1		2		3		3	1		2		3		3
	2	1	2	Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally.	1				1		1	1				1		1
	Total For Assessment Anchor B-F.2 Use functions to model relationships between quantities.				2	4	2		4	4	8	2	1	2		4	1	5
Total For Reporting Category B-F					7	4	4		11	4	15	7	1	4		11	1	12

Grade 08 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
C-G: Geometry	1			Demonstrate an understanding of geometric transformations.														
	1	1		Apply properties of geometric transformations to verify congruence or similarity.														
	1	1	1	Identify and apply properties of rotations, reflections, and translations.	1				1		1	1				1		1
	1	1	2	Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them.	1				1		1	1				1		1
	1	1	3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.														
	1	1	4	Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.	1		1		2		2	1		1		2		2
	Total For Assessment Anchor C-G.1 Demonstrate an understanding of geometric transformations.				3		1		4		4	3		1		4		4
	2			Understand and apply the Pythagorean theorem.														
	2	1		Solve problems involving right triangles by applying the Pythagorean theorem.			1		1		1			1		1		1
	2	1	1	Apply the converse of the Pythagorean theorem to show a triangle is a right triangle.	1				1		1	1				1		1
	2	1	2	Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.														
	2	1	3	Apply the Pythagorean theorem to find the distance between two points in a coordinate system.	1				1		1	1				1		1
	Total For Assessment Anchor C-G.2 Understand and apply the Pythagorean theorem.				2		1		3		3	2		1		3		3

	3			Solve real-world and mathematical problems involving volume.														
	3	1		Apply volume formulas of cones, cylinders, and spheres.														
	3	1	1	Apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems.	1	4			1	4	5	1	1			1	1	2
	Total For Assessment Anchor C-G.3 Solve real-world and mathematical problems involving volume.				1	4			1	4	5	1	1			1	1	2
Total For Reporting Category C-G					6	4	2		8	4	12	6	1	2		8	1	9

Grade 08 **Mathematics**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
D-S: Statistics and Probability	1			Investigate patterns of association in bivariate data.	1				1		1	1				1		1
	1	1		Analyze and interpret bivariate data displayed in multiple representations.	1		1		2		2	1		1		2		2
	1	1	1	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative correlation, linear association, and nonlinear association.	1				1		1	1				1		1
	1	1	2	For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line.	1		1		2		2	1		1		2		2
	1	1	3	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpeting the slope and intercept.	1				1		1	1				1		1
	1	2		Understand that patterns of association can be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.	1		1		2		2	1		1		2		2
	1	2	1	Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables.	1				1		1	1				1		1
	Total For Assessment Anchor D-S.1 Investigate patterns of association in bivariate data.				7		3		10		10	7		3		10		10
Total For Reporting Category D-S					7		3		10		10	7		3		10		10

Grade 03 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items						Total Number of Items (Core & EB)			
																Core			EB						
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
A: Literature Text	A-K	1	1	1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	1			10			11			11	1			10			11			11
		1	1	2	Recount poems, dramas, or stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	1		3				1		3	4	1		1				1		1	2
		1	1	3	Describe characters in a story and explain how their actions contribute to the sequence of events.	2	3		5			7	3		10	2	1		5			7	1		8
		Total For Assessment Anchor A-K.1 Key Ideas and Details				4	3	3	15			19	3	3	25	4	1	1	15			19	1	1	21
	A-C	2	1	1	Explain the point of view from which a story is narrated, including the difference between first- and third-person narrations.	1	2		5			6	2		8	1	1		5			6	1		7
		Total For Assessment Anchor A-C.2 Craft and Structure				1	2		5			6	2		8	1	1		5			6	1		7
	A-C	3	1	1	Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters.																				
		Total For Assessment Anchor A-C.3 Integration of Knowledge and Ideas																							
	A-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.	2			5			7			7	2			5			7			7
		4	1	2	Demonstrate understanding of word relationships and nuances in word meanings.	3			5			8			8	3			5			8			8
		Total For Assessment Anchor A-V.4 Vocabulary Acquisition and Use				5			10			15			15	5			10			15			15
Total For Reporting Category A						10	5	3	30			40	5	3	48	10	2	1	30			40	2	1	43

Grade 03 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
B: Informational Text	B-K	1	1	1	Answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	1			4			5			5	1			4			5			5
		1	1	2	Determine the main idea of a text; recount the key details and explain how they support the main idea.	1	3					1	3		4	1	1					1	1		2
		1	1	3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	1						1			1	1						1			1
		Total For Assessment Anchor B-K.1 Key Ideas and Details				3	3		4			7	3		10	3	1		4			7	1		8
	B-C	2	1	1	Explain the point of view from which a text is written.		2		4			4	2		6		1		4			4	1		5
		2	1	2	Use text features and search tools to efficiently locate information relevant to a given topic.	1			4			5			5	1			4			5			5
		Total For Assessment Anchor B-C.2 Craft and Structure				1	2		8			9	2		11	1	1		8			9	1		10
	B-C	3	1	1	Describe the logical connection between particular sentences and paragraphs to support specific points in a text.				4			4			4				4			4			4
		3	1	2	Compare and contrast the most important points and key details presented in two texts on the same topic.	1		3				1		3	4	1		1				1		1	2
		3	1	3	Use information gained from illustrations, maps, photographs, and the words in a text to demonstrate understanding of the text.	2						2			2	2						2			2
		Total For Assessment Anchor B-C.3 Integration of Knowledge and Ideas				3		3	4			7		3	10	3		1	4			7		1	8
	B-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.				4			4			4				4			4			4
		4	1	2	Demonstrate understanding of word relationships and nuances in word meanings.	3			4			7			7	3			4			7			7
		Total For Assessment Anchor B-V.4 Vocabulary Acquisition and Use				3			8			11			11	3			8			11			11
Total For Reporting Category B						10	5	3	24			34	5	3	42	10	2	1	24			34	2	1	37

Grade 03 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
C: Writing	C	1	1		Write opinion pieces on topics or texts, supporting a point of view with reasons.																				
		1	2		Write informative/explanatory texts to examine a topic and convey ideas and information clearly.																				
		1	3		Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.																				
		Total For Assessment Anchor C.1 Text Types and Purposes																							
Total For Reporting Category C																									

Grade 03 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items						Total Number of Items (Core & EB)			
																Core			EB						
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
D: Language	D	1	1	1	Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.	2						2			2	2						2			2
		1	1	2	Form and use regular and irregular plural nouns.	1						1			1	1						1			1
		1	1	3	Use abstract nouns.	1						1			1	1						1			1
		1	1	4	Form and use regular and irregular verbs.	1			1			2			2	1			1			2			2
		1	1	5	Form and use the simple verb tenses.				1			1			1				1			1			1
		1	1	6	Ensure subject-verb and prounoun-antecedent agreement.																				
		1	1	7	Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.																				
		1	1	8	Use coordinating and subordinating conjunctions.				1			1			1				1			1			1
		1	1	9	Produce simple, compound, and complex sentences.																				
		1	2	1	Capitalize appropriate words in titles.				2			2			2				2			2			2
		1	2	2	Use commas in addresses.																				
		1	2	3	Use commas and quotation marks in dialogue.	2			1			3			3	2			1			3			3
		1	2	4	Form and use possessives.	1			1			2			2	1			1			2			2
		1	2	5	Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words.				1			1			1				1			1			1
		1	2	6	Use spelling patterns and generalizations in writing words.																				
		Total For Assessment Anchor D.1 Conventions of Standard English				8			8			16			16	8			8			16			16
		2	1	1	Choose words and phrases for effect.	1			1			2			2	1			1			2			2
		Total For Assessment Anchor D.2 Knowledge of Language				1			1			2			2	1			1			2			2
Total For Reporting Category D						9			9			18			18	9			9			18			18

Grade 04 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
A: Literature Text	A-K	1	1	1	Refer to details and examples in a text when explaining what the text explicitly says and when drawing inferences from the text.	1	2		4			5	2		7	1	1		4			5	1		6
		1	1	2	Determine a theme of a story, drama, or poem from details in the text; summarize the text.	1						1			1	1						1			1
		1	1	3	Describe in depth a character, setting, or event in a story, drama, or poem, drawing on specific details in the text.	1	2		4			5	2		7	1	1		4			5	1		6
		Total For Assessment Anchor A-K.1 Key Ideas and Details				3	4		8			11	4		15	3	2		8			11	2		13
	A-C	2	1	1	Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	2			4			6			6	2			4			6			6
		Total For Assessment Anchor A-C.2 Craft and Structure				2			4			6			6	2			4			6			6
		3	1	1	Compare and contrast the treatment of similar themes and topics and patterns of events in stories, myths, and traditional literature from different cultures.		3		4			4	3		7		1		4			4	1		5
		Total For Assessment Anchor A-C.3 Integration of Knowledge and Ideas					3		4			4	3		7		1		4			4	1		5
	A-V	4	1	1	Determine or clarify the meaning of unknown multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.	2			8			10			10	2			8			10			10
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	3						3			3	3						3			3
		Total For Assessment Anchor A-V.4 Vocabulary Acquisition and Use				5			8			13			13	5			8			13			13
Total For Reporting Category A						10	7		24			34	7		41	10	3		24			34	3		37

Grade 04 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
B: Informational Text	B-K	1	1	1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.		2						2		2		1						1		1
		1	1	2	Determine the main idea of a text and explain how it is supported by key details; summarize the text.		3						3		3		1						1		1
		1	1	3	Explain events, procedures, ideas, steps, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor B-K.1 Key Ideas and Details				2	5		5			7	5		12	2	2		5			7	2		9
	B-C	2	1	1	Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.	1						1			1	1						1			1
		2	1	2	Describe the overall structure of events, ideas, concepts, or information and text features in a text or part of a text.	3			5			8			8	3			5			8			8
		Total For Assessment Anchor B-C.2 Craft and Structure				4			5			9			9	4			5			9			9
	B-C	3	1	1	Explain how an author uses reasons and evidence to support particular points in a text.	1	3		5			6	3		9	1	1		5			6	1		7
		3	1	2	Integrate information from two texts on the same topic in order to demonstrate subject knowledge.	1						1			1	1						1			1
		3	1	3	Interpret text features and/or make connections between text and the content of text features.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor B-C.3 Integration of Knowledge and Ideas				4	3		10			14	3		17	4	1		10			14	1		15
	B-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.	2						2			2	2						2			2
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	1			10			11			11	1			10			11			11
		Total For Assessment Anchor B-V.4 Vocabulary Acquisition and Use				3			10			13			13	3			10			13			13
Total For Reporting Category B						13	8		30			43	8		51	13	3		30			43	3		46

Grade 04 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
C: Writing	C	1	1		Write opinion pieces on topics or texts, supporting a point of view with reasons and information.																				
		1	2		Write informative/explanatory texts to examine a topic and convey ideas and information clearly.																				
		1	3		Write narratives to develop real or imagined experiences or events using effective techniques, descriptive details, and clear event sequences.																				
		Total For Assessment Anchor C.1 Text Types and Purposes																							
Total For Reporting Category C																									

Grade 04 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
D: Language	D	1	1	1	Use relative pronouns and relative adverbs.	1						1			1	1						1			1
		1	1	2	Form and use the progressive verb tenses.	1						1			1	1						1			1
		1	1	3	Use modal auxiliaries to convey various conditions.				1			1			1				1			1			1
		1	1	4	Order adjectives within sentences according to conventional patterns.																				
		1	1	5	Form and use prepositional phrases.	1			1			2			2	1			1			2			2
		1	1	6	Produce complete sentences, recognizing and correcting inappropriate fragments and run-on sentences.	1						1			1	1						1			1
		1	1	7	Correctly use frequently confused words.				1			1			1				1			1			1
		1	1	8	Ensure subject-verb and pronoun-antecedent agreement.																				
		1	2	1	Use correct capitalization.	1			1			2			2	1			1			2			2
		1	2	2	Use commas and quotation marks to mark direct speech and quotations from a text.	1						1			1	1						1			1
		1	2	3	Use a comma before a coordinating conjunction in a compound sentence.	1			1			2			2	1			1			2			2
		1	2	4	Spell grade-appropriate words correctly.																				
		Total For Assessment Anchor D.1 Conventions of Standard English				7			5			12			12	7			5			12			12
	D	2	1	1	Choose words and phrases to convey ideas precisely.	1			1			2			2	1			1			2			2
		2	1	2	Choose punctuation for effect.				1			1			1				1			1			1
		2	1	3	Choose words and phrases for effect.	1			2			3			3	1			2			3			3
		Total For Assessment Anchor D.2 Knowledge of Language				2			4			6			6	2			4			6			6
Total For Reporting Category D						9			9			18			18	9			9			18			18

Grade 04 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
E: Text-Dependent Analysis	E	1	1		Draw evidence from literary or informational texts to support analysis, reflection, and/or research.			4						4	4			1						1	1
		Total For Assessment Anchor E.1 Evidence-based Analysis of Text						4						4	4			1						1	1
Total For Reporting Category E								4						4	4			1						1	1

Grade 05 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
A: Literature Text	A-K	1	1	1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences and/or making generalizations from the text.	1	2		8			9	2		11	1	1		8			9	1		10
		1	1	2	Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.	1						1			1	1						1			1
		1	1	3	Compare and contrast two or more characters, settings, or events in a story, drama, or poem, drawing on specific details in the text.	2	6		4			6	6		12	2	2		4			6	2		8
		Total For Assessment Anchor A-K.1 Key Ideas and Details				4	8		12			16	8		24	4	3		12			16	3		19
	A-C	2	1	1	Describe how a narrator's or speaker's point of view influences how events are described; describe an author's purpose and explain how it is conveyed in the text.	1			4			5			5	1			4			5			5
		Total For Assessment Anchor A-C.2 Craft and Structure				1			4			5			5	1			4			5			5
	A-C	3	1	1	Compare and contrast stories in the same genre on their approaches to similar themes and topics.																				
		Total For Assessment Anchor A-C.3 Integration of Knowledge and Ideas																							
	A-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.	3						3			3	3						3			3
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	2			8			10			10	2			8			10			10
		Total For Assessment Anchor A-V.4 Vocabulary Acquisition and Use				5			8			13			13	5			8			13			13
Total For Reporting Category A						10	8		24			34	8		42	10	3		24			34	3		37

Grade 05 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
B: Informational Text	B-K	1	1	1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences and/or making generalizations from the text.	1			5			6			6	1			5			6			6
		1	1	2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.		5						5		5		2						2		2
		1	1	3	Explain the relationships or interactions between two or more individuals, events, ideas, steps, or concepts in a historical, scientific, or technical text based on specific information in the text.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor B-K.1 Key Ideas and Details				3	5		10			13	5		18	3	2		10			13	2		15
	B-C	2	1	1	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.	1						1			1	1						1			1
		2	1	2	Compare and contrast the overall structure of events, ideas, concepts, or information and text features in two or more texts.	1						1			1	1						1			1
		Total For Assessment Anchor B-C.2 Craft and Structure				2						2			2	2						2			2
	B-C	3	1	1	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).	1	2		5			6	2		8	1	1		5			6	1		7
		3	1	2	Integrate information from several texts on the same topic in order to demonstrate subject knowledge.	1						1			1	1						1			1
		3	1	3	Interpret text features and/or make connections between text and the content of text features.	3			5			8			8	3			5			8			8
		Total For Assessment Anchor B-C.3 Integration of Knowledge and Ideas				5	2		10			15	2		17	5	1		10			15	1		16
	B-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.	1						1			1	1						1			1
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	2			10			12			12	2			10			12			12
		Total For Assessment Anchor B-V.4 Vocabulary Acquisition and Use				3			10			13			13	3			10			13			13
Total For Reporting Category B						13	7		30			43	7		50	13	3		30			43	3		46

Grade 05 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
C: Writing	C	1	1		Write opinion pieces on topics or texts, supporting a point of view with reasons and information.																				
		1	2		Write informative/explanatory texts to examine a topic and convey ideas and information clearly.																				
		1	3		Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.																				
		Total For Assessment Anchor C.1 Text Types and Purposes																							
Total For Reporting Category C																									

Grade 05 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
D: Language	D	1	1	1	Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.	1						1			1	1						1			1
		1	1	2	Form and use the perfect verb tenses.																				
		1	1	3	Use verb tense to convey various times, sequences, states, and conditions.																				
		1	1	4	Recognize and correct inappropriate shifts in verb tense.	1						1			1	1						1			1
		1	1	5	Use correlative conjunctions.				1			1			1				1			1			1
		1	1	6	Produce complete sentences, recognizing and correcting inappropriate fragments and run-on sentences.				1			1			1				1			1			1
		1	1	7	Correctly use frequently confused words.	1			1			2			2	1			1			2			2
		1	1	8	Ensure subject-verb and pronoun-antecedent agreement.				1			1			1				1			1			1
		1	2	1	Use punctuation to separate items in a series.				1			1			1				1			1			1
		1	2	2	Use a comma to separate an introductory element from the rest of the sentence.	1						1			1	1						1			1
		1	2	3	Use a comma to set off the words yes and no, to set off a tag question from the rest of the sentence, and to indicate direct address.				1			1			1				1			1			1
		1	2	4	Use underlining, quotation marks, or italics to indicate titles of works.	1						1			1	1						1			1
		1	2	5	Spell grade-appropriate words correctly.	1						1			1	1						1			1
		Total For Assessment Anchor D.1 Conventions of Standard English				6			6			12			12	6			6			12			12
		2	1	1	Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.	2			1			3			3	2			1			3			3
		2	1	2	Choose words and phrases to convey ideas precisely.				1			1			1				1			1			1
		2	1	3	Choose punctuation for effect.	1						1			1	1						1			1
		2	1	4	Choose words and phrases for effect.				1			1			1				1			1			1
		Total For Assessment Anchor D.2 Knowledge of Language				3			3			6			6	3			3			6			6
Total For Reporting Category D						9			9			18			18	9			9			18			18

Grade 05 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
E: Text-Dependent Analysis	E	1	1		Draw evidence from literary or informational texts to support analysis, reflection, and/or research.			4						4	4			1						1	1
		Total For Assessment Anchor E.1 Evidence-based Analysis of Text						4						4	4			1						1	1
Total For Reporting Category E								4						4	4			1						1	1

Grade 06 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
A: Literature Text	A-K	1	1	1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences and/or generalizations drawn from the text.	1	5					1	5		6	1	2					1	2		3
		1	1	2	Determine a theme or central idea of a text and how it is conveyed through relevant details; provide a summary of the text distinct from personal opinions or judgments.	2			5			7			7	2			5			7			7
		1	1	3	Describe how the plot of a particular story, drama, or poem unfolds; as well as how the characters respond or change as the plot moves toward a resolution.	1			5			6			6	1			5			6			6
		Total For Assessment Anchor A-K.1 Key Ideas and Details				4	5		10			14	5		19	4	2		10			14	2		16
	A-C	2	1	1	Determine an author's purpose in a text and explain how it is conveyed in the text; explain how an author develops the point of view of the narrator or speaker in a text; describe the effectiveness of the point of view used by the author.	1						1			1	1						1			1
		2	1	2	Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.	2						2			2	2						2			2
		2	1	3	Determine how the author uses the meaning of words or phrases, including figurative and connotative meanings, in a text; analyze the impact of a specific word choice on meaning and tone.	2			10			12			12	2			10			12			12
		Total For Assessment Anchor A-C.2 Craft and Structure				5			10			15			15	5			10			15			15
		3	1	1	Compare and contrast texts in different forms or genres in terms of their approaches to similar themes and topics.	1	3					1	3		4	1	1					1	1		2
		Total For Assessment Anchor A-C.3 Integration of Knowledge and Ideas				1	3					1	3		4	1	1					1	1		2
	A-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.				5			5			5				5			5			5
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor A-V.4 Vocabulary Acquisition and Use				2			10			12			12	2			10			12			12
Total For Reporting Category A						12	8		30			42	8		50	12	3		30			42	3		45

Grade 06 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
B: Informational Text	B-K	1	1	1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences and/or generalizations drawn from the text.		2		4			4	2		6		1		4			4	1		5
		1	1	2	Determine a central idea of a text and how it is conveyed through relevant details; provide a summary of the text distinct from personal opinions or judgments.	1			4			5			5	1			4			5			5
		1	1	3	Analyze in detail how a key individual, event, or idea is introduced, illustrated, or elaborated in a text.		3		4			4	3		7		1		4			4	1		5
		Total For Assessment Anchor B-K.1 Key Ideas and Details				1	5		12			13	5		18	1	2		12			13	2		15
	B-C	2	1	1	Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.	1			4			5			5	1			4			5			5
		2	1	2	Analyze how a particular sentence, paragraph, chapter, section, or text feature fits into the overall development of the ideas.	3						3			3	3						3			3
		2	1	3	Determine how the author uses the meaning of words or phrases, including figurative, connotative, or technical meanings, in a text.	1						1			1	1						1			1
		Total For Assessment Anchor B-C.2 Craft and Structure				5			4			9			9	5			4			9			9
		3	1	1	Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.	2	2		4			6	2		8	2	1		4			6	1		7
		3	1	2	Compare and contrast one author's presentation of events with that of another.																				
		Total For Assessment Anchor B-C.3 Integration of Knowledge and Ideas				2	2		4			6	2		8	2	1		4			6	1		7
	B-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexbily from a range of strategies.	2			4			6			6	2			4			6			6
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	1						1			1	1						1			1
		Total For Assessment Anchor B-V.4 Vocabulary Acquisition and Use				3			4			7			7	3			4			7			7
Total For Reporting Category B						11	7		24			35	7		42	11	3		24			35	3		38

Grade 06 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
C: Writing	C	1	1		Write arguments to support claims with clear reasons and relevant evidence.																				
		1	2		Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.																				
		1	3		Write narratives to develop real or imagined experiences or events using effective techniques, relevant descriptive details, and well-structured event sequences.																				
		Total For Assessment Anchor C.1 Text Types and Purposes																							
Total For Reporting Category C																									

Grade 06 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
D: Language	D	1	1	1	Ensure that pronouns are in the proper case.	1						1			1	1						1			1
		1	1	2	Use intensive pronouns.				1			1			1				1			1			1
		1	1	3	Recognize and correct inappropriate shifts in pronoun number and person.																				
		1	1	4	Recognize and correct vague pronouns.				1			1			1				1			1			1
		1	1	5	Recognize and correct inappropriate shifts in verb tense.	1						1			1	1						1			1
		1	1	6	Produce complete sentences, recognizing and correcting inappropriate fragments and run-on sentences.				1			1			1				1			1			1
		1	1	7	Correctly use frequently confused words.	1			1			2			2	1			1			2			2
		1	1	8	Ensure subject-verb and pronoun-antecedent agreement.																				
		1	2	1	Use punctuation to set of nonrestrictive/parenthetical elements.	1			1			2			2	1			1			2			2
		1	2	2	Spell correctly.				1			1			1				1			1			1
		1	2	3	Use punctuation to separate items in a series.	1			1			2			2	1			1			2			2
		Total For Assessment Anchor D.1 Conventions of Standard English				5			7			12			12	5			7			12			12
		2	1	1	Vary sentence patterns for meaning, reader/listener interest, and style.	1						1			1	1						1			1
		2	1	2	Maintain consistency in style and tone.				1			1			1				1			1			1
		2	1	3	Choose words and phrases to convey ideas precisely.	1			1			2			2	1			1			2			2
		2	1	4	Choose punctuation for effect.	1						1			1	1						1			1
		2	1	5	Choose words and phrases for effect.	1						1			1	1						1			1
		Total For Assessment Anchor D.2 Knowledge of Language				4			2			6			6	4			2			6			6
Total For Reporting Category D						9			9			18			18	9			9			18			18

Grade 06 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
E: Text-Dependent Analysis	E	1	1		Draw evidence from literary or informational texts to support analysis, reflection, and/or research.			4						4	4			1						1	1
		Total For Assessment Anchor E.1 Evidence-based Analysis of Text						4						4	4			1						1	1
Total For Reporting Category E								4						4	4			1						1	1

Grade 07 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
A: Literature Text	A-K	1	1	1	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences, conclusions, and/or generalizations drawn from the text.		2						2		2		1						1		1
		1	1	2	Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.				4			4			4				4			4			4
		1	1	3	Analyze how particular elements of a story, drama, or poem interact.	1	2					1	2		3	1	1					1	1		2
		Total For Assessment Anchor A-K.1 Key Ideas and Details				1	4		4			5	4		9	1	2		4			5	2		7
	A-C	2	1	1	Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.	1	3		4			5	3		8	1	1		4			5	1		6
		2	1	2	Analyze how a drama's or poem's form or structure contributes to its meaning.																				
		2	1	3	Determine how the author uses the meaning of words or phrases, including figurative and connotative meanings, in a text; analyze the impact of rhymes and other repititions of sounds on a specific verse or stanza of a poem or section of a story or drama.	3			8			11			11	3			8			11			11
		Total For Assessment Anchor A-C.2 Craft and Structure				4	3		12			16	3		19	4	1		12			16	1		17
	A-C	3	1	1	Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.	1						1			1	1						1			1
		Total For Assessment Anchor A-C.3 Integration of Knowledge and Ideas				1						1			1	1						1			1
	A-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies.	4						4			4	4						4			4
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	2			8			10			10	2			8			10			10
		Total For Assessment Anchor A-V.4 Vocabulary Acquisition and Use				6			8			14			14	6			8			14			14
Total For Reporting Category A						12	7		24			36	7		43	12	3		24			36	3		39

Grade 07 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items						Total Number of Items (Core & EB)			
																Core			EB						
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
B: Informational Text	B-K	1	1	1	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences, conclusions, and/or generalizations drawn from the text.	1			5			6			6	1			5			6			6
		1	1	2	Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.		6						6		6		2						2		2
		1	1	3	Analyze the interactions between individuals, events, and ideas in a text.	3			5			8			8	3			5			8			8
		Total For Assessment Anchor B-K.1 Key Ideas and Details				4	6		10			14	6		20	4	2		10			14	2		16
	B-C	2	1	1	Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.	1						1			1	1						1			1
		2	1	2	Analyze the structure an author uses to organize a text, including how major sections and text features contribute to the whole and to the development of the ideas.	1						1			1	1						1			1
		2	1	3	Determine how the author uses the meaning of words or phrases, including figurative, connotative, or technical meanings, in a text; analyze the impact of a specific word choice on meaning and tone.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor B-C.2 Craft and Structure				4			5			9			9	4			5			9			9
	B-C	3	1	1	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.	1	2		5			6	2		8	1	1		5			6	1		7
		3	1	2	Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.																				
		Total For Assessment Anchor B-C.3 Integration of Knowledge and Ideas				1	2		5			6	2		8	1	1		5			6	1		7
	B-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies.				5			5			5				5			5			5
		4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor B-V.4 Vocabulary Acquisition and Use				2			10			12			12	2			10			12			12
Total For Reporting Category B						11	8		30			41	8		49	11	3		30			41	3		44

Grade 07 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
C: Writing	C	1	1		Write arguments to support claims with clear reasons and relevant evidence.																				
		1	2		Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.																				
		1	3		Write narratives to develop real or imagined experiences or events using effective techniques, relevant descriptive details, and well-structured event sequences.																				
		Total For Assessment Anchor C.1 Text Types and Purposes																							
Total For Reporting Category C																									

Grade 07 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
D: Language	D	1	1	1	Explain the function of phrases and clauses in general and their function in specific sentences.	1						1			1	1						1			1
		1	1	2	Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.																				
		1	1	3	Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	1						1			1	1						1			1
		1	1	4	Recognize and correct inappropriate shifts in pronoun number and person.																				
		1	1	5	Recognize and correct vague pronouns.				1			1			1				1			1			1
		1	1	6	Recognize and correct inappropriate shifts in verb tense.																				
		1	1	7	Produce complete sentences, recognizing and correcting inappropriate fragments and run-on sentences.	1			1			2			2	1			1			2			2
		1	1	8	Correctly use frequently confused words.				1			1			1				1			1			1
		1	1	9	Ensure subject-verb and pronoun-antecedent agreement.																				
		1	2	1	Use a comma to separate coordinate adjectives.				1			1			1				1			1			1
		1	2	2	Spell correctly.	1			1			2			2	1			1			2			2
		1	2	3	Use punctuation to set of nonrestrictive/parenthetical elements.	2			1			3			3	2			1			3			3
		1	2	4	Use punctuation to separate items in a series.				1			1			1				1			1			1
		Total For Assessment Anchor D.1 Conventions of Standard English				6			7			13			13	6			7			13			13
		2	1	1	Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.	1			1			2			2	1			1			2			2
		2	1	2	Vary sentence patterns for meaning, reader/listener interest, and style.																				
		2	1	3	Maintain consistency in style and tone.	1			1			2			2	1			1			2			2
		2	1	4	Choose punctuation for effect.	1						1			1	1						1			1
		2	1	5	Choose words and phrases for effect.																				
		Total For Assessment Anchor D.2 Knowledge of Language				3			2			5			5	3			2			5			5
Total For Reporting Category D						9			9			18			18	9			9			18			18

Grade 07 **English Language Arts**

Reporting Category		Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
E: Text-Dependent Analysis	E	1	1		Draw evidence from literary or informational texts to support analysis, reflection, and/or research.			4						4	4			1						1	1
		Total For Assessment Anchor E.1 Evidence-based Analysis of Text						4						4	4			1						1	1
Total For Reporting Category E								4						4	4			1						1	1

Grade 08 **English Language Arts**

Reporting Category		Assessment Anchor	DesESRiptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
A: Literature Text	A-K	1	1	1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences, conclusions, and/or generalizations drawn from the text.	2						2			2	2						2			2
	A-K	1	1	2	Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.	1	3					1	3		4	1	1					1	1		2
	A-K	1	1	3	Analyze how particular lines of dialogue or incidents in a story, drama, or poem propel the action, reveal aspects of a character, or provoke a decision.	1	2		5			6	2		8	1	1		5			6	1		7
		Total For Assessment Anchor A-K.1 Key Ideas and Details				4	5		5			9	5		14	4	2		5			9	2		11
	A-C	2	1	1	Analyze how differences in the points of view of the characters and the audience or reader ESReate such effects as suspense or humor.	2			5			7			7	2			5			7			7
	A-C	2	1	2	Compare and contrast the structure of two or more texts, and analyze how the differing structure of each text contributes to its meaning and style.																				
	A-C	2	1	3	Determine how the author uses the meaning of words or phrases, including figurative and connotative meanings, in a text; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	2			5			7			7	2			5			7			7
		Total For Assessment Anchor A-C.2 ESRaft and Structure				4			10			14			14	4			10			14			14
	A-C	3	1	1	Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths and traditional stories, including desESRibing how the material is rendered new.		2						2		2		1						1		1
		Total For Assessment Anchor A-C.3 Integration of Knowledge and Ideas					2						2		2		1						1		1
	A-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.	3			5			8			8	3			5			8			8
	A-V	4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.				10			10			10				10			10			10
		Total For Assessment Anchor A-V.4 Vocabulary Acquisition and Use				3			15			18			18	3			15			18			18
Total For Reporting Category A						11	7		30			41	7		48	11	3		30			41	3		44

Grade 08 **English Language Arts**

Reporting Category		Assessment Anchor	DesESRiptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
B: Informational Text	B-K	1	1	1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences, conclusions and/or generalizations drawn from the text.	2			4			6			6	2			4			6			6
	B-K	1	1	2	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.		3		4			4	3		7		1		4			4	1		5
	B-K	1	1	3	Analyze how a text makes connections among and distinctions between individuals, ideas, or events.				4			4			4				4			4			4
		Total For Assessment Anchor B-K.1 Key Ideas and Details				2	3		12			14	3		17	2	1		12			14	1		15
	B-C	2	1	1	Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.	1						1			1	1						1			1
	B-C	2	1	2	Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.	2						2			2	2						2			2
	B-C	2	1	3	Determine how the author uses the meaning of words or phrases, including figurative, connotative, or technical meanings, in a text; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	2						2			2	2						2			2
		Total For Assessment Anchor B-C.2 ESRaft and Structure				5						5			5	5						5			5
	B-C	3	1	1	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	1	3		4			5	3		8	1	1		4			5	1		6
	B-C	3	1	2	Analyze a case in which two or more texts provide conflicting information on the same topic, and identify where the texts disagree on matters of fact or interpretation.																				
		Total For Assessment Anchor B-C.3 Integration of Knowledge and Ideas				1	3		4			5	3		8	1	1		4			5	1		6
	B-V	4	1	1	Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.	3			4			7			7	3			4			7			7
	B-V	4	1	2	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	1	2		4			5	2		7	1	1		4			5	1		6
		Total For Assessment Anchor B-V.4 Vocabulary Acquisition and Use				4	2		8			12	2		14	4	1		8			12	1		13
Total For Reporting Category B						12	8		24			36	8		44	12	3		24			36	3		39

Grade 08 **English Language Arts**

Reporting Category		Assessment Anchor	DesESRiptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total	MC	ESR	WP	MC	ESR	WP	MC	ESR	WP	Total
C: Writing	C	1	1		Write arguments to support claims with clear reasons and relevant evidence.																				
	C	1	2		Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.																				
	C	1	3		Write narratives to develop real or imagined experiences or events using effective techniques, relevant desESRiptive details, and well-structured event sequences.																				
		Total For Assessment Anchor C.1 Text Types and Purposes																							
Total For Reporting Category C																									

Grade 08 **English Language Arts**

Reporting Category		Assessment Anchor	DesESRiptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total	MC	ESR	OE	MC	ESR	OE	MC	ESR	OE	Total
D: Language	D	1	1	1	Explain the function of verbals in general and their function in particular sentences.																				
	D	1	1	2	Form and use verbs in the active and passive voice.	1			2			3			3	1			2			3			3
	D	1	1	3	Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.																				
	D	1	1	4	Recognize and correct inappropriate shifts in verb voice and mood.																				
	D	1	1	5	Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	1			1			2			2	1			1			2			2
	D	1	1	6	Recognize and correct inappropriate shifts in pronoun number and person.																				
	D	1	1	7	Recognize and correct vague pronouns.																				
	D	1	1	8	Recognize and correct inappropriate shifts in verb tense.	1						1			1	1						1			1
	D	1	1	9	Produce complete sentences, recognizing and correcting inappropriate fragments and run-on sentences.	1						1			1	1						1			1
	D	1	1	10	Correctly use frequently confused words.				1			1			1				1			1			1
	D	1	1	11	Ensure subject-verb and pronoun-antecedent agreement.																				
	D	1	2	1	Use punctuation to indicate a pause or a break.	1			1			2			2	1			1			2			2
	D	1	2	2	Use an ellipsis to indicate an omission.	1						1			1	1						1			1
	D	1	2	3	Spell correctly.				1			1			1				1			1			1
	D	1	2	4	Use punctuation to set of nonrestrictive/parenthetical elements.				1			1			1				1			1			1
	D	1	2	5	Use punctuation to separate items in a series.	1						1			1	1						1			1
		Total For Assessment Anchor D.1 Conventions of Standard English				7			7			14			14	7			7			14			14
	D	2	1	1	Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects.																				
	D	2	1	2	Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.																				
	D	2	1	3	Vary sentence patterns for meaning, reader/listener interest, and style.	1			1			2			2	1			1			2			2
	D	2	1	4	Maintain consistency in style and tone.																				
	D	2	1	5	Choose punctuation for effect.																				
	D	2	1	6	Choose words and phrases for effect.	1			1			2			2	1			1			2			2
		Total For Assessment Anchor D.2 Knowledge of Language				2			2			4			4	2			2			4			4
Total For Reporting Category D						9			9			18			18	9			9			18			18

Grade 08 **English Language Arts**

Reporting Category		Assessment Anchor	DesESRiptor (Sub-anchor)	Eligible Content	Focus	Points										Items									
						Student Scores (Core Points)			Equating Block (EB)			Total Points (Core & EB)				Number of Items Core			Number of Items EB			Total Number of Items (Core & EB)			
						MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total	MC	ESR	TDA	MC	ESR	TDA	MC	ESR	TDA	Total
E: Text-Dependent Analysis	E	1	1		Draw evidence from literary or informational texts to support analysis, reflection, and/or research.			4						4	4			1						1	1
		Total For Assessment Anchor E.1 Evidence-based Analysis of Text						4						4	4			1						1	1
Total For Reporting Category E								4						4	4			1						1	1

Grade 04 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	SCR	MC	SCR	MC	SCR	Total	MC	SCR	MC	SCR	MC	SCR	Total
	1	1	1	Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations).	1				1		1	1				1		1
	1	1	2	Identify and describe examples of common technological changes past to present in the community (e.g., energy production, transportation, communications.	1	2			1	2	3	1	1			1	1	2
	1	3	1	Observe and record change by using time and measurement.	2				2		2	2				2		2
	1	3	2	Describe relative size, distance, or motion.			1		1		1			1		1		1
	1	3	3	Observe and describe the change to objects caused by temperature change or light.			1		1		1			1		1		1
	1	3	4	Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else).	2	2	1		3	2	5	2	1	1		3	1	4
	1	3	5	Provide examples, predict, or describe how everyday human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) may change the environment.		2	1		1	2	3		1	1		1	1	2
	Total For Assessment Anchor A.1 Reasoning and Analysis				6	6	4		10	6	16	6	3	4		10	3	13

	2	1	1	Generate questions about objects, organisms, or events that can be answered through scientific investigations.			1		1		1			1		1		1
	2	1	2	Design and describe an investigation (a fair test) to test one variable.	1		1		2		2	1		1		2		2
	2	1	3	Observe a natural phenomenon (e.g., weather changes, length of daylight/night, movement of shadows, animal migrations, growth of plants), record observations, and then make a prediction based on those observations.			1		1		1			1		1		1
	2	1	4	State a conclusion that is consistent with the information/data.	3		1		4		4	3		1		4		4
A	2	2	1	Identify appropriate tools or instruments for specific tasks and describe the information they can provide (e.g., measuring: length - ruler, mass - balance scale, volume - beaker, temperature - thermometer; making observations: hand lens, binoculars, telescope).	2		1		3		3	2		1		3		3
	Total For Assessment Anchor A.2 Processes, Procedures, and Tools of Scientific Investigations				6		5		11		11	6		5		11		11

3	1	1	Categorize systems as either natural or human-made (e.g., ballpoint pens, simple electrical circuits, plant anatomy, water cycle).	1		1		2		2	1		1		2		2
3	1	2	Explain a relationship between the living and nonliving components in a system (e.g., food web, terrarium).	2				2		2	2				2		2
3	1	3	Categorize the parts of an ecosystem as either living or nonliving and describe their roles in the system.	1				1		1	1				1		1
3	1	4	Identify the parts of the food and fiber systems as they relate to agricultural products from the source to the consumer.	1		1		2		2	1		1		2		2
3	2	1	Identify what different models represent (e.g., maps show physical features, directions, distances; globes represent Earth; drawings of watersheds depict terrain; dioramas show ecosystems; concept maps show relationships of ideas).Identify what different models represent														
3	2	2	Use models to make observations to explain how systems work (e.g., water cycle, Sun-Earth-Moon system).														
3	2	3	Use appropriate, simple modeling tools and techniques to describe or illustrate a system (e.g., two cans and string to model a communications system, terrarium to model an ecosystem).	1				1		1	1				1		1
3	3	1	Identify and describe observable patterns (e.g., growth patterns in plants, weather, water cycle).	1		1		2		2	1		1		2		2
3	3	2	Predict future conditions/events based on observable patterns (e.g., day/night, seasons, sunrise/sunset, lunar phases).														
Total For Assessment Anchor A.3 Systems, Models, and Patterns				7		3		10		10	7		3		10		10
Total For Reporting Category A: Nature of Science				19	6	12		31	6	37	19	3	12		31	3	34

Grade 04 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	SCR	MC	SCR	MC	SCR	Total	MC	SCR	MC	SCR	MC	SCR	Total
	1	1	1	Identify life processes of living things (e.g., growth, digestion, respiration).	1				1		1	1				1		1
	1	1	2	Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments).	1				1		1	1				1		1
	1	1	3	Describe basic needs of plants and animals (e.g., air, water, food).														
	1	1	4	Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).														
	1	1	5	Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).			1		1		1			1		1		1
	Total For Assessment Anchor B.1 Structures and Functions of Organisms				2		1		3		3	2		1		3		3
	2	1	1	Identify characteristics for plant and animal survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest).	2	2			2	2	4	2	1			2	1	3
	2	1	2	Explain how specific adaptations can help a living organism survive (e.g., protective coloration, mimicry, leaf sizes and shapes, ability to catch or retain water).			1		1		1			1		1		1
	2	2	1	Identify physical characteristics (e.g., height, hair color, eye color, attached earlobes, ability to roll tongue) that appear in both parents and could be passed on to offspring.	1				1		1	1				1		1
	Total For Assessment Anchor B.2 Continuity of Life				3	2	1		4	2	6	3	1	1		4	1	5

B	3	1	1	Describe the living and nonliving components of a local ecosystem (e.g., lentic and lotic systems, forest, cornfield, grasslands, city park, playground).															
	3	1	2	Describe interactions between living and nonliving components (e.g. plants – water, soil, sunlight, carbon dioxide, temperature; animals – food, water, shelter, oxygen, temperature) of a local ecosystem.															
	3	2	1	Describe what happens to a living thing when its habitat is changed.															
	3	2	2	Describe and predict how changes in the environment (e.g., fire, pollution, flood, building dams) can affect systems.	1				1		1	1				1		1	
	3	2	3	Explain and predict how changes in seasons affect plants, animals, or daily human life (e.g., food availability, shelter, mobility).			1		1		1			1		1		1	
	3	3	1	Identify everyday human activities (e.g., driving, washing, eating, manufacturing, farming) within a community that depend on the natural environment.															
	3	3	2	Describe the human dependence on the food and fiber systems from production to consumption (e.g., food, clothing, shelter, products).															
	3	3	3	Identify biological pests (e.g., fungi – molds, plants – foxtail, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources.	1		1		2		2	1		1		2		2	
	3	3	4	Identify major land uses in the urban, suburban and rural communities (e.g., housing, commercial, recreation).															
	3	3	5	Describe the effects of pollution (e.g., litter) in the community.															
	Total For Assessment Anchor B.3 Ecological Behavior and Systems				2		2		4		4	2		2		4		4	
Total For Reporting Category B: Biology					7	2	4		11	2	13	7	1	4		11	1	12	

Grade 04 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items		
												Core		EB		(Core & EB)		
					MC	SCR	MC	SCR	MC	SCR	Total	MC	SCR	MC	SCR	MC	SCR	Total
C	1	1	1	Use physical properties [e.g., mass, shape, size, volume, color, texture, magnetism, state to describe matter.	2		1		3		3	2		1		3		3
	1	1	2	Categorize/group objects using physical characteristics.	1				1		1	1				1		1
	Total For Assessment Anchor C.1 Structures, Properties, and Interaction of Matter and Energy				3		1		4		4	3		1		4		4
	2	1	1	Identify energy forms, energy transfer, and energy examples (e.g., light, heat, electrical).														
	2	1	2	Describe the flow of energy through an object or system (e.g., feeling radiant heat from a light bulb, eating food to get energy, using a battery to light a bulb or run a fan).	1		1		2		2	1		1		2		2
	2	1	3	Recognize or illustrate simple direct current series and parallel circuits composed of batteries, light bulbs (or other common loads), wire, and on/off switches.	1				1		1	1				1		1
	2	1	4	Identify characteristics of sound (e.g., pitch, loudness, reflection).			1		1		1			1		1		1
	Total For Assessment Anchor C.2 Forms, Sources, Conversions, and Transer of Energy				2		2		4		4	2		2		4		4
	3	1	1	Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction).	1	2			1	2	3	1	1			1	1	2
	3	1	2	Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round).														
	3	1	3	Describe the position of an object by locating it relative to another object or a stationary background (e.g., geographic direction, left, up).			1		1		1			1		1		1
	Total For Assessment Anchor C.3 Principles of Motion and Force				1	2	1		2	2	4	1	1	1		2	1	3
Total For Reporting Category C: Physical Sciences					6	2	4		10	2	12	6	1	4		10	1	11

Grade 04 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	SCR	MC	SCR	MC	SCR	Total	MC	SCR	MC	SCR	MC	SCR	Total
D	1	1	1	Describe how prominent Earth features in Pennsylvania (e.g., mountains, valleys, caves, sinkholes, lakes, rivers) were formed.														
	1	1	2	Identify various Earth structures (e.g., mountains, watersheds, peninsulas, lakes, rivers, valleys) through the use of models.														
	1	1	3	Describe the composition of soil as weathered rock and decomposed organic remains.														
	1	2	1	Identify products and by-products of plants and animals for human use (e.g., food, clothing, building materials, paper products).														
	1	2	2	Identify the types and uses of Earth materials for renewable, nonrenewable, and reusable products (e.g., human-made products: concrete, paper, plastics, fabrics).	1				1		1	1				1		1
	1	2	3	Recognize ways that humans benefit from the use of water resources (e.g., agriculture, energy, recreation).	1				1		1	1				1		1
	1	3	1	Describe types of freshwater and saltwater bodies (e.g., lakes, rivers, wetlands, oceans).														
	1	3	2	Explain how water goes through phase changes (i.e., evaporation, condensation, freezing, and melting).			1		1		1			1		1		1
	1	3	3	Describe or compare lentic systems (i.e., ponds, lakes, and bays) and lotic systems (i.e., streams, creeks, and rivers).														
	1	3	4	Explain the role and relationship of a watershed or a wetland on water sources (e.g., water storage, groundwater recharge, water filtration, water source, water cycle).			1		1		1			1		1		1
	Total For Assessment Anchor D.1 Earth Features and Processes that Change Earth and its Resources				2		2		4		4	2		2		4		4

2	1	1	Identify basic cloud types (i.e., cirrus, cumulus, stratus, and cumulonimbus) and make connections to basic elements of weather (e.g., changes in temperature, precipitation).															
2	1	2	Identify weather patterns from data charts or graphs of the data (e.g., temperature, wind direction, wind speed, cloud types, precipitation).	1				1		1	1				1		1
2	1	3	Identify appropriate instruments (i.e., thermometer, rain gauge, weather vane, anemometer, and barometer) to study weather and what they measure.	1		1		2		2	1		1		2		2
Total For Assessment Anchor D.2 Weather, Climate, and Atmospheric Processes				2		1		3		3	2		1		3		3
3	1	1	Describe motions of the Sun - Earth - Moon system.															
3	1	2	Explain how the motion of the Sun - Earth - Moon system relates to time (e.g., days, months, years).	1				1		1	1				1		1
3	1	3	Describe the causes of seasonal change as they relate to the revolution of Earth and the tilt of Earth's axis.	1		1		2		2	1		1		2		2
Total For Assessment Anchor D.3 Composition and Structure of the Universe				2		1		3		3	2		1		3		3
Total For Reporting Category D: Earth and Space Sciences				6		4		10		10	6		4		10		10

Grade 08 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items		
												Core		EB		(Core & EB)		
					MC	SCR	MC	SCR	MC	SCR	Total	MC	SCR	MC	SCR	MC	SCR	Total
	1	1	1	Distinguish between a scientific theory and an opinion, explaining how a theory is supported with evidence, or how new data/information may change existing theories and practices	2		1		3		3	2		1		3		3
	1	1	2	Explain how certain questions can be answered through scientific inquiry and/or technological design.	1				1		1	1				1		1
	1	1	3	Use evidence, such as observations or experimental results, to support inferences about a relationship.	1				1		1	1				1		1
	1	1	4	Develop descriptions, explanations, predictions, and models using evidence.														
	1	2	1	Describe the positive and negative, intended and unintended, effects of specific scientific results or technological developments (e.g., air/space travel, genetic engineering, nuclear fission/fusion, artificial intelligence, lasers, organ transplants).														
	1	2	2	Identify environmental issues and explain their potential long-term health effects (e.g., pollution, pest controls, vaccinations).														
	1	2	3	Describe fundamental scientific or technological concepts that could solve practical problems (e.g., Newton's laws of motion, Mendelian genetics).			1		1		1			1		1		1
	1	2	4	Explain society's standard of living in terms of technological advancements and how these advancements impact on agriculture (e.g., transportation, processing, production, storage).	1				1		1	1				1		1

1	3	1	Use ratio to describe change (e.g., percents, parts per million, grams per cubic centimeter, mechanical advantage).			2		2		2			2		2		2
1	3	2	Use evidence, observations, or explanations to make inferences about change in systems over time (e.g., carrying capacity, succession, population dynamics, loss of mass in chemical reactions, indicator fossils in geologic time scale) and the variables affecting these changes.	1				1		1	1				1		1
1	3	3	Examine systems changing over time, identifying the possible variables causing this change, and drawing inferences about how these variables affect this change.			1		1		1			1		1		1
1	3	4	Given a scenario, explain how a dynamically changing environment provides for the sustainability of living systems.														
Total For Assessment Anchor A.1 Reasoning and Analysis				6		5		11		11	6		5		11		11

A: Nature of Science	2	1	1	Use evidence, observations, or a variety of scales (e.g., mass, distance, volume, temperature) to describe relationships.	2	2			2	2	4	2	1			2	1	3
	2	1	2	Use space/time relationships, define concepts operationally, raise testable questions, or formulate hypotheses.	1				1		1	1				1		1
	2	1	3	Design a controlled experiment by specifying how the independent variables will be manipulated, how the dependent variable will be measured, and which variables will be held constant.		2	1		1	2	3		1	1		1	1	2
	2	1	4	Interpret data/observations; develop relationships among variables based on data/observations to design models as solutions.														
	2	1	5	Use evidence from investigations to clearly communicate and support conclusions.														
	2	1	6	Identify a design flaw in a simple technological system and devise possible working solutions.			2		2		2			2		2		2
	2	2	1	Describe the appropriate use of instruments and scales to accurately and safely measure time, mass, distance, volume, or temperature under a variety of conditions.	1				1		1	1				1		1
	2	2	2	Apply appropriate measurement systems (e.g., time, mass, distance, volume, temperature) to record and interpret observations under varying conditions.	1				1		1	1				1		1
	2	2	3	Describe ways technology (e.g., microscope, telescope, micrometer, hydraulics, barometer) extends and enhances human abilities for specific purposes.			1		1		1			1		1		1
	Total For Assessment Anchor A.2 Processes, Procedures, and Tools of Scientific Investigations				5	4	4		9	4	13	5	2	4		9	2	11

3	1	1	Describe a system (e.g., watershed, circulatory system, heating system, agricultural system) as a group of related parts with specific roles that work together to achieve an observed result.															
3	1	2	Explain the concept of order in a system [e.g., (first to last: manufacturing steps, trophic levels); (simple to complex: cell, tissue, organ, organ system)].	2		1		3		3	2		1		3		3
3	1	3	Distinguish between system inputs, system processes, system outputs, and feedback (e.g., physical, ecological, biological, informational).															
3	1	4	Distinguish between open loop (e.g., energy flow, food web) and closed loop (e.g., materials in the nitrogen and carbon cycles, closed-switch) systems.	1				1		1	1				1		1
3	1	5	Explain how components of natural and human-made systems play different roles in a working system.	1				1		1	1				1		1
3	2	1	Describe how scientists use models to explore relationships in natural systems (e.g., an ecosystem, river system, the solar system).	1		1		2		2	1		1		2		2
3	2	2	Describe how engineers use models to develop new and improved technologies to solve problems.	1		1		2		2	1		1		2		2
3	2	3	Given a model showing simple cause-and-effect relationships in a natural system, predict results that can be used to test the assumptions in the model (e.g., photosynthesis, water cycle, diffusion, infiltration).	1				1		1	1				1		1
3	3	1	Identify and describe patterns as repeated processes or recurring elements in human-made systems (e.g., trusses, hub-and-spoke system in communications and transportation systems, feedback controls in regulated systems).	1				1		1	1				1		1
3	3	2	Describe repeating structure patterns in nature(e.g., veins in a leaf, tree rings, crystals, water waves) or periodic patterns (e.g., daily, monthly, annually).	2				2		2	2				2		2
Total For Assessment Anchor A.3 Systems, Models, and Patterns				10		3		13		13	10		3		13		13
Total For Reporting Category A				21	4	12		33	4	37	21	2	12		33	2	35

Grade 08 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
	1	1	1	Describe the structures of living things that help them function effectively in specific ways (e.g., adaptations, characteristics).		2				2	2		1				1	1
	1	1	2	Compare similarities and differences in internal structures of organisms (e.g., invertebrate/vertebrate, vascular/nonvascular, single-celled/multi-celled) and external structures (e.g., appendages, body segments, type of covering, size, shape).	1				1		1	1				1		1
	1	1	3	Apply knowledge of characteristic structures to identify or categorize organisms (i.e., plants, animals, fungi, bacteria, and protista).		2	1		1	2	3		1	1		1	1	2
	1	1	4	Identify the levels of organization from cell to organism and describe how specific structures (parts), which underlie larger systems, enable the system to function as a whole.			1		1		1			1		1		1
	Total For Assessment Anchor B.1 Structures and Functions of Organisms				1	4	2		3	4	7	1	2	2		3	2	5

B: Biological Sciences	2	1	1	Explain how inherited structures or behaviors help organisms survive and reproduce in different environments.	1				1		1	1				1		1
	2	1	2	Explain how different adaptations in individuals of the same species may affect survivability or reproduction success.														
	2	1	3	Explain that mutations can alter a gene and are the original source of new variations.			1		1		1			1		1		1
	2	1	4	Describe how selective breeding or biotechnology can change the genetic makeup of organisms.														
	2	1	5	Explain that adaptations are developed over long periods of time and are passed from one generation to another														
	2	2	1	Identify and explain differences between inherited and acquired traits.														
	2	2	2	Recognize that the gene is the basic unit of inheritance, that there are dominant and recessive genes, and that traits are inherited.														
	Total For Assessment Anchor B.2 Continuity of Life				1		1		2		2	1		1		2		2

3	1	1	Explain the flow of energy through an ecosystem (e.g., food chains, food webs).															
3	1	2	Identify major biomes and describe abiotic and biotic components (e.g., abiotic: different soil types, air, water sunlight; biotic: soil microbes, decomposers).	1				1		1	1				1		1
3	1	3	Explain relationships among organisms (e.g., producers/consumers, predator/prey) in an ecosystem.															
3	2	1	Use evidence to explain factors that affect changes in populations (e.g., deforestation, disease, land use, natural disaster, invasive species).															
3	2	2	Use evidence to explain how diversity affects the ecological integrity of natural systems	1		1		2		2	1		1		2		2
3	2	3	Describe the response of organisms to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how those changes affect survival.															
3	3	1	Explain how human activities may affect local, regional, and global environments.															
3	3	2	Explain how renewable and nonrenewable resources provide for human needs (i.e., energy, food, water, clothing, and shelter).															
3	3	3	Describe how waste management affects the environment (e.g., recycling, composting, landfills, incineration, sewage treatment).															
3	3	4	Explain the long-term effects of using integrated pest management (e.g., herbicides, natural predators, biogenetics) on the environment.															
Total For Assessment Anchor B.3 Ecological Behavior and Systems				2		1		3		3	2		1		3		3	
Total For Reporting Category B				4	4	4		8	4	12	4	2	4		8	2	10	

Grade 08 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items (Core & EB)		
												Core		EB				
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
C: Physical Sciences	1	1	1	Explain the differences among elements, compounds, and mixtures.		2				2	2		1				1	1
	1	1	2	Use characteristic physical or chemical properties to distinguish one substance from another (e.g., density, thermal expansion/contraction, freezing/melting points, streak test).			1		1		1			1		1		1
	1	1	3	Identify and describe reactants and products of simple chemical reactions.	1				1		1	1				1		1
	Total For Assessment Anchor C.1 Structures, Properties, and Interaction of Matter and Energy				1	2	1		2	2	4	1	1	1		2	1	3
	2	1	1	Distinguish among forms of energy (e.g., electrical, mechanical, chemical, light, sound, nuclear) and sources of energy (i.e., renewable and nonrenewable energy)			1		1		1			1		1		
	2	1	2	Explain how energy is transferred from one place to another through convection, conduction, or radiation.	1				1		1	1				1		
	2	1	3	Describe how one form of energy (e.g., electrical, mechanical, chemical, light, sound, nuclear) can be converted into a different form of energy.	1				1		1	1				1		
	2	2	1	Describe the Sun as the major source of energy that impacts the environment.			1		1		1			1		1		
	2	2	2	Compare the time span of renewability for fossil fuels and the time span of renewability for alternative fuels.	1				1		1	1				1		
	2	2	3	Describe the waste (i.e., kind and quantity) derived from the use of renewable and nonrenewable resources and their potential impact on the environment.														
	Total For Assessment Anchor C.2 Forms, Sources, Conversions, and Transer of Energy				3		2		5		5	3		2		5		

3	1	1	Describe forces acting on objects (e.g., friction, gravity, balanced versus unbalanced).	1		1		2		2	1		1		2		2
3	1	2	Distinguish between kinetic and potential energy.	1				1		1	1				1		1
3	1	3	Explain that mechanical advantage helps to do work (physics) by either changing a force or changing the direction of the applied force (e.g., simple machines, hydraulic systems).														
Total For Assessment Anchor C.3 Principles of Motion and Force				2		1		3		3	2		1		3		3
Total For Reporting Category C				6	2	4		10	2	12	6	1	4		10	1	6

Grade 08 **Science**

Reporting Category	Assessment Anchor	Descriptor (Sub-anchor)	Eligible Content	Focus	Points							Items						
					Student Scores (Core Points)		Equating Block (EB)		Total Points (Core & EB)			Number of Items				Total Number of Items		
												Core		EB		(Core & EB)		
					MC	OE	MC	OE	MC	OE	Total	MC	OE	MC	OE	MC	OE	Total
	1	1	1	Explain the rock cycle as changes in the solid earth and rock types found in Pennsylvania (igneous – granite, basalt, pumice; sedimentary – limestone, sandstone, shale, coal; and metamorphic – slate, quartzite, marble, gneiss).	1				1		1	1				1		1
	1	1	2	Describe natural processes that change Earth's surface (e.g., landslides, volcanic eruptions, earthquakes, mountain building, new land being formed, weathering, erosion, sedimentation, soil formation).														
	1	1	3	Identify soil types (i.e., humus, topsoil, subsoil, loam, loess, and parent material) and their characteristics (i.e., particle size, porosity, and permeability) found in different biomes and in Pennsylvania, and explain how they formed.	1		1		2		2	1		1		2		2
	1	1	4	Explain how fossils provide evidence about plants and animals that once lived throughout Pennsylvania's history (e.g., fossils provide evidence of different environments).														
	1	2	1	Describe a product's transformation process from production to consumption (e.g., prospecting, propagating, growing, maintaining, adapting, treating, converting, distributing, disposing) and explain the process's potential impact on Earth's resources.	1				1		1	1				1		1
	1	2	2	Describe potential impacts of human-made processes (e.g., manufacturing, agriculture, transportation, mining) on Earth's resources, both nonliving (i.e., air, water, or earth materials) and living (i.e., plants and animals).			1		1		1			1		1		1

D: Earth and Space Sciences	1	3	1	Describe the water cycle and the physical processes on which it depends (i.e., evaporation, condensation, precipitation, transpiration, runoff, infiltration, energy inputs, and phase changes).	1				1		1	1				1		1
	1	3	2	Compare and contrast characteristics of freshwater and saltwater systems on the basis of their physical characteristics (i.e., composition, density, and electrical conductivity) and their use as natural resources.														
	1	3	3	Distinguish among different water systems (e.g., wetland systems, ocean systems, river systems, watersheds) and describe their relationships to each other as well as to landforms.														
	1	3	4	Identify the physical characteristics of a stream and how these characteristics determine the types of organisms found within the stream environment (e.g., biological diversity, water quality, flow rate, tributaries, surrounding watershed).			1		1		1			1		1		1
	Total For Assessment Anchor D.1 Earth Features and Processes that Change Earth and its Resources				4		3		7		7	4		3		7		7

2	1	1	Explain the impact of water systems on the local weather or the climate of a region (e.g., lake effect snow, land/ocean breezes).															
2	1	2	Identify how global patterns of atmospheric movement influence regional weather and climate.															
2	1	3	Identify how cloud types, wind directions, and barometric pressure changes are associated with weather patterns in different regions of the country.	1		1		2		2	1		1		2		2	
Total For Assessment Anchor D.2 Weather, Climate, and Atmospheric Processes				1		1		2		2	1		1		2		2	
3	1	1	Describe patterns of Earth's movements (i.e., rotation and revolution) and the Moon's movements (i.e., phases, eclipses, and tides) in relation to the Sun.	1				1		1	1				1		1	
3	1	2	Describe the role of gravity as the force that governs the movement of the solar system and universe.	1				1		1	1				1		1	
3	1	3	Compare and contrast characteristics of celestial bodies found in the solar system (e.g., moons, asteroids, comets, meteors, inner and outer planets).															
Total For Assessment Anchor D.3 Composition and Structure of the Universe				2				2		2	2				2		2	
Total For Reporting Category D				7		4		11		11	7		4		11		11	

APPENDIX C: ITEM AND TEST DEVELOPMENT PROCESS

ITEM AND TEST DEVELOPMENT PROCESS FOR PSSA

Step	Description
1. Review Guiding Documentation	Each year item and test development specialists meet internally to review all guiding documentation related to the PSSA. Documentation reviewed includes the test design blueprints, the Pennsylvania Assessment Anchors and Eligible Content, the test item specifications, the test style specifications (style guide), and all test content descriptions.
2. Meet with PDE to Confirm Understanding of Program	The goal of the meeting each year is to ensure that item and test development teams have a clear understanding of PDE's vision for test development. A successful development cycle requires a clear understanding of Pennsylvania's content-area test specifications and of any unique interpretations of the Pennsylvania Assessment Anchors (if any).
3. Create Preliminary Test Item Development Plan	Item and test development specialists generate a preliminary development plan which includes an overview of the program, the internal and external (PDE) review and approval processes, a projected schedule for development of test items—including the number of test items to be developed for review by PDE and subsequent review by the committees of Pennsylvania educators. Item and test development specialists also generate strategies for securing passages and developing science scenarios and passage-based items, etc.
4. Meet with PDE to Finalize Test Item Development Plan	Over the course of the meeting, item and test development specialists verify all steps in the development process including timelines and schedules for test item/test development.
5. Analyze Item Bank	Existing test items in the current PSSA Item Bank are reviewed for technical psychometric quality as well as for their match to the Assessment Anchors. During this phase, test development specialists also make a tally of the test items by Assessment Anchor—including test development specialists' best thinking regarding the number of usable test items in the existing item bank. A tally is also made of the number of usable passages, as well as other stimulus prompts in the bank, including science scenarios.
6. Refine Test Item Development Plan to Include Writers and Subcontractors	Item and test development specialists identify the writers who will write the test items (test development specialists or other professional item writers, subcontractors, etc.), the estimated number of writers needed, the qualifications of writers, and the approximate number of test items to be submitted by each source.
7. Train Item Writers	Item and test development specialists train item writers, as needed. Item writers who have written for the PSSA in the past receive updated information, as needed.
8. Write and Review Items	Test items are written by item writers after training is complete, and feedback is provided by the item and test development specialists to item writers on a regular basis. As test items are written, they are reviewed and edited in a series of internal reviews. Item and test development specialists review and edit items to include, but not limited to, the following: match to Assessment Anchor/Eligible Content, relevance to purpose, accuracy of content, item difficulty, interest level, grade appropriateness, depth of knowledge and cognitive complexity, adherence to the principles of Universal Design, and freedom from issues of bias/fairness/sensitivity. At the same time, the process of procuring permissions also begins, including securing permissions for passages, art, etc.
9. Enter Test Items into Database	Upon acceptance from item writers, test items are entered into the item management system, IDEAS (*Item Development and Educational Assessment System*). Item data stored in the system database includes, but is not limited to, the following: readability, cognitive level, estimated level of difficulty, alignment to Assessment Anchors, and correlation to stimulus prompts and passages.
10. Prepare Item Set for Sample Item Review by PDE	Item and test development specialists prepare a subset of the items for review by PDE.

Step	Description
11. PDE Conducts Sample Item Review	After a subset of the items is submitted to PDE for review, PDE reviews the items and provides feedback to item and test development teams via a conference call. Items are revised per PDE feedback.
12. Continue to Write and Review Items	The remaining items are written, and feedback is provided by the item and test development specialists to item writers on a regular basis. Items are entered into the item management system, IDEAS (*Item Development and Educational Assessment System*) (See step 8 and step 9).
13. Review Items Prior to Test Item Review and Validation Sessions	Prior to New Item Content Review, all items are submitted to PDE for review. Item and test development specialists incorporate all PDE feedback, and PDE-requested edits to items are made.
14. Prepare for Test Item Review Sessions (the New Item Content Review and the Bias, Fairness, and Sensitivity Review)	Item and test development specialists prepare all items and stimulus passages for review by the New Item Content Review Committee (consisting of Pennsylvania educators) and by the separate Bias, Fairness, and Sensitivity Committee (consisting of a panel of experts including Pennsylvania educators). Item and test development specialists also prepare training materials needed for training committee members to review items for content or for bias, fairness, and sensitivity issues. All training materials and other ancillary materials (e.g., agendas, presentations, etc.) are also developed and then submitted to PDE for review and approval. Invitations are sent to Pennsylvania educators and national experts from PDE-approved committee lists.
15. Conduct Test Item Review Sessions (the New Item Content Review and the Bias, Fairness, and Sensitivity Review)	Committees of Pennsylvania educators and national experts review items in two meetings: one addressing item content and quality, the other addressing bias, fairness, and sensitivity. PDE, with support from item and test development specialists, presents training on how to review new test items for content considerations or bias/fairness/sensitivity issues. At the New Item Content Review, suggested edits to test items are made and/or replacement test items are written during the actual item review so that both the committee and the PDE are able to observe changes to the test items and approve the test items during the committee review process. At the Bias, Fairness, and Sensitivity Review, experts in bias, fairness, and sensitivity review all test items and passages and come to a consensus about any issues that are noted. At both meetings the results are carefully documented.
16. Conduct Item Review Resolution and Cleanup	Following the conclusion of the New Item Content Review Committee meetings, PDE re-examines the consensus changes suggested by the committee members during the New Item Content Review Committee meetings. DRC item and test development specialists then record all of PDE's follow-up decisions and changes. During this cleanup process, PDE either accepts the changes as requested by the committee or rejects the decision of the committee. If a committee decision is rejected, PDE provides an alternate decision for DRC to implement. During this cleanup process, PDE also interprets the report from the Bias, Fairness, and Sensitivity Committee meetings and subsequently identifies changes to test items and passages. DRC item and test development specialists then apply the changes to the test items and passages per PDE's decisions.
17. Submit Field Test Items for Final Sign-Off	PDE-approved changes are applied to the items, scenarios, non-permissioned passages, prompts, etc. (Changes reflect PDE's arbitration of the committee decisions.) Once all revisions to the items, non-permissioned passage text, and/or the art used by test items and passages are completed, the test items are submitted to PDE for final review and sign-off. (Changes requested to permissioned passages are sought from the publisher of record, and, if approved by the copyright holders, changes are implemented.) [PDE's approval process for field test items generally occurs simultaneously with PDE's approval of the core test forms. See step 25.]
*To follow the path for new field test items, skip to **step 22**, or to follow the chronological test development path, continue with **step 18**.*	

Step	Description
18. Review Results of the Field Test	Following the administration of a field test form and the subsequent rangefinding and field test scoring processes for field test items, performance data for all field test items are analyzed by DRC psychometricians and test development specialists. Test item performance data that meet certain triggering criteria are flagged for additional reviews by test development specialists. Flagged field-test items with extreme performance data are considered psychometrically unusable and are removed from future operational consideration. Field-test items with marginal performance data are prepared for the Field Test Item Data Review meeting.
19. Prepare for Field Test Item Data Review	Test development specialists prepare the items and stimulus passages for review by the Field Test Item Data Review Committee (which consists of Pennsylvania educators). Psychometricians also prepare training materials needed for training committee members to review items for their performance. All training materials and other ancillary materials (e.g., agendas, presentations, etc.) are submitted to PDE for review and approval. Invitations are also sent to Pennsylvania educators from PDE-approved committee lists.
20. Conduct Field Test Item Data Review	Committees of Pennsylvania educators review the performance data of flagged field-test items. Psychometricians present training on how to review field-test items based on their performance data. At the Item Data Review, committee members examine the performance of the items and determine whether each field-test item is technically sound and appropriate for use on an operational PSSA test. Since test items cannot be modified at the Field Test Item Data Review, the committee can either accept an item as is, or the committee can reject the item.
21. Conduct Field Test Item Data Review Reconciliation	Following the conclusion of the Field Test Item Data Review Committee meetings, PDE re-examines the consensus decisions (accept or reject) suggested by the committee members during the Field Test Item Data Review Committee meetings. Test development specialists record all of PDE's follow-up decisions and changes. During this cleanup process, PDE either accepts the decisions of the data review committee, or PDE rejects the decisions of the data review committee. If a committee decision is not accepted, PDE provides an alternate decision for test development specialists to implement. All PDE-approved changes to the test items status (accepted or rejected) are incorporated into the *Item Development and Educational Assessment System*, IDEAS.
22. Select Items to Fill Core, Field Test, and Equating Block Positions in Core and Field Test Forms	After the PDE-approved changes to the new field-test items is completed AND the results of the prior field test have been finalized following data review, test development specialists collaborate with psychometricians to follow the Test Design Blueprints and build requirements to make the initial selection of items for core, field-test, and equating block positions for all test forms.
23. Review Core and Equating Block Selections	After test content and psychometric requirements have been achieved for core and equating block positions, the core and equating block items are provided to PDE for review and approval. Any changes to the content of the core or equating block requested by PDE are balanced with psychometric requirements until all core and equating block positions are approved by PDE, test development specialists, and psychometricians. Test development specialists work with psychometricians and PDE staff to create scrambled versions of the core items that will appear across forms.
24. Construct Test Forms	Items, passages, and test components are assembled into forms using the form construction and typesetting function of DRC's *Item Development and Educational Assessment System*, IDEAS. Forms are reviewed internally for style and formatting requirements.
25. Review Typeset Forms	After forms are constructed in IDEAS, draft hard copies of the forms are produced and presented to PDE for review and approval. Any changes to the content of the core or equating block requested by PDE are balanced with psychometric requirements until all core and equating block positions are approved by PDE, test development specialists, and psychometricians. PDE also re-reviews all field-test items appearing in the test forms. DRC applies changes to the field-test items as required.

Step	Description
26. Print Test Forms	Following PDE's approval of the test forms, DRC completes a series of final proofing of all test forms. Final forms (along with ancillary materials) are then approved for printing.
27. Assemble Documentation of Test Materials	Metadata for each test item and form is documented and proofed, including: grade, form, session/section, item sequence, reporting category, Assessment Anchor, descriptor (sub-anchor), Eligible Content, number of points, item type, number of answer options, item usage, stimulus ID, etc.
28. Prepare Online Forms	Following approval of the print forms, all online forms are prepared. Forms are rendered in form sets, and items and forms are compared for continuity with the print forms as well as to ensure that all tools and features are functioning as expected.
*To follow the path for new field test items, return to **step 18**.*	

APPENDIX D: ITEM AND DATA REVIEW CARD EXAMPLES

ITEM REVIEW CARD EXAMPLE

Standard: Use the four operations with whole numbers to solve problems.

1.

A.

B.

PA - Item Card

Item ID	
Content Area	Mathematics
Passage ID	
Passage Title	
Grade	4
CCAACS Standards	B-O.1
Item Type	Open Ended
Points	4
Depth of Knowledge	2
Bloom's Taxonomy	
Est Difficulty	Medium
Key	
Calculator	C

1. ***Continued.*** Please refer to the previous page for task explanation.

C.

Standard: Describe how prominent Earth features in Pennsylvania (e.g., mountains, valleys, caves, sinkholes, lakes, rivers) were formed.

1. [redacted]

PA - Data Card

Item ID	[redacted]
Content Area	Science
Passage ID	
Passage Title	
Grade	4
Standards	AACS: D.1.1.1
Item Type	Multiple Choice
Points	1
Depth of Knowledge	2
Est Difficulty	Medium
Key	A
Focus	

Data Recognition Corporation [redacted]

PA - Master Statistics Data Card

Administration(s)

Form Name	Use Function	Rptg Flag	Seq	Period	Year	Session	Calc	Model/Ext	Grade	N	P-Value	Item Total Corr
				Spring	2015		Yes	Rasch	4	1548	0.54	0.34

Traditional Statistics

N	P-Val	Mean	Item Total Corr
122762	0.54		0.34

Distractor/Step Specific

Label	Proportion	Corr	Avg Meas	Step Meas
A*	0.54	0.34		
B	0.20	-0.10		
C	0.14	-0.21		
D	0.12	-0.16		
MULTS	0.00			
OMITS	0.00			

DIF Analysis

Category	Bias Code	Num Value	N - Ref	N - Focal
MALEFEMALE	A-	-0.26	5349	5011
WHITEBLACK	A+	0.14	7285	1569
WHITEHISPANIC	A-	-0.40	7285	889

Data Recognition Corporation

Reviewer Signature: _____

Item Rating Sheet

Content Area: _____ Grade: _____

	Content Alignment	Rigor Level Alignment				Technical Design			Universal Design		STATUS
	Standards	Grade	Difficulty	Depth of Knowledge	Source of Challenge	Correct Answer	Distractors	Graphics	Language Demand	Bias	Acceptance Status
Unique ID number	—Higher —Lower —None	—Above —At —Below	—Hard —Medium —Easy	—Recall —Application —Strategic Thinking	—Yes —No	—Yes —No	—Yes —No	—Yes —No	—Yes —No	—Yes —No	— Approved as is — Accepted with suggested revisions — Dissenting View

Item Review Criteria Guidelines

The purpose of this form is to provide guidelines to the item review process in terms of item characteristics that are essential in building a fair and balanced assessment. Use these guidelines in conjunction with the Item Rating Sheet when recording your feedback on individual items.

Content Alignment		Options
Standards, Anchors, Eligible Content	Does the content of the item align with the Standard/Anchor/Eligible Content? Each item was written to assess a particular Standard/Anchor/ Eligible Content statement which is indicated on the individual Item Card. Consider the degree to which the item is, in fact, aligned with the indicated eligible content. In making this judgment, it is important to consider whether the **content** is aligned (e.g., do the eligible content and the item both deal with fractions) and whether the required **performance** is aligned (e.g., if the eligible content calls for a comparison to be made, is this reflected in the item).	**HIGHER**—Aligns to the higher level of the EC **LOWER**—Aligns to the lower level of the EC **NONE**—No alignment with EC

Rigor Level Alignment		Options
Grade	Is the item grade-level appropriate? Is the content consistent with the experiences of a student at the grade level assessed? Is the challenge level appropriate for the grade?	**ABOVE** Grade Level **AT** Grade Level **BELOW** Grade Level
Difficulty	Do you agree with the item's difficulty rating? Item Difficulty is indicated as Easy, Medium, and Hard? Is your rating in agreement with the difficulty rating on the Item Form?	**HARD** **MEDIUM** **EASY**
Depth of Knowledge	Depth of Knowledge is based on the alignment work of Norman Webb. Rate each item based on the cognitive demand, using the following levels: 1. Recall – ***Recall*** of a fact, information, or procedure. 2. Basic Application of Skill or Concept – ***Use*** of information, conceptual knowledge, procedures, two or more steps, etc. 3. Strategic Thinking – Requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer. 4. Extended Thinking – Requires an investigation, time to think and process multiple conditions of the problem or task, and more than 10 minutes to do non-routine manipulations. (This level is generally not assessed in on-demand assessments.)	**4** = Extended Thinking **3** = Strategic Thinking **2** = Basic Application **1** = Recall

Source of Challenge	Is the source of challenge appropriately targeted to the content? The hardest part of the item (i.e., source of challenge) should be the content that is targeted. For example, in mathematics, the mathematics should be the major source of challenge rather than the wording or graphic. Students should not give an incorrect answer to a mathematics item because the reading level is too high or a graphic is flawed. Conversely, students should not give correct answers for reasons such as prior knowledge that make the answer to the question obvious (e.g., if the question asks which country has the largest population and students are to read a graph that includes China, there is no need to read the graph to answer the question).	**Y** = Yes **N** = No

Technical Design		**Options**
Correct Answer	Is there one clear, correct answer? There should be no other answer that "could" be correct. CAUTION: This does not mean that "good" distractors are unfair.	**Y** = Yes **N** = No
Distractors	Are distractors fair and appropriate? Distractors that are appropriate offer students reasonable choices that can be arrived at by making common errors. There should be no distractors that make no sense at all. It should be possible to examine each option and to reason how a student with some deficiency in knowledge or skill could choose it. The distractors should be formatted according to acceptable standards of test construction (e.g., a phrase that is common to each distractor should be placed in the stem).	**Y** = Yes **N** = No
Graphics	Are the graphics clear and accurate?	**Y** = Yes **N** = No

Universal Design		**Options**
Language Demand	Is language clear, well-formatted, and precise? Does the item use correct terminology for the content area? In order for all students to enter into the questions of the assessment, they must be able to understand them. If the items are formatted poorly, use unnecessarily complex words or phrases, or use figures or layouts that are difficult to understand, some students will give incorrect answers due to these factors rather than the content that is being assessed.	**Y** = Yes **N** = No
Bias	Is the item free of bias? All students will not be able to enter into the assessment if bias considerations are not resolved. Does the item contain clear bias problems? *A thorough, independent bias review* (separate from this meeting) *will be completed for all items.*	**Y** = Yes **N** = No

Status		**Options**
Acceptance Status	This is an overall judgment about the item. Based on the consensus of the committee, indicate whether the item was approved without revision to the content of the item or whether the item was accepted by the committee after revision of the content of the item. If there is a dissenting view (opposed to the committee consensus), record a brief explanation of the dissenting view on the back of the Item Rating Sheet.	**—Approved** as is **—Accepted** with suggested revisions **—Dissenting View**

NOTES:

- If you leave a box blank on the Item Rating Sheet, it will be recorded to indicate that you did not have any specific feedback for that item or issue.
- If you object to the consensus of the committee, please note this on the item rating sheet and then record a brief explanation of the dissenting view on the back of the Item Rating Sheet.
- **Do NOT remove any items from the item binder at any time.**
- You must sign your Item Rating Sheet.

APPENDIX F: ITEM STATISTICS

Appendix contains item statistics for each item type (multiple-choice, evidence-based selected response, open-ended, and text-dependent analysis) by each mode (paper/pencil, and computer-based).

Multiple-Choice Paper/Pencil Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PublD	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
P-Value	P-Value
ProportionA	Proportion A
ProportionB	Proportion B
ProportionC	Proportion C
ProportionD	Proportion D
ProportionOMITS	Proportion Omits
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
CorrelationA	Correlation A
CorrelationB	Correlation B
CorrelationC	Correlation C
CorrelationD	Correlation D
CorrelationOMITS	Correlation Omits
CorrelationINV	Correlation Invalid Responses
FinalB	IRT Difficulty Estimate
FinalBErr	IRT Difficulty Error
Infit	Infit Standardized
InfitMnSq	Infit Mean Square
Outfit	Outfit Standardized
OutfitMnSq	Outfit Mean Square
BiasCodeMALEFEMALE	Male/Female DIF Code
BiasCodeWHITEBLACK	White/Black DIF Code
BiasCodeWHITEHISPANIC	White/Hispanic DIF Code

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	3	478860	0	A-C	3	116915	0.4219	0.3273	0.0756	0.1679	0.4219	0.0058	0.0016	0.417	-0.1205	-0.2472	-0.2069	0.417	-0.0631	-0.0475	1.0422	0.0064	3.701	1.0094	7.061	1.0251	A+	A-	A+
ELA	3	400685	0	A-K	1	116915	0.6505	0.1934	0.6505	0.0689	0.0745	0.0089	0.0038	0.4408	-0.2192	0.4408	-0.219	-0.2339	-0.0721	0.001	-0.0034	0.0066	-8.189	0.9776	-7.319	0.9669	A+	A+	A+
ELA	3	400694	0	A-K	3	116915	0.728	0.157	0.0534	0.0536	0.728	0.0074	0.0005	0.5721	-0.3451	-0.2853	-0.2577	0.5721	-0.0724	-0.028	-0.4412	0.007	-9.8992	0.8097	-9.8993	0.7151	A+	A+	A+
ELA	3	400696	0	A-K	2	116915	0.507	0.3162	0.0758	0.507	0.0923	0.0082	0.0005	0.4661	-0.2057	-0.2579	0.4661	-0.2178	-0.0622	-0.0222	0.7504	0.0064	-9.899	0.9693	-9.899	0.9657	A-	A-	A-
ELA	3	478865	0	A-K	2	116915	0.7087	0.0985	0.0942	0.0845	0.7087	0.0129	0.0012	0.5171	-0.3077	-0.2136	-0.2543	0.5171	-0.0806	-0.0305	-0.3197	0.0069	-9.8991	0.8727	-9.8992	0.8135	A+	A-	A-
ELA	3	400699	0	A-V	2	116915	0.3513	0.2357	0.1636	0.3513	0.2402	0.0086	0.0006	0.3448	-0.1791	-0.1307	0.3448	-0.0784	-0.0658	-0.0264	1.5636	0.0067	9.9011	1.0833	9.9012	1.2085	A-	A+	A-
ELA	3	400700	0	A-V	2	116915	0.6697	0.6697	0.1928	0.0716	0.0472	0.0062	0.0124	0.3671	0.3671	-0.1244	-0.2409	-0.2416	-0.0786	-0.0365	-0.1203	0.0067	9.901	1.0367	9.9012	1.1922	A+	A+	A+
ELA	3	478862	0	A-V	2	116915	0.4861	0.4861	0.1282	0.1631	0.2152	0.0066	0.0008	0.3444	0.3444	-0.2506	-0.1356	-0.0778	-0.0671	-0.0283	0.7554	0.0064	9.9011	1.1032	9.9011	1.1338	A-	A+	A+
ELA	3	478867	0	A-V	2	116915	0.8048	0.8048	0.0756	0.0723	0.0405	0.0064	0.0005	0.479	0.479	-0.2751	-0.2396	-0.2467	-0.0732	-0.0287	-0.9593	0.0078	-9.8991	0.8786	-9.8993	0.7331	A-	A-	A-
ELA	3	478868	0	A-V	2	116915	0.5422	0.0764	0.1743	0.5422	0.1982	0.0084	0.0004	0.3588	-0.2743	-0.1221	0.3588	-0.132	-0.0709	-0.0225	0.5243	0.0064	9.9011	1.0853	9.9011	1.1141	A-	A-	A-
ELA	3	271995	0	B-C	3	116915	0.4764	0.1751	0.1529	0.4764	0.1771	0.0134	0.0051	0.4834	-0.3115	-0.1966	0.4834	-0.0917	-0.1248	-0.0412	0.8619	0.0064	-9.899	0.9551	-9.8991	0.949	A+	A-	A-
ELA	3	271996	0	B-C	2	116915	0.6715	0.6715	0.0764	0.1704	0.0656	0.0155	0.0007	0.5654	0.5654	-0.2651	-0.3061	-0.2539	-0.1326	-0.0303	-0.1422	0.0067	-9.8992	0.8424	-9.8992	0.7697	A+	A+	A+
ELA	3	278410	0	B-C	3	116915	0.5439	0.2633	0.5439	0.0745	0.0977	0.0195	0.0012	0.5611	-0.2524	0.5611	-0.3032	-0.2351	-0.1291	-0.0295	0.4323	0.0064	-9.8991	0.875	-9.8992	0.8313	A-	A-	A-
ELA	3	495038	0	B-C	1	116915	0.5874	0.1445	0.5874	0.1035	0.1571	0.007	0.0005	0.4997	-0.2196	0.4997	-0.2901	-0.2058	-0.0596	-0.0261	0.2702	0.0065	-9.8991	0.9339	-9.8991	0.9057	A+	A-	A-
ELA	3	271993	0	B-K	2	116915	0.827	0.072	0.0534	0.0298	0.827	0.0168	0.001	0.4813	-0.3655	-0.1705	-0.1885	0.4813	-0.1249	-0.0365	-1.1425	0.0081	-9.8991	0.8692	-9.8992	0.7582	A-	A-	A-
ELA	3	495040	0	B-K	3	116915	0.5673	0.1329	0.5673	0.1857	0.1058	0.007	0.0012	0.3679	-0.2076	0.3679	-0.097	-0.2191	-0.0602	-0.0478	0.3463	0.0064	9.9011	1.0803	9.9011	1.1342	A-	A+	A+
ELA	3	495041	0	B-K	2	116915	0.5506	0.5506	0.076	0.1166	0.2485	0.0075	0.0007	0.3318	0.3318	-0.1699	-0.2344	-0.0892	-0.0604	-0.0367	0.532	0.0064	9.9011	1.1127	9.9012	1.1704	A-	A+	A+
ELA	3	340677	0	B-V	2	116915	0.6998	0.6998	0.0533	0.1188	0.112	0.0156	0.0004	0.466	0.466	-0.2386	-0.2128	-0.2338	-0.1358	-0.0273	-0.238	0.0068	-9.8991	0.924	-9.8991	0.8869	A-	A+	A+
ELA	3	495037	0	B-V	2	116915	0.6187	0.0796	0.1887	0.1054	0.6187	0.007	0.0006	0.4873	-0.2336	-0.2233	-0.2618	0.4873	-0.0623	-0.0219	0.1033	0.0066	-9.8991	0.942	-9.8991	0.9052	A-	A+	A+
ELA	3	495044	0	B-V	2	116915	0.5445	0.0416	0.3324	0.5445	0.0739	0.007	0.0006	0.4438	-0.2678	-0.1981	0.4438	-0.2624	-0.0592	-0.0258	0.5376	0.0064	-4.229	0.9896	-4.209	0.9853	A-	A-	A-
ELA	3	252462	0	D	2	116915	0.6486	0.203	0.0389	0.1049	0.6486	0.0035	0.0011	0.456	-0.2577	-0.2036	-0.2325	0.456	-0.0434	-0.026	0.034	0.0066	-9.899	0.9543	-9.8991	0.9187	A-	A-	A-
ELA	3	252790	0	D	2	116915	0.5128	0.1383	0.1562	0.5128	0.1875	0.0041	0.0012	0.4419	-0.1682	-0.2202	0.4419	-0.2037	-0.0361	-0.0307	0.6986	0.0064	0.011	1	-0.109	0.9996	A-	A-	A-
ELA	3	255078	0	D	2	116915	0.4976	0.4976	0.2301	0.0996	0.1685	0.0028	0.0014	0.4078	0.4078	-0.1002	-0.2582	-0.2163	-0.0397	-0.0356	0.7913	0.0064	9.901	1.0408	9.9011	1.0597	A+	A-	A-
ELA	3	255090	0	D	2	116915	0.4414	0.0965	0.2761	0.1796	0.4414	0.0049	0.0015	0.3392	-0.2624	-0.0567	-0.1615	0.3392	-0.0348	-0.0301	1.0142	0.0064	9.9011	1.1026	9.9011	1.1482	A+	A+	A+
ELA	3	255382	0	D	2	116915	0.3616	0.1275	0.3616	0.3129	0.1925	0.0032	0.0023	0.355	-0.113	0.355	-0.1547	-0.1438	-0.0354	-0.0509	1.4706	0.0066	9.9011	1.0839	9.9011	1.1416	A-	A+	A+
ELA	3	314991	0	D	1	116915	0.5692	0.1315	0.5692	0.1811	0.1121	0.0049	0.0012	0.4211	-0.2096	0.4211	-0.2062	-0.1741	-0.0321	-0.033	0.3952	0.0064	8.041	1.0202	3.961	1.0147	A-	A-	A-
ELA	3	341249	0	D	2	116915	0.364	0.2508	0.1858	0.364	0.1929	0.0029	0.0035	0.3926	-0.1872	-0.1406	0.3926	-0.1247	-0.0413	-0.0278	1.4605	0.0066	9.901	1.038	9.9011	1.1064	A+	A-	A-
ELA	3	408509	0	D	2	116915	0.4246	0.302	0.1274	0.1403	0.4246	0.004	0.0017	0.3593	-0.1439	-0.1341	-0.1807	0.3593	-0.0475	-0.0257	1.1355	0.0065	9.9011	1.0875	9.9011	1.1254	A+	A-	A+
ELA	3	408513	0	D	2	116915	0.3369	0.2778	0.3369	0.2829	0.0989	0.0022	0.0014	0.3981	-0.21	0.3981	-0.0999	-0.156	-0.0289	-0.0325	1.6104	0.0068	9.901	1.0301	9.9011	1.0899	A+	A-	A-
ELA	3	496239	1	A-C	3	65028	0.5818	0.5818	0.1609	0.0959	0.1469	0.0138	0.0008	0.4531	0.4531	-0.2373	-0.1999	-0.1949	-0.0663	-0.0266	0.3248	0.0085	-9.8991	0.9326	-9.8991	0.8929	A-	A+	A+
ELA	3	496237	1	A-K	2	65028	0.5028	0.1585	0.059	0.2705	0.5028	0.0083	0.0009	0.3796	-0.2746	-0.256	-0.0506	0.3796	-0.064	-0.0292	0.7175	0.0085	4.391	1.0144	6.291	1.0287	A+	A-	A-
ELA	3	496240	1	A-K	2	65028	0.7095	0.1745	0.0489	0.0619	0.7095	0.0046	0.0007	0.4922	-0.2806	-0.2409	-0.2528	0.4922	-0.0501	-0.028	-0.343	0.0091	-9.8991	0.8611	-9.8992	0.7945	A+	A-	A+
ELA	3	496245	1	A-K	2	65028	0.5354	0.2284	0.0723	0.5354	0.1439	0.0193	0.0007	0.3588	-0.1651	-0.2311	0.3588	-0.0969	-0.1082	-0.0348	0.5732	0.0085	9.901	1.0373	9.9011	1.0541	A+	A+	A+
ELA	3	496244	1	A-V	2	65028	0.6741	0.6741	0.0546	0.1856	0.0802	0.0047	0.0007	0.4521	0.4521	-0.2836	-0.1973	-0.2448	-0.05	-0.0316	-0.1471	0.0089	-9.8991	0.9174	-9.8992	0.8423	A+	A-	A-
ELA	3	496246	1	A-V	2	65028	0.6942	0.1153	0.6942	0.0805	0.1059	0.0032	0.0008	0.4646	-0.2697	0.4646	-0.2656	-0.1703	-0.041	-0.0324	-0.2641	0.009	-9.8991	0.8981	-9.8992	0.8229	A-	A+	A-
ELA	3	579123	1	B-C	2	13045	0.5808	0.0478	0.5808	0.168	0.1938	0.0087	0.0008	0.3455	-0.2504	0.3455	-0.2522	-0.0459	-0.0419	-0.0247	0.317	0.0184	4.711	1.0349	6.1711	1.0684	A-	A-	A+
ELA	3	579124	1	B-C	3	13045	0.7257	0.1193	0.0802	0.0678	0.7257	0.0059	0.0011	0.4749	-0.2125	-0.2914	-0.2327	0.4749	-0.0551	-0.0354	-0.4182	0.0198	-9.8991	0.8582	-9.7492	0.8482	A+	A+	A+
ELA	3	579125	1	B-C	3	13045	0.2859	0.154	0.2859	0.4044	0.1479	0.0073	0.0005	0.1163	-0.223	0.1163	0.1992	-0.1817	-0.0564	-0.0235	1.7925	0.0199	9.9013	1.2705	9.9015	1.531	A+	A-	A-
ELA	3	579341	1	B-C	3	13045	0.3731	0.4178	0.0698	0.3731	0.132	0.0069	0.0005	0.2361	-0.0421	-0.2197	0.2361	-0.098	-0.0464	-0.02	1.2924	0.0188	9.9012	1.168	9.9013	1.2704	A+	A-	A+
ELA	3	579127	1	B-K	2	13045	0.6064	0.0779	0.6064	0.0955	0.2149	0.0046	0.0006	0.4701	-0.3101	0.4701	-0.2528	-0.1677	-0.0428	-0.019	0.2063	0.0185	-9.8991	0.9022	-9.8991	0.8749	A+	A+	A-
ELA	3	579129	1	B-K	3	13045	0.858	0.0678	0.0379	0.0298	0.858	0.0057	0.0007	0.4459	-0.2683	-0.2352	-0.2208	0.4459	-0.0635	-0.0337	-1.34	0.0241	-9.8992	0.8321	-9.8994	0.6425	A+	A-	A-
ELA	3	579122	1	B-V	2	13045	0.7388	0.0596	0.0872	0.1084	0.7388	0.0052	0.0008	0.5206	-0.2209	-0.2593	-0.3167	0.5206	-0.0557	-0.0282	-0.5354	0.0202	-9.8992	0.8294	-9.8993	0.7061	A-	A+	A+
ELA	3	579130	1	B-V	2	13045	0.6672	0.6672	0.1359	0.1095	0.0792	0.0074	0.0008	0.4859	0.4859	-0.3314	-0.1923	-0.1786	-0.0773	-0.0169	-0.1323	0.0191	-9.8991	0.8805	-9.8992	0.81	A-	A-	B-
ELA	3	504075	1	D	2	13045	0.7594	0.1016	0.7594	0.077	0.0532	0.0077	0.0009	0.4806	-0.2566	0.4806	-0.2379	-0.2736	-0.0219	-0.036	-0.6426	0.0206	-9.8991	0.8546	-9.8992	0.7515	A+	A-	A-
ELA	3	581075	1	D	2	13045	0.5585	0.1089	0.2489	0.5585	0.0783	0.0046	0.0008	0.2367	-0.2349	0.0221	0.2367	-0.1878	-0.0446	-0.0161	0.4255	0.0183	9.9012	1.1816	9.9012	1.2364	A-	A-	A-
ELA	3	581084	1	D	2	13045	0.5625	0.1058	0.1929	0.5625	0.1292	0.0093	0.0004	0.302	-0.1531	-0.0829	0.302	-0.2018	-0.0211	-0.0152	0.4366	0.0183	9.9011	1.1007	9.9011	1.1239	A+	A+	A+
ELA	3	576345	2	B-C	2	13008	0.6593	0.072	0.1402	0.1235	0.6593	0.0038	0.0011	0.539	-0.293	-0.2277	-0.2898	0.539	-0.0648	-0.0377	-0.0918	0.0196	-9.8992	0.827	-9.8992	0.7506	A-	A-	A+
ELA	3	576346	2	B-C	2	13008	0.4449	0.1591	0.2589	0.4449	0.1282	0.0083	0.0007	0.3868	-0.2979	-0.02	0.3868	-0.2059	-0.0529	-0.0333	0.9982	0.0188	3.211	1.024	4.8911	1.0511	A-	A-	A-
ELA	3	576347	2	B-C	3	13008	0.5364	0.1526	0.1442	0.1557	0.5364	0.0101	0.0011	0.4055	-0.1833	-0.1982	-0.1603	0.4055	-0.073	-0.0377	0.5539	0.0188	-2.329	0.983	-2.789	0.9711	A-	A+	A+
ELA	3	576349	2	B-K	3	13008	0.5345	0.5345	0.1573	0.2033	0.0938	0.0101	0.0009	0.3771	0.3771	-0.138	-0.1748	-0.2016	-0.0834	-0.0119	0.5595	0.0188	2.951	1.0218	0.741	1.0077	A-	A+	A-
ELA	3	576350	2	B-K	3	13008	0.4825	0.2661	0.1176	0.1262	0.4825	0.0065	0.0011	0.4067	-0.1247	-0.2083	-0.2257	0.4067	-0.0635	-0.0287	0.8037	0.0188	-1.159	0.9915	0.851	1.0085	A-	A-	A-
ELA	3	576352	2	B-K	3	13008	0.6168	0.1848	0.6168	0.0823	0.1061	0.0092	0.0008	0.5221	-0.2978	0.5221	-0.1961	-0.253	-0.0567	-0.0357	0.156	0.0192	-9.8991	0.8591	-9.8992	0.7946	A-	A-	A-
ELA	3	576353	2	B-V	2	13008	0.6063	0.0811	0.0934	0.6063	0.2126	0.0056	0.001	0.3823	-0.2165	-0.2806	0.3823	-0.099	-0.0637	-0.0227	0.1914	0.0191	1.341	1.0104	0.501	1.0061	A-	A-	A-
ELA	3	576354	2	B-V	3	13008	0.6365	0.237	0.6365	0.0811	0.0387	0.006	0.0007	0.2803	-0.1193	0.2803	-0.1232	-0.2334	-0.0606	-0.0282	0.0312	0.0194	9.9011	1.1077	9.9012	1.1806	A+	A-	A-
ELA	3	504077	2	D	2	13008	0.4831	0.1914	0.1016	0.4831	0.2163	0.0065	0.0012	0.3468	-0.1684	-0.1749	0.3468	-0.1233	-0.033	-0.0232	0.8064	0.0188	7.7111	1.0574	6.7011	1.0689	A-	A-	A-
ELA	3	581076	2	D	2	13008	0.815	0.0524	0.815	0.071	0.0577	0.0033	0.0007	0.4317	-0.21	0.4317	-0.2656	-0.2121	-0.0387	-0.0362	-1.058	0.0234	-8.5691	0.8909	-9.2992	0.7795	A+	A+	A-
ELA	3	581087	2	D	2	13008	0.5994	0.132	0.5994	0.1488	0.1101	0.0086	0.0011	0.4383	-0.1849	0.4383	-0.2366	-0.2053	-0.0343	-0.0169	0.2342	0.0191	-5.579	0.9577	-6.8291	0.9208	A-	A-	A-
ELA	3	574385	3	B-C	2	12983	0.3501	0.3504	0.1437	0.1493	0.3501	0.0055	0.0009	0.3091	-0.1162	-0.1754	-0.0711	0.3091	-0.0585	-0.0253	1.4776	0.0194	6.7611	1.0558	9.1511	1.1165	A+	A+	A+
ELA	3	574386	3	B-C	2	12983	0.5563	0.2025	0.1342	0.5563	0.0924	0.0142	0.0005	0.362	-0.14	-0.1172	0.362	-0.262	-0.0618	-0.0206	0.4319	0.0187	1.681	1.0121	-0.029	0.9996	A-	A-	A-
ELA	3	574387	3	B-C	3	12983	0.333	0.333	0.1404	0.2187	0.2979	0.0086	0.0013	0.0512	0.0512	-0.1105	-0.0375	0.0795	-0.0526	-0.0476	1.5638	0.0196	9.9013	1.2985	9.9015	1.5399	A-	A+	A+
ELA	3	574388	3	B-K	3	12983	0.5511	0.1524	0.5511	0.1096	0.1765	0.0097	0.0006	0.4395	-0.2099	0.4395	-0.3245	-0.0938	-0.0559	-0.02	0.4688	0.0187	-8.4391	0.9412	-7.0391	0.9302	A+	A+	A-
ELA	3	574371	3	B-V	2	12983	0.8025	0.8025	0.0746	0.0386	0.0731	0.0103	0.0008	0.3692	0.3692	-0.1491	-0.2181	-0.2279	-0.0551	-0.0297	-0.9495	0.0228	-4.7391	0.941	-6.0691	0.8652	A+	A-	A-
ELA	3	574372	3	B-V	2	12983	0.3585	0.2099	0.1735	0.243	0.3585	0.0141	0.001	0.2794	-0.1513	-0.2336	0.0527	0.2794	-0.0453	-0.0367	1.4265	0.0193	9.4111	1.0768	9.9012	1.1644	A-	A-	B-
ELA	3	574373	3	B-V	2	12983	0.2269	0.4205	0.2269	0.216	0.1276	0.0079	0.0011	0.1398	0.0039	0.1398	-0.0715	-0.0759	-0.0566	-0.0206	2.1874	0.0217	9.9011	1.1432	9.9015	1.5279	A-	A-	A-
ELA	3	574374	3	B-V	2	12983	0.7243	0.1341	0.7243	0.0774	0.0529	0.0085	0.0027	0.4748	-0.2635	0.4748	-0.2357	-0.2346	-0.0366	-0.0675	-0.4376	0.0205	-9.8991	0.8721	-9.8992	0.7926	A+	A-	A-
ELA	3	504079	3	D	2	12983	0.6065	0.1063	0.196	0.6065	0.0841	0.0063	0.0008	0.4401	-0.2157	-0.2141	0.4401	-0.2144	-0.0424	-0.0231	0.1907	0.019	-7.6691	0.9432	-8.5691	0.904	A+	A-	A-
ELA	3	581077	3	D	2	12983	0.7882	0.0479	0.7882	0.0574	0.0994	0.0066	0.0005	0.4853	-0.2723	0.4853	-0.2727	-0.2413	-0.0505	-0.0183	-0.8684	0.0224	-9.8992	0.8394	-9.8993	0.7234	A-	A-	A-
ELA	3	581086	3	D	2	12983	0.7611	0.1183	0.0496	0.7611	0.0625	0.0078	0.0006	0.5032	-0.2936	-0.2406	0.5032	-0.2574	-0.0501	-0.0312	-0.6765	0.0215	-9.8992	0.837	-9.8993	0.7221	A+	A+	A+
ELA	3	579346	4	B-C	2	12977	0.6226	0.6226	0.0777	0.1647	0.119	0.0154	0.0006	0.5173	0.5173	-0.2812	-0.2495	-0.2293	-0.0635	-0.0368	0.1365	0.02	-9.8991	0.8582	-9.8992	0.7882	A-	A-	A-
ELA	3	579349	4	B-C	2	12977	0.5878	0.1018	0.1362	0.1652	0.5878	0.0062	0.0027	0.3947	-0.2106	-0.1683	-0.1763	0.3947	-0.0735	-0.0313	0.3142	0.0198	-0.109	0.9991	-2.439	0.9707	A+	A+	A+
ELA	3	579350	4	B-C	3	12977	0.502	0.502	0.0943	0.2072	0.1849	0.0105	0.001	0.3377	0.3377	-0.2149	-0.103	-0.1489	-0.0519	-0.0358	0.74	0.0196	8.8011	1.068	8.5411	1.0934	A-	A-	A-
ELA	3	579403	4	B-C	3	12977	0.3834	0.2669	0.3834	0.1988	0.1187	0.0315	0.0007	0.2752	-0.0134	0.2752	-0.1035	-0.2285	-0.0693	-0.0208	1.3362	0.0201	9.9011	1.1153	9.9012	1.1892	A-	A+	A+
ELA	3	579347	4	B-K	3	12977	0.6704	0.6704	0.1446	0.0617	0.114	0.0086	0.0006	0.4177	0.4177	-0.2365	-0.2264	-0.1691	-0.0459	-0.029	-0.116	0.0205	-5.8791	0.9495	-7.0091	0.8955	A-	A+	A-
ELA	3	579352	4	B-K	3	12977	0.6437	0.1339	0.1045	0.6437	0.1134	0.0039	0.0008	0.5026	-0.2484	-0.2504	0.5026	-0.2401	-0.0438	-0.0254	0.0269	0.0202	-9.8991	0.8777	-9.8992	0.7895	A+	A-	A-
ELA	3	579325	4	B-V	3	12977	0.7174	0.1009	0.1072	0.0692	0.7174	0.0044	0.0008	0.455	-0.2792	-0.2247	-0.1868	0.455	-0.0417	-0.0358	-0.3801	0.0213	-9.8991	0.8997	-8.8292	0.848	A-	A-	A-
ELA	3	579348	4	B-V	2	12977	0.3438	0.1022	0.2886	0.3438	0.2573	0.0067	0.0015	0.1352	-0.1287	-0.1575	0.1352	0.1161	-0.0409	-0.0343	1.5464	0.0205	9.9013	1.2699	9.9014	1.4426	A+	A-	A-
ELA	3	504081	4	D	2	12977	0.4889	0.4889	0.2462	0.0995	0.1529	0.0117	0.0008	0.3318	0.3318	-0.0597	-0.2343	-0.1808	-0.0403	-0.0204	0.805	0.0196	8.8611	1.0687	7.8311	1.0851	A+	A-	A-
ELA	3	581078	4	D	2	12977	0.8473	0.8473	0.0605	0.0548	0.0305	0.0062	0.0007	0.3629	0.3629	-0.1611	-0.2146	-0.2253	-0.0462	-0.0356	-1.2797	0.0259	-4.8091	0.9261	-7.1492	0.7957	A-	A-	B-
ELA	3	581085	4	D	2	12977	0.8564	0.8564	0.0501	0.0377	0.0425	0.0123	0.001	0.3713	0.3713	-0.2203	-0.1905	-0.2012	-0.0414	-0.0232	-1.3594	0.0265	-6.1591	0.9019	-5.1592	0.8429	A+	A-	A-
ELA	3	579139	5	B-C	3	13015	0.4989	0.4989	0.1841	0.1716	0.1406	0.0041	0.0006	0.3905	0.3905	-0.1874	-0.0804	-0.2551	-0.0561	-0.0003	0.7592	0.0195	-0.269	0.9979	2.111	1.0219	A-	A+	A+
ELA	3	579140	5	B-C	3	13015	0.6533	0.6533	0.1285	0.1292	0.0784	0.0096	0.0009	0.4448	0.4448	-0.1457	-0.2727	-0.2406	-0.0605	-0.0293	-0.0175	0.0202	-9.1191	0.9254	-8.8091	0.8794	A-	A+	A+
ELA	3	579141	5	B-C	3	13015	0.118	0.5878	0.0818	0.2043	0.118	0.0075	0.0007	-0.0536	0.1759	-0.1552	-0.0551	-0.0536	-0.0482	-0.0172	3.153	0.0289	9.9012	1.2201	9.9027	2.662	A-	A-	A+
ELA	3	579131	5	B-K	2	13015	0.6151	0.24	0.0696	0.6151	0.066	0.009	0.0003	0.4275	-0.206	-0.2143	0.4275	-0.2394	-0.0603	-0.022	0.1814	0.0199	-6.199	0.9516	-4.3091	0.9462	A-	A-	A-
ELA	3	579143	5	B-K	3	13015	0.6496	0.2085	0.0523	0.6496	0.0821	0.0071	0.0005	0.4826	-0.2765	-0.2403	0.4826	-0.2104	-0.0736	-0.0229	0.0024	0.0202	-9.8991	0.8898	-9.8992	0.8252	A+	A-	A+
ELA	3	579145	5	B-K	3	13015	0.4397	0.1739	0.1767	0.1963	0.4397	0.0126	0.0008	0.2658	-0.0831	-0.1893	-0.0499	0.2658	-0.0714	-0.0165	1.0515	0.0196	9.9011	1.1318	9.9012	1.1694	A-	A-	A-
ELA	3	579132	5	B-V	2	13015	0.6502	0.0546	0.0914	0.1859	0.6502	0.0171	0.0008	0.4569	-0.2214	-0.1751	-0.2838	0.4569	-0.0455	-0.0301	-0.0013	0.0202	-9.8991	0.9187	-9.8991	0.8567	A-	A-	A-
ELA	3	581150	5	B-V	2	13015	0.5657	0.1643	0.5657	0.0509	0.1986	0.0197	0.0008	0.2514	-0.1246	0.2514	-0.2434	-0.0427	-0.0544	-0.0108	0.4301	0.0196	9.9011	1.1473	9.9012	1.1722	A+	A+	A+
ELA	3	504082	5	D	2	13015	0.5778	0.5778	0.1791	0.1529	0.0831	0.0061	0.0011	0.3559	0.3559	-0.1799	-0.1831	-0.1398	-0.0212	-0.0209	0.3696	0.0196	5.181	1.0403	4.021	1.047	A-	A+	A-
ELA	3	581079	5	D	2	13015	0.3593	0.215	0.1272	0.2934	0.3593	0.0041	0.0011	0.3561	-0.186	-0.274	0.0006	0.3561	-0.0344	-0.037	1.464	0.0203	3.661	1.032	5.2611	1.0687	A+	A-	A-
ELA	3	581088	5	D	2	13015	0.497	0.1682	0.1545	0.1723	0.497	0.0073	0.0006	0.2569	-0.1115	-0.0831	-0.1439	0.2569	-0.0212	-0.0227	0.7682	0.0195	9.9012	1.1505	9.9012	1.1778	A+	A-	A-
ELA	3	576335	6	A-C	2	13020	0.5885	0.0833	0.109	0.203	0.5885	0.0154	0.0008	0.5035	-0.2367	-0.3527	-0.1571	0.5035	-0.0697	-0.0238	0.3048	0.0199	-9.8991	0.891	-9.8992	0.8468	A-	A-	A-
ELA	3	576336	6	A-K	2	13020	0.6375	0.1616	0.6375	0.108	0.0874	0.0048	0.0008	0.4351	-0.3503	0.4351	-0.1253	-0.1313	-0.0501	-0.0286	0.0503	0.0202	-6.1491	0.9483	-6.4591	0.9124	A+	A+	A+
ELA	3	576337	6	A-K	2	13020	0.4561	0.1337	0.4561	0.0739	0.3286	0.0071	0.0006	0.3375	-0.2697	0.3375	-0.2475	-0.0124	-0.0603	-0.0265	0.9681	0.0197	7.4211	1.0591	9.1511	1.1041	A-	A+	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	3	576339	6	A-K	2	13020	0.5474	0.1587	0.1036	0.1771	0.5474	0.0121	0.0011	0.2975	-0.1273	-0.2401	-0.0515	0.2975	-0.0661	-0.045	0.5124	0.0197	9.9011	1.1157	9.9012	1.2139	A+	A+	A+
ELA	3	576341	6	A-K	2	13020	0.4953	0.1153	0.4953	0.1596	0.1962	0.032	0.0017	0.3428	-0.1689	0.3428	-0.1239	-0.1547	-0.0583	-0.0088	0.7722	0.0196	7.9311	1.0625	8.2511	1.0918	A+	A-	A-
ELA	3	576343	6	A-K	2	13020	0.5591	0.2221	0.0741	0.5591	0.1332	0.0104	0.0011	0.4487	-0.159	-0.2716	0.4487	-0.2264	-0.0788	-0.0192	0.4533	0.0197	-8.0191	0.9382	-7.9391	0.9113	A+	A-	A-
ELA	3	576342	6	A-V	2	13020	0.7175	0.7175	0.0725	0.1058	0.0965	0.007	0.0008	0.5042	0.5042	-0.2614	-0.2774	-0.2309	-0.0571	-0.0362	-0.3958	0.0214	-9.8991	0.8538	-9.8992	0.7632	A+	A+	A-
ELA	3	576344	6	A-V	3	13020	0.6227	0.6227	0.148	0.0919	0.1268	0.0099	0.0008	0.4074	0.4074	-0.2209	-0.1506	-0.2095	-0.0519	-0.0247	0.1283	0.0201	-1.039	0.9913	-2.749	0.9636	A-	A-	A-
ELA	3	493315	6	B-C	3	51887	0.544	0.1827	0.1407	0.544	0.1248	0.007	0.0009	0.4293	-0.2336	-0.2098	0.4293	-0.1346	-0.0597	-0.0405	0.522	0.0098	-9.899	0.9565	-9.8991	0.9372	A-	A-	A-
ELA	3	493316	6	B-C	2	51887	0.4603	0.0958	0.4603	0.0725	0.363	0.0077	0.0007	0.271	-0.0933	0.271	-0.0766	-0.172	-0.0495	-0.0289	0.9316	0.0098	9.9011	1.1211	9.9012	1.1727	A+	A-	A+
ELA	3	493318	6	B-C	2	51887	0.8024	0.0699	0.0635	0.8024	0.0514	0.0123	0.0005	0.4825	-0.2697	-0.2666	0.4825	-0.2334	-0.0567	-0.0254	-0.9312	0.0118	-9.8992	0.8392	-9.8993	0.6762	A-	A-	A-
ELA	3	493319	6	B-K	2	51887	0.5164	0.1479	0.1729	0.1528	0.5164	0.0087	0.0013	0.2954	-0.1092	-0.1398	-0.1369	0.2954	-0.0559	-0.0428	0.6568	0.0097	9.9011	1.0986	9.9011	1.1227	A+	A+	A+
ELA	3	493323	6	B-V	2	51887	0.6142	0.1029	0.0405	0.2322	0.6142	0.0095	0.0007	0.3572	-0.217	-0.2221	-0.1388	0.3572	-0.0489	-0.0293	0.1714	0.0099	5.431	1.0217	7.211	1.0459	A-	A-	A-
ELA	3	493324	6	B-V	2	51887	0.5424	0.1874	0.5424	0.071	0.1902	0.0083	0.0006	0.5155	-0.2393	0.5155	-0.1802	-0.2834	-0.0587	-0.0231	0.5296	0.0098	-9.8991	0.8676	-9.8992	0.8371	C-	A-	A-
ELA	3	504083	6	D	1	13020	0.6969	0.1172	0.1022	0.6969	0.0765	0.0065	0.0008	0.4892	-0.2532	-0.242	0.4892	-0.2484	-0.043	-0.0234	-0.2762	0.021	-9.8991	0.8818	-9.8992	0.8155	A-	A+	A+
ELA	3	581080	6	D	2	13020	0.394	0.2522	0.1137	0.394	0.2344	0.0045	0.0012	0.3906	-0.2522	-0.0789	0.3906	-0.1243	-0.0344	-0.0392	1.2838	0.02	1.611	1.0133	3.471	1.0431	A+	B-	A-
ELA	3	581089	6	D	2	13020	0.7805	0.0401	0.1071	0.7805	0.0645	0.0071	0.0008	0.386	-0.2083	-0.1798	0.386	-0.2392	-0.0415	-0.0395	-0.7944	0.023	-4.6291	0.9458	-3.0291	0.9311	A+	A-	A-
ELA	3	578131	7	A-C	2	12933	0.5247	0.2638	0.1342	0.5247	0.055	0.0207	0.0016	0.4513	-0.151	-0.2682	0.4513	-0.2387	-0.0797	-0.0411	0.6067	0.0196	-7.1791	0.9467	-6.1391	0.9351	A+	A-	A-
ELA	3	578132	7	A-K	2	12933	0.7441	0.1071	0.7441	0.0783	0.0647	0.0049	0.0008	0.4771	-0.3361	0.4771	-0.2575	-0.1186	-0.0687	-0.0392	-0.5647	0.0219	-9.8991	0.8674	-9.8992	0.7702	A+	A+	A+
ELA	3	578133	7	A-K	2	12933	0.6469	0.1004	0.6469	0.1467	0.0913	0.0135	0.0011	0.493	-0.2407	0.493	-0.2489	-0.231	-0.0613	-0.0476	-0.0127	0.0203	-9.8991	0.8758	-9.8991	0.8505	A+	A-	A-
ELA	3	578135	7	A-K	3	12933	0.3566	0.2086	0.3095	0.3566	0.1152	0.0092	0.0009	0.284	-0.0737	-0.0514	0.284	-0.2341	-0.0733	-0.0216	1.4536	0.0203	9.9011	1.0894	9.9012	1.1932	A+	A+	A-
ELA	3	578136	7	A-K	2	12933	0.5181	0.38	0.0613	0.0356	0.5181	0.0045	0.0005	0.3667	-0.1675	-0.2255	-0.2276	0.3667	-0.0786	-0.0216	0.6392	0.0196	4.001	1.0304	4.201	1.0458	A+	A-	A-
ELA	3	578130	7	A-V	2	12933	0.8076	0.8076	0.065	0.0676	0.0517	0.0074	0.0006	0.4939	0.4939	-0.2864	-0.2532	-0.2469	-0.0596	-0.0272	-0.9913	0.024	-9.8992	0.8185	-9.8993	0.651	A-	A-	A-
ELA	3	578138	7	A-V	2	12933	0.4827	0.4827	0.0782	0.2443	0.1843	0.0099	0.0007	0.3779	0.3779	-0.2762	-0.1514	-0.1093	-0.0667	-0.0261	0.8137	0.0196	1.771	1.0134	2.711	1.0291	A-	A-	A-
ELA	3	578139	7	A-V	2	12933	0.8058	0.0615	0.8058	0.0644	0.0553	0.0124	0.0005	0.4936	-0.2809	0.4936	-0.2667	-0.2374	-0.0666	-0.0274	-0.9784	0.0239	-9.8992	0.8214	-9.8993	0.6792	A-	A-	A-
ELA	3	504073	7	D	3	12933	0.393	0.393	0.1035	0.1332	0.3625	0.0068	0.001	0.2498	0.2498	-0.1676	-0.2106	0.0093	-0.034	-0.0335	1.2632	0.02	9.9011	1.1413	9.9012	1.2435	A+	A-	A-
ELA	3	581081	7	D	2	12933	0.5072	0.1964	0.1984	0.0932	0.5072	0.0043	0.0005	0.3756	-0.1594	-0.1895	-0.1569	0.3756	-0.0429	-0.02	0.6928	0.0196	3.991	1.0303	3.181	1.0343	A-	A-	A-
ELA	3	581090	7	D	2	12933	0.7529	0.7529	0.0766	0.0535	0.108	0.0082	0.0008	0.3506	0.3506	-0.2713	-0.1546	-0.1233	-0.0576	-0.0283	-0.6193	0.0222	-1.079	0.9882	1.221	1.0251	A+	A-	A-
ELA	3	578118	8	A-K	2	12962	0.4134	0.3341	0.0894	0.4134	0.1509	0.0112	0.001	0.3783	-0.1528	-0.2262	0.3783	-0.114	-0.0781	-0.0217	1.1682	0.0196	-3.199	0.9755	0.181	1.0019	A+	A-	A-
ELA	3	578119	8	A-K	2	12962	0.5115	0.2536	0.5115	0.1004	0.128	0.0056	0.001	0.3635	-0.1772	0.3635	-0.1859	-0.1289	-0.0655	-0.0254	0.6909	0.0193	1.191	1.0085	0.531	1.0053	A+	A+	A+
ELA	3	578120	8	A-K	2	12962	0.5575	0.2142	0.0947	0.5575	0.1137	0.0191	0.0008	0.3006	-0.0609	-0.1903	0.3006	-0.1992	-0.0325	-0.0329	0.4686	0.0194	9.9011	1.0765	9.9011	1.1242	A+	A+	A+
ELA	3	578121	8	A-K	2	12962	0.5578	0.1369	0.5578	0.2303	0.0669	0.0073	0.0008	0.3891	-0.1809	0.3891	-0.1464	-0.2541	-0.0571	-0.038	0.4671	0.0194	-3.399	0.9756	-2.319	0.9758	A+	A+	A+
ELA	3	578123	8	A-K	3	12962	0.562	0.562	0.2531	0.0988	0.078	0.0078	0.0003	0.4544	0.4544	-0.2211	-0.2277	-0.2123	-0.0435	-0.0343	0.4469	0.0194	-9.8991	0.9179	-9.8991	0.8921	A+	A+	A-
ELA	3	578124	8	A-V	2	12962	0.6712	0.0539	0.1748	0.6712	0.0933	0.0062	0.0006	0.2613	-0.1731	-0.0944	0.2613	-0.1498	-0.0435	-0.0352	-0.1047	0.0203	8.6811	1.0752	8.9711	1.1354	B+	A+	A-
ELA	3	578125	8	A-V	2	12962	0.6525	0.6525	0.0441	0.0535	0.2385	0.011	0.0004	0.3584	0.3584	-0.2551	-0.244	-0.1338	-0.0559	-0.0254	-0.0065	0.0201	-1.079	0.9912	1.621	1.0222	A+	A-	A-
ELA	3	578126	8	A-V	2	12962	0.4086	0.1296	0.2279	0.4086	0.2268	0.0069	0.0002	0.252	-0.1961	-0.0689	0.252	-0.0593	-0.0484	-0.018	1.1925	0.0197	9.9011	1.1037	9.9012	1.1602	A+	A+	A-
ELA	3	409150	8	D	2	12962	0.4688	0.1869	0.1808	0.1529	0.4688	0.0104	0.0002	0.3109	-0.0982	-0.1882	-0.1155	0.3109	-0.0274	-0.0057	0.8968	0.0194	8.8111	1.0656	7.6411	1.0772	A+	A-	A-
ELA	3	581082	8	D	2	12962	0.4137	0.2001	0.2155	0.4137	0.1654	0.0042	0.0011	0.3685	-0.1909	-0.0966	0.3685	-0.168	-0.0332	-0.0252	1.1671	0.0196	0.941	1.0073	2.061	1.022	A+	A-	A-
ELA	3	581091	8	D	2	12962	0.1606	0.4385	0.1606	0.2798	0.1065	0.0137	0.0009	-0.0538	0.0773	-0.0538	0.08	-0.1603	-0.0399	-0.0148	2.7077	0.0256	9.9013	1.2953	9.902	2.0477	A+	A+	A-
ELA	3	574375	9	A-C	2	12972	0.6086	0.1726	0.6086	0.1189	0.0913	0.0078	0.0008	0.4938	-0.1898	0.4938	-0.2729	-0.2649	-0.0403	-0.0392	0.1939	0.0197	-9.8991	0.8777	-9.8992	0.8253	A-	A-	A+
ELA	3	574376	9	A-K	3	12972	0.4854	0.1636	0.1674	0.4854	0.1718	0.0101	0.0016	0.4053	-0.2437	-0.1823	0.4053	-0.0998	-0.0514	-0.0402	0.7959	0.0194	-4.489	0.9678	-1.779	0.9825	A-	A-	A-
ELA	3	574377	9	A-K	2	12972	0.3909	0.4035	0.1106	0.3909	0.0756	0.0183	0.0011	0.2185	0.0816	-0.2476	0.2185	-0.229	-0.0558	-0.0303	1.2611	0.0198	9.9011	1.1492	9.9012	1.2243	A+	A-	A+
ELA	3	574380	9	A-K	2	12972	0.4074	0.4074	0.2156	0.308	0.0537	0.0146	0.0006	0.2778	0.2778	-0.1389	-0.0264	-0.2542	-0.0776	-0.0228	1.1782	0.0197	9.9011	1.0845	9.9011	1.1397	A-	A+	A+
ELA	3	574381	9	A-V	2	12972	0.6263	0.0998	0.0966	0.6263	0.17	0.0066	0.0008	0.3599	-0.2677	-0.2226	0.3599	-0.0617	-0.0505	-0.0301	0.1046	0.0199	-0.029	0.9997	4.1111	1.0523	A+	A-	A+
ELA	3	574382	9	A-V	2	12972	0.6775	0.1065	0.0881	0.6775	0.118	0.0094	0.0005	0.3103	-0.1068	-0.2039	0.3103	-0.1495	-0.0564	-0.0309	-0.1636	0.0205	5.141	1.0458	6.8511	1.1043	A+	A+	A+
ELA	3	574383	9	A-V	2	12972	0.7142	0.0661	0.1572	0.0523	0.7142	0.0101	0.0002	0.4384	-0.2865	-0.193	-0.2215	0.4384	-0.0693	-0.0291	-0.3676	0.0211	-9.8991	0.9018	-5.6391	0.9082	A+	A+	A-
ELA	3	574384	9	A-V	2	12972	0.6815	0.159	0.0608	0.0937	0.6815	0.0042	0.0008	0.4405	-0.365	-0.2004	-0.0672	0.4405	-0.0514	-0.0337	-0.1853	0.0205	-9.8991	0.9136	-4.9691	0.9275	A+	A-	A-
ELA	3	253127	9	D	2	12972	0.375	0.3101	0.1258	0.375	0.1793	0.0086	0.0012	0.4232	-0.1634	-0.1419	0.4232	-0.2044	-0.0336	-0.0228	1.342	0.0199	-7.2991	0.9417	-2.019	0.9761	A+	A-	A-
ELA	3	581083	9	D	2	12972	0.4322	0.1674	0.4322	0.1558	0.2361	0.0055	0.0031	0.187	-0.0974	0.187	-0.0986	-0.0376	-0.0421	-0.0262	1.0555	0.0195	9.9012	1.1988	9.9013	1.2573	A-	A-	A-
ELA	3	581092	9	D	2	12972	0.4955	0.1273	0.1998	0.4955	0.166	0.0106	0.0008	0.402	-0.2066	-0.1425	0.402	-0.1873	-0.0481	-0.0204	0.7471	0.0194	-3.039	0.9782	-2.399	0.9764	A-	A-	A-
ELA	4	494336	0	A-C	3	119055	0.5812	0.5812	0.1939	0.1129	0.1072	0.0035	0.0013	0.3801	0.3801	-0.1139	-0.2957	-0.1441	-0.0525	-0.0336	0.4331	0.0064	9.9011	1.0873	9.9011	1.1119	A-	A+	A+
ELA	4	495065	0	A-C	3	119055	0.4532	0.3315	0.0969	0.4532	0.113	0.0043	0.0011	0.3528	-0.0313	-0.2661	0.3528	-0.2385	-0.0855	-0.0324	1.0563	0.0064	9.9011	1.1158	9.9012	1.1924	A-	A+	A+
ELA	4	494339	0	A-K	2	119055	0.6129	0.1183	0.1465	0.6129	0.1128	0.0081	0.0014	0.5726	-0.2946	-0.2329	0.5726	-0.2998	-0.0576	-0.037	0.2983	0.0065	-9.8991	0.8578	-9.8992	0.8255	A-	A+	A+
ELA	4	495069	0	A-K	3	119055	0.3712	0.2398	0.3712	0.2596	0.1234	0.0054	0.0006	0.2419	-0.0059	0.2419	-0.0965	-0.2014	-0.0702	-0.0275	1.5631	0.0066	9.9013	1.2638	9.9015	1.4533	A-	A+	A+
ELA	4	495070	0	A-K	2	119055	0.5282	0.2838	0.1065	0.0754	0.5282	0.0049	0.0012	0.3877	-0.1926	-0.1393	-0.2152	0.3877	-0.0871	-0.0252	0.6232	0.0064	9.9011	1.0815	9.9011	1.1145	A+	A+	A-
ELA	4	494338	0	A-V	2	119055	0.5841	0.1432	0.5841	0.0701	0.1964	0.0053	0.001	0.4974	-0.2339	0.4974	-0.2822	-0.218	-0.0512	-0.0273	0.3147	0.0065	-9.899	0.9621	-9.899	0.951	A-	A+	A-
ELA	4	494345	0	A-V	2	119055	0.7275	0.0984	0.1013	0.0675	0.7275	0.0042	0.0011	0.6083	-0.3398	-0.3016	-0.2967	0.6083	-0.0471	-0.0341	-0.4441	0.0071	-9.8992	0.8034	-9.8993	0.6971	A-	A-	A-
ELA	4	495072	0	A-V	2	119055	0.7335	0.7335	0.0818	0.0796	0.0996	0.0046	0.0009	0.5967	0.5967	-0.3483	-0.3302	-0.2418	-0.0818	-0.0351	-0.3958	0.007	-9.8992	0.7953	-9.8993	0.6891	A+	A+	A+
ELA	4	495073	0	A-V	2	119055	0.6253	0.1764	0.1093	0.0832	0.6253	0.0047	0.001	0.5114	-0.2562	-0.2462	-0.2418	0.5114	-0.0792	-0.0262	0.1714	0.0065	-9.8991	0.9341	-9.8991	0.9007	B-	A-	A-
ELA	4	495074	0	A-V	2	119055	0.6205	0.0454	0.1678	0.6205	0.1598	0.0055	0.0011	0.3303	-0.2626	-0.1106	0.3303	-0.1568	-0.079	-0.0294	0.1233	0.0066	9.9011	1.1457	9.9012	1.2423	A+	A-	A+
ELA	4	339685	0	B-C	2	119055	0.5933	0.215	0.0837	0.1035	0.5933	0.0038	0.0007	0.5856	-0.2298	-0.3197	-0.3257	0.5856	-0.0775	-0.0276	0.3322	0.0065	-9.8991	0.853	-9.8992	0.8074	A+	A-	A-
ELA	4	339686	0	B-C	3	119055	0.5315	0.2599	0.1102	0.5315	0.0926	0.0051	0.0007	0.5034	-0.1643	-0.3137	0.5034	-0.2555	-0.085	-0.0307	0.6032	0.0064	-9.8991	0.9463	-9.8991	0.9335	A-	A+	A-
ELA	4	339689	0	B-C	3	119055	0.5781	0.0731	0.2132	0.1272	0.5781	0.0074	0.0011	0.4838	-0.2875	-0.1647	-0.2673	0.4838	-0.0772	-0.0315	0.434	0.0064	-9.899	0.9683	-9.899	0.9517	A-	A+	A+
ELA	4	339690	0	B-C	3	119055	0.516	0.1647	0.135	0.516	0.1742	0.0088	0.0013	0.3417	-0.1757	-0.1142	0.3417	-0.1542	-0.0778	-0.0224	0.7411	0.0064	9.9011	1.1353	9.9012	1.1812	A+	A+	A+
ELA	4	495045	0	B-C	3	119055	0.5678	0.5678	0.1543	0.081	0.1924	0.0035	0.0009	0.4107	0.4107	-0.1959	-0.2652	-0.1411	-0.064	-0.0292	0.3275	0.0065	9.9011	1.0737	9.9011	1.1102	A-	A+	A+
ELA	4	495046	0	B-C	3	119055	0.6163	0.1542	0.1652	0.6163	0.057	0.0058	0.0014	0.5228	-0.2457	-0.2523	0.5228	-0.2813	-0.071	-0.03	0.149	0.0065	-9.8991	0.9353	-9.8991	0.8832	A+	A-	A-
ELA	4	495048	0	B-C	2	119055	0.6005	0.1988	0.0661	0.6005	0.1304	0.0034	0.0008	0.5204	-0.263	-0.2885	0.5204	-0.2179	-0.0681	-0.0307	0.3239	0.0065	-9.8991	0.9258	-9.8991	0.8931	A-	A-	A-
ELA	4	495049	0	B-C	3	119055	0.7888	0.7888	0.0829	0.0669	0.0536	0.0067	0.0011	0.5725	0.5725	-0.2922	-0.3317	-0.2816	-0.0734	-0.0256	-0.7469	0.0075	-9.8992	0.7854	-9.8994	0.6484	A+	A+	A+
ELA	4	339687	0	B-K	1	119055	0.5103	0.5103	0.1304	0.206	0.1397	0.0124	0.0013	0.3813	0.3813	-0.1669	-0.1376	-0.1952	-0.0899	-0.033	0.605	0.0064	9.9011	1.0969	9.9011	1.1248	A-	A-	A-
ELA	4	495052	0	B-K	2	119055	0.7244	0.1344	0.7244	0.0569	0.0803	0.0032	0.0007	0.532	-0.3096	0.532	-0.2536	-0.2512	-0.072	-0.0361	-0.4425	0.0071	-9.8991	0.894	-9.8992	0.8468	A-	A-	A-
ELA	4	339684	0	B-V	2	119055	0.7699	0.7699	0.0818	0.0534	0.0877	0.0059	0.0012	0.4662	0.4662	-0.2409	-0.2913	-0.201	-0.0853	-0.0369	-0.7169	0.0074	-9.8991	0.9429	-9.8991	0.9298	A+	A+	A+
ELA	4	495047	0	B-V	2	119055	0.7241	0.0906	0.0802	0.1006	0.7241	0.0038	0.0008	0.4847	-0.2228	-0.2542	-0.2612	0.4847	-0.0663	-0.0366	-0.4604	0.0071	-9.899	0.9528	-9.0991	0.9445	A-	A+	A-
ELA	4	495053	0	B-V	2	119055	0.405	0.0802	0.405	0.0892	0.4195	0.0048	0.0013	0.3064	-0.2975	0.3064	-0.2253	0.0016	-0.0711	-0.0366	1.2575	0.0065	9.9011	1.1486	9.9013	1.2701	A+	A-	A+
ELA	4	253165	0	D	2	119055	0.6173	0.1346	0.6173	0.0716	0.1724	0.0029	0.0012	0.4095	-0.3152	0.4095	-0.1612	-0.1188	-0.067	-0.0396	0.2824	0.0065	9.901	1.0422	9.9011	1.0617	A+	A-	A-
ELA	4	254906	0	D	2	119055	0.6756	0.1435	0.6756	0.0929	0.0854	0.0011	0.0014	0.399	-0.2096	0.399	-0.2139	-0.1745	-0.0323	-0.0365	-0.2036	0.0068	9.9011	1.0666	9.9011	1.0975	A+	A+	A+
ELA	4	255771	0	D	3	119055	0.6053	0.6053	0.142	0.1497	0.0984	0.0034	0.0013	0.5092	0.5092	-0.14	-0.3321	-0.2556	-0.0684	-0.0385	0.2483	0.0065	-9.8991	0.9388	-9.8991	0.9098	A+	A-	A-
ELA	4	255913	0	D	2	119055	0.5719	0.152	0.5719	0.1342	0.139	0.0013	0.0016	0.4152	-0.1806	0.4152	-0.1426	-0.2575	-0.0352	-0.0401	0.4793	0.0064	9.901	1.0394	9.901	1.0475	A+	A+	A+
ELA	4	341145	0	D	2	119055	0.5766	0.1583	0.1576	0.1024	0.5766	0.0039	0.0013	0.3301	-0.1281	-0.1647	-0.1684	0.3301	-0.0656	-0.0337	0.4177	0.0064	9.9011	1.1443	9.9012	1.1849	A-	A+	A-
ELA	4	341147	0	D	2	119055	0.4865	0.1254	0.1406	0.2427	0.4865	0.0038	0.0009	0.3906	-0.2198	-0.2041	-0.1087	0.3906	-0.0648	-0.0299	0.8379	0.0064	9.9011	1.0706	9.9011	1.0984	A+	A-	A-
ELA	4	341155	0	D	2	119055	0.4331	0.4331	0.1916	0.1651	0.1803	0.001	0.0288	0.3088	0.3088	-0.1389	-0.0608	-0.1604	-0.0358	-0.0774	1.1248	0.0064	9.9012	1.1503	9.9013	1.2517	A+	A+	A+
ELA	4	409160	0	D	2	119055	0.7692	0.0755	0.0528	0.7692	0.0978	0.0033	0.0014	0.4388	-0.1992	-0.1722	0.4388	-0.2982	-0.0658	-0.0376	-0.7472	0.0075	-7.699	0.9702	-0.709	0.9948	A+	A-	A-
ELA	4	409163	0	D	2	119055	0.4205	0.1881	0.0641	0.3211	0.4205	0.0013	0.0048	0.4049	-0.1483	-0.2014	-0.1885	0.4049	-0.0366	-0.0468	1.1893	0.0064	9.901	1.037	9.9011	1.0901	A+	A-	A+
ELA	4	579103	1	A-K	2	13278	0.3934	0.467	0.3934	0.0972	0.041	0.0011	0.0002	0.279	-0.0272	0.279	-0.2454	-0.2451	-0.0351	-0.0187	1.2413	0.0185	9.9012	1.1503	9.9013	1.2928	A-	B-	A-
ELA	4	579104	1	A-K	2	13278	0.7004	0.1283	0.0793	0.7004	0.0876	0.0027	0.0017	0.4505	-0.284	-0.2538	0.4505	-0.1361	-0.0546	-0.0364	-0.2822	0.0193	-5.089	0.9558	-3.139	0.9518	A+	A+	A-
ELA	4	579118	1	A-K	2	13278	0.7765	0.0531	0.7765	0.0706	0.0894	0.0102	0.0003	0.498	-0.275	0.498	-0.2713	-0.2534	-0.0369	-0.0178	-0.745	0.0207	-9.8992	0.8424	-9.8992	0.799	A+	A+	A-
ELA	4	579119	1	A-K	2	13278	0.5537	0.164	0.2058	0.5537	0.0732	0.0019	0.0015	0.4749	-0.2712	-0.2674	0.4749	-0.0926	-0.0399	-0.0445	0.4616	0.0182	-7.9191	0.9425	-4.7391	0.9489	A+	A+	A-
ELA	4	579342	1	A-K	2	13278	0.5737	0.0926	0.2461	0.0816	0.5737	0.0034	0.0026	0.3218	-0.2761	-0.0594	-0.1825	0.3218	-0.0426	-0.0223	0.3899	0.0182	9.9011	1.1081	9.9012	1.2269	A+	A-	A-
ELA	4	579102	1	A-V	2	13278	0.7351	0.0826	0.1008	0.7351	0.0682	0.0054	0.0078	0.4404	-0.2304	-0.1809	0.4404	-0.2785	-0.0486	-0.0305	-0.5015	0.0199	-7.9791	0.9259	-6.4691	0.8898	A+	A-	A-
ELA	4	579121	1	A-V	2	13278	0.8265	0.0501	0.8265	0.0593	0.0552	0.0078	0.0011	0.4314	-0.2937	0.4314	-0.1682	-0.2365	-0.0526	-0.0285	-1.1277	0.0224	-9.8991	0.8624	-6.8892	0.8351	A+	A-	A-
ELA	4	581312	1	A-V	2	13278	0.5336	0.5336	0.1616	0.1559	0.1457	0.0016	0.0016	0.3412	0.3412	-0.1715	-0.0999	-0.1963	-0.0272	-0.0118	0.5471	0.0181	9.9011	1.0852	9.9011	1.122	A+	A-	A-
ELA	4	493325	1	B-C	3	66213	0.4704	0.3197	0.1106	0.0957	0.4704	0.003	0.0006	0.3056	0.0078	-0.2131	-0.2948	0.3056	-0.0331	-0.0326	0.9344	0.0084	9.9011	1.1107	9.9012	1.1856	A+	A-	A-
ELA	4	493326	1	B-C	2	66213	0.6791	0.6791	0.1167	0.0927	0.1077	0.002	0.0017	0.4812	0.4812	-0.2377	-0.22	-0.2618	-0.045	-0.0327	-0.1437	0.0089	-9.8991	0.92	-9.8991	0.8531	A-	A-	A-
ELA	4	493328	1	B-C	3	66213	0.7657	0.7657	0.0687	0.063	0.0985	0.0024	0.0017	0.5237	0.5237	-0.2719	-0.2887	-0.2634	-0.0535	-0.044	-0.67	0.0097	-9.8992	0.8354	-9.8993	0.7252	A+	A-	A-
ELA	4	493332	1	B-K	2	66213	0.7967	0.0578	0.079	0.0633	0.7967	0.0013	0.0019	0.5009	-0.2928	-0.2514	-0.2569	0.5009	-0.0457	-0.029	-0.8846	0.0101	-9.8992	0.8481	-9.8993	0.7047	A+	A-	A-
ELA	4	493327	1	B-V	2	66213	0.7925	0.0883	0.0465	0.7925	0.0715	0.0007	0.0005	0.4467	-0.2876	-0.2216	0.4467	-0.2002	-0.027	-0.0251	-0.8526	0.01	-9.8991	0.8969	-9.8992	0.8311	A+	A-	A-
ELA	4	493334	1	B-V	1	66213	0.5587	0.2672	0.5587	0.092	0.0785	0.0017	0.0019	0.1954	0.0242	0.1954	-0.1533	-0.2221	-0.0384	-0.0478	0.4718	0.0085	9.9012	1.2453	9.9014	1.3591	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	4	504068	1	D	2	13278	0.6445	0.103	0.1592	0.0889	0.6445	0.002	0.0024	0.3709	-0.1768	-0.1817	-0.1903	0.3709	-0.0382	-0.0298	-0.0349	0.0188	7.1211	1.0594	6.1211	1.0851	A+	A-	A-
ELA	4	581064	1	D	2	13278	0.5176	0.1957	0.5176	0.1459	0.1356	0.0046	0.0006	0.3831	-0.1822	0.3831	-0.1334	-0.1951	-0.0714	-0.0181	0.6524	0.0181	7.9311	1.0588	7.3211	1.0794	A-	A-	A-
ELA	4	581094	1	D	2	13278	0.5494	0.1413	0.1118	0.5494	0.1942	0.0026	0.0007	0.4041	-0.2107	-0.2058	0.4041	-0.1547	-0.0219	-0.0187	0.4893	0.0182	4.131	1.0308	4.201	1.0463	A+	A-	A-
ELA	4	579112	2	A-K	3	13227	0.4248	0.1591	0.4248	0.112	0.2959	0.0074	0.0007	0.1121	-0.198	0.1121	-0.1588	0.1617	-0.0726	-0.0172	1.1712	0.0187	9.9013	1.3178	9.9015	1.4646	A-	A+	A+
ELA	4	579114	2	A-K	2	13227	0.7035	0.7035	0.0804	0.0984	0.1161	0.0011	0.0007	0.258	0.258	-0.1069	-0.1826	-0.1005	-0.0333	-0.0419	-0.2363	0.02	9.9011	1.1411	9.9012	1.2353	A-	A+	A-
ELA	4	579134	2	A-K	2	13227	0.1839	0.2078	0.1839	0.2592	0.3333	0.0149	0.0008	0.0352	-0.0757	0.0352	-0.0347	0.08	-0.0407	-0.018	2.598	0.0231	9.9012	1.2301	9.902	1.9766	A-	A-	A-
ELA	4	579135	2	A-K	3	13227	0.6023	0.1065	0.0993	0.6023	0.1867	0.0031	0.002	0.3866	-0.2522	-0.2574	0.3866	-0.0736	-0.0625	-0.0512	0.2644	0.0189	3.541	1.0282	3.881	1.0458	A+	A+	A-
ELA	4	579136	2	A-K	2	13227	0.388	0.1376	0.213	0.388	0.2547	0.0054	0.0014	0.0417	-0.2622	0.0615	0.0417	0.1142	-0.0481	-0.0378	1.35	0.0189	9.9014	1.383	9.9016	1.5608	A+	A+	A-
ELA	4	579113	2	A-V	2	13227	0.7096	0.0856	0.0824	0.1187	0.7096	0.0027	0.001	0.4116	-0.1995	-0.2704	-0.1649	0.4116	-0.0503	-0.0231	-0.3096	0.0203	-0.819	0.992	-1.069	0.9827	A-	A-	A-
ELA	4	579137	2	A-V	2	13227	0.6259	0.2226	0.6259	0.0668	0.0807	0.0033	0.0008	0.3981	-0.1628	0.3981	-0.21	-0.2504	-0.0523	-0.0452	0.1348	0.0192	1.391	1.0114	2.941	1.0369	A-	A-	A-
ELA	4	579138	2	A-V	2	13227	0.5615	0.1914	0.1392	0.5615	0.1057	0.0019	0.0004	0.2232	-0.0519	-0.0763	0.2232	-0.1997	-0.0441	-0.0303	0.5043	0.0187	9.9012	1.2133	9.9014	1.3538	A-	A-	A-
ELA	4	504070	2	D	2	13227	0.4889	0.4889	0.285	0.0632	0.1579	0.0019	0.0031	0.2734	0.2734	-0.147	-0.2042	-0.0476	-0.0388	-0.0285	0.8484	0.0185	9.9011	1.1404	9.9012	1.1927	A-	A-	A-
ELA	4	581065	2	D	2	13227	0.3139	0.2074	0.1887	0.3139	0.2837	0.006	0.0004	0.2001	-0.1375	-0.0599	0.2001	-0.0176	-0.0681	-0.0248	1.7477	0.0196	9.9012	1.16	9.9014	1.3886	A-	A-	A-
ELA	4	581095	2	D	2	13227	0.7017	0.0914	0.7017	0.1229	0.0801	0.0032	0.0007	0.4876	-0.2451	0.4876	-0.2457	-0.257	-0.0225	-0.029	-0.2741	0.0201	-9.7791	0.9096	-9.8591	0.8522	A+	A-	A-
ELA	4	579388	3	A-K	2	13209	0.6931	0.0495	0.067	0.1885	0.6931	0.0009	0.001	0.4539	-0.2618	-0.1596	-0.2828	0.4539	-0.0329	-0.0344	-0.2389	0.0201	-6.8491	0.9372	-6.3491	0.8996	B-	A-	A-
ELA	4	579416	3	A-K	2	13209	0.4744	0.0755	0.4744	0.2436	0.203	0.002	0.0015	0.2736	-0.2836	0.2736	-0.1743	0.042	-0.0524	-0.0384	0.9163	0.0187	9.9012	1.1597	9.9013	1.2587	A-	A+	A-
ELA	4	579417	3	A-K	3	13209	0.6405	0.1038	0.1881	0.6405	0.0647	0.0017	0.0012	0.4293	-0.2903	-0.1582	0.4293	-0.2139	-0.0374	-0.0438	0.055	0.0194	-3.169	0.9733	-1.549	0.9787	A-	A-	A-
ELA	4	579419	3	A-K	3	13209	0.642	0.1376	0.642	0.0916	0.1168	0.0114	0.0006	0.4789	-0.174	0.4789	-0.2866	-0.2585	-0.028	-0.04	0.038	0.0194	-9.5991	0.9204	-8.4991	0.8864	A+	A+	A+
ELA	4	579420	3	A-K	2	13209	0.6299	0.224	0.0696	0.0694	0.6299	0.0061	0.0008	0.4192	-0.2424	-0.1588	-0.22	0.4192	-0.0555	-0.0233	0.1009	0.0193	-1.119	0.9906	-2.959	0.9608	A-	A-	A-
ELA	4	579389	3	A-V	2	13209	0.5427	0.2216	0.5427	0.1649	0.0678	0.0021	0.001	0.2758	-0.0293	0.2758	-0.2021	-0.1882	-0.039	-0.036	0.547	0.0187	9.9012	1.1644	9.9013	1.2737	A+	A-	A-
ELA	4	579390	3	A-V	2	13209	0.424	0.424	0.1972	0.0679	0.3065	0.0034	0.0011	0.2939	0.2939	-0.0676	-0.1498	-0.168	-0.0348	-0.0365	1.1742	0.0188	9.9011	1.1281	9.9012	1.2263	A-	A-	A-
ELA	4	579414	3	A-V	2	13209	0.7692	0.068	0.1194	0.0294	0.7692	0.0079	0.0061	0.4176	-0.184	-0.2599	-0.2198	0.4176	-0.0547	-0.0434	-0.7284	0.0218	-4.7091	0.9469	-4.0591	0.9138	A-	A-	A-
ELA	4	504071	3	D	2	13209	0.6423	0.1837	0.1013	0.6423	0.0691	0.0014	0.0022	0.4445	-0.2383	-0.21	0.4445	-0.2131	-0.0413	-0.0387	0.0395	0.0194	-3.619	0.9695	-4.0691	0.9444	A-	A-	A-
ELA	4	581066	3	D	2	13209	0.5388	0.5388	0.1906	0.0716	0.1927	0.0056	0.0006	0.395	0.395	-0.1918	-0.2508	-0.132	-0.0564	-0.0239	0.5729	0.0187	3.951	1.0299	2.651	1.0292	A+	A+	A-
ELA	4	581096	3	D	2	13209	0.6752	0.11	0.0927	0.6752	0.1174	0.0042	0.0005	0.4014	-0.2082	-0.1781	0.4014	-0.2152	-0.0187	-0.0296	-0.1474	0.0199	1.001	1.009	2.861	1.0449	A-	A+	A+
ELA	4	579106	4	A-K	2	13241	0.2172	0.5045	0.1635	0.2172	0.1088	0.0039	0.0021	0.0904	0.1093	-0.086	0.0904	-0.1757	-0.0494	-0.0503	2.3619	0.0229	9.9012	1.2394	9.9018	1.7977	A-	A-	A-
ELA	4	579107	4	A-K	2	13241	0.7065	0.7065	0.1836	0.0553	0.0481	0.0046	0.0019	0.4952	0.4952	-0.2627	-0.2916	-0.2413	-0.0572	-0.0377	-0.2875	0.021	-9.8991	0.8931	-9.4192	0.8473	A-	A-	A-
ELA	4	579108	4	A-K	3	13241	0.4182	0.127	0.4182	0.2355	0.2065	0.0122	0.0006	0.3673	-0.2688	0.3673	-0.0908	-0.1209	-0.031	-0.0322	1.2076	0.0196	4.911	1.0388	7.8511	1.0936	A-	A+	A-
ELA	4	579110	4	A-K	2	13241	0.5666	0.2924	0.0842	0.5666	0.0535	0.0016	0.0017	0.4384	-0.1762	-0.2766	0.4384	-0.2513	-0.0467	-0.0455	0.464	0.0196	-3.159	0.9753	-1.829	0.9792	A-	A-	A-
ELA	4	579116	4	A-K	2	13241	0.733	0.0761	0.1511	0.733	0.0352	0.0035	0.0011	0.4282	-0.3331	-0.1531	0.4282	-0.2233	-0.0573	-0.0508	-0.4458	0.0216	-6.1491	0.9371	-0.679	0.9871	A+	A-	A-
ELA	4	579115	4	A-V	2	13241	0.4226	0.1263	0.4226	0.2179	0.223	0.0085	0.0017	0.3418	-0.1977	0.3418	-0.1751	-0.0584	-0.0547	-0.0376	1.1857	0.0196	8.6211	1.0685	9.9011	1.1182	A-	A-	A-
ELA	4	579344	4	A-V	2	13241	0.3665	0.0423	0.4388	0.3665	0.1485	0.0024	0.0015	0.2333	-0.2734	0.0859	0.2333	-0.2691	-0.0607	-0.0339	1.4757	0.02	9.9011	1.1474	9.9013	1.3231	B+	A-	A-
ELA	4	579345	4	A-V	2	13241	0.353	0.2046	0.353	0.0594	0.3811	0.0009	0.0011	0.243	-0.0846	0.243	-0.2549	-0.0396	-0.0401	-0.0408	1.5477	0.0202	9.9012	1.1508	9.9013	1.2779	A+	A-	A-
ELA	4	504072	4	D	2	13241	0.5916	0.1312	0.1885	0.5916	0.0858	0.0011	0.0018	0.422	-0.2473	-0.1445	0.422	-0.2298	-0.0291	-0.0495	0.3366	0.0197	-0.269	0.9978	0.121	1.0014	A+	A-	A-
ELA	4	581067	4	D	2	13241	0.5345	0.1606	0.1615	0.5345	0.1368	0.0056	0.001	0.4154	-0.1745	-0.1928	0.4154	-0.1947	-0.0549	-0.0379	0.6254	0.0195	0.461	1.0035	0.081	1.0009	A-	A-	A-
ELA	4	581097	4	D	2	13241	0.4467	0.3534	0.4467	0.0404	0.1571	0.002	0.0005	0.3429	-0.1014	0.3429	-0.194	-0.2247	-0.0365	-0.0208	1.0636	0.0195	8.1911	1.064	9.9011	1.1191	A-	A-	A-
ELA	4	576332	5	A-C	3	13258	0.3218	0.3067	0.1616	0.3218	0.1974	0.0114	0.0011	0.1672	-0.0308	-0.1463	0.1672	-0.0117	-0.0532	0.0068	1.67	0.0203	9.9012	1.1687	9.9014	1.4381	A-	A-	A-
ELA	4	576316	5	A-K	2	13258	0.2065	0.0932	0.1395	0.2065	0.5557	0.0038	0.0014	-0.102	-0.2318	-0.2491	-0.102	0.4022	-0.0625	-0.0279	2.375	0.0231	9.9014	1.3983	9.9022	2.163	A+	A+	A+
ELA	4	576317	5	A-K	2	13258	0.715	0.715	0.1469	0.0747	0.0612	0.0017	0.0005	0.3757	0.3757	-0.1511	-0.2417	-0.2101	-0.0411	-0.0227	-0.3553	0.0211	0.711	1.0071	2.541	1.0426	A-	A+	A-
ELA	4	576334	5	A-K	2	13258	0.7723	0.7723	0.0809	0.069	0.0718	0.0047	0.0013	0.5002	0.5002	-0.2919	-0.2481	-0.2425	-0.0568	-0.0221	-0.7134	0.0225	-9.8991	0.8555	-9.8992	0.7552	A-	A-	A+
ELA	4	576356	5	A-K	2	13258	0.4748	0.1365	0.1127	0.2726	0.4748	0.0026	0.0008	0.4023	-0.2512	-0.2292	-0.0873	0.4023	-0.0458	-0.0336	0.8889	0.0193	-0.609	0.9955	2.711	1.0277	A-	A+	A+
ELA	4	576319	5	A-V	2	13258	0.3881	0.2669	0.2405	0.3881	0.0989	0.0041	0.0015	0.1647	0.0036	-0.0762	0.1647	-0.1543	-0.0354	-0.0244	1.3204	0.0196	9.9012	1.2171	9.9013	1.3481	A-	A+	A-
ELA	4	576320	5	A-V	2	13258	0.3938	0.3938	0.1138	0.2117	0.2749	0.0051	0.0008	0.2223	0.2223	-0.2007	-0.0645	-0.0318	-0.0482	-0.0317	1.2916	0.0196	9.9012	1.1643	9.9013	1.2779	A+	A+	A-
ELA	4	576321	5	A-V	2	13258	0.3984	0.3984	0.1642	0.137	0.2975	0.002	0.0009	0.3232	0.3232	-0.1762	-0.2428	-0.0133	-0.0566	-0.0262	1.2683	0.0196	8.7711	1.0683	9.9011	1.1481	A-	A+	A-
ELA	4	504086	5	D	2	13258	0.5029	0.15	0.1859	0.5029	0.1579	0.0015	0.0019	0.3486	-0.1518	-0.1211	0.3486	-0.1932	-0.0307	-0.031	0.7514	0.0193	6.6711	1.0497	7.2211	1.0742	A+	A-	A-
ELA	4	581068	5	D	2	13258	0.7635	0.7635	0.0778	0.075	0.0747	0.0083	0.0006	0.4093	0.4093	-0.1849	-0.2361	-0.2054	-0.0845	-0.0195	-0.655	0.0222	-4.109	0.9537	-5.6291	0.8917	A+	A-	A-
ELA	4	581098	5	D	2	13258	0.6787	0.6787	0.0447	0.2264	0.0465	0.003	0.0008	0.4054	0.4054	-0.1998	-0.224	-0.2403	-0.0422	-0.0489	-0.1478	0.0205	-2.159	0.9803	-2.539	0.9634	A+	A+	A+
ELA	4	496260	6	A-C	3	52842	0.673	0.126	0.673	0.1257	0.0707	0.003	0.0016	0.469	-0.2442	0.469	-0.2439	-0.2138	-0.038	-0.0313	-0.1059	0.0103	-9.8991	0.9389	-9.8991	0.8945	A+	A-	A+
ELA	4	496261	6	A-C	3	52842	0.6795	0.2078	0.0695	0.0416	0.6795	0.0009	0.0007	0.403	-0.1973	-0.2495	-0.2147	0.403	-0.0256	-0.035	-0.1425	0.0104	-0.809	0.9962	5.071	1.0413	A+	A-	A-
ELA	4	496258	6	A-K	2	52842	0.6447	0.0979	0.1743	0.6447	0.0781	0.0029	0.0022	0.4782	-0.3026	-0.1987	0.4782	-0.2198	-0.0435	-0.0481	0.0503	0.0101	-9.8991	0.9282	-9.8991	0.9114	A+	A-	A+
ELA	4	496263	6	A-K	2	52842	0.5174	0.5174	0.0901	0.2102	0.177	0.0024	0.0029	0.3928	0.3928	-0.3102	-0.1461	-0.1123	-0.052	-0.0472	0.7086	0.0098	8.461	1.0331	9.2211	1.0523	A-	A-	A-
ELA	4	496264	6	A-V	2	52842	0.7195	0.1124	0.0536	0.1103	0.7195	0.0036	0.0007	0.5119	-0.2591	-0.2315	-0.2986	0.5119	-0.0309	-0.0232	-0.3762	0.0107	-9.8991	0.8765	-9.8992	0.7863	A+	A-	A-
ELA	4	496265	6	A-V	2	52842	0.7257	0.7257	0.0512	0.1471	0.0739	0.0014	0.0007	0.4964	0.4964	-0.2704	-0.251	-0.2706	-0.0379	-0.0284	-0.4135	0.0108	-9.8991	0.8947	-9.8992	0.8023	A+	A-	A-
ELA	4	579148	6	B-C	2	13165	0.419	0.1052	0.2108	0.419	0.2603	0.0028	0.0019	0.2807	-0.2585	-0.1755	0.2807	0.0363	-0.0352	-0.0383	1.2045	0.0198	9.9011	1.131	9.9012	1.2476	A+	A-	A-
ELA	4	579152	6	B-C	2	13165	0.4934	0.4934	0.1098	0.0919	0.2983	0.0042	0.0024	0.3497	0.3497	-0.2077	-0.2426	-0.0748	-0.0567	-0.0393	0.8271	0.0196	9.0411	1.0714	8.2711	1.0953	A-	A-	A-
ELA	4	579154	6	B-K	2	13165	0.7006	0.7006	0.0725	0.1489	0.0738	0.0037	0.0006	0.3995	0.3995	-0.2303	-0.1991	-0.183	-0.0578	-0.0416	-0.2675	0.0211	0.281	1.0028	3.6611	1.0651	A-	A-	A-
ELA	4	579157	6	B-K	2	13165	0.4788	0.4788	0.0539	0.0689	0.3963	0.0014	0.0008	0.1855	0.1855	-0.268	-0.1725	0.0278	-0.0326	-0.0313	0.9009	0.0196	9.9013	1.2653	9.9014	1.3846	A-	A+	A-
ELA	4	579158	6	B-K	2	13165	0.5539	0.0833	0.1127	0.2334	0.5539	0.016	0.0008	0.4255	-0.2184	-0.236	-0.1712	0.4255	-0.0236	-0.0416	0.5218	0.0197	-0.519	0.9958	-0.709	0.9916	A+	A+	A+
ELA	4	579160	6	B-K	1	13165	0.6747	0.1338	0.6747	0.1107	0.0723	0.0063	0.0021	0.4656	-0.2531	0.4656	-0.2212	-0.2172	-0.0628	-0.029	-0.1193	0.0207	-6.6791	0.9388	-4.0491	0.9366	B-	A-	A-
ELA	4	579164	6	B-V	2	13165	0.6444	0.1863	0.6444	0.0415	0.1246	0.0022	0.0009	0.344	-0.2194	0.344	-0.2082	-0.1068	-0.0384	-0.021	0.0483	0.0203	9.0911	1.0827	9.9012	1.1711	A-	A-	A-
ELA	4	579166	6	B-V	2	13165	0.7485	0.0857	0.104	0.7485	0.0564	0.0047	0.0007	0.4679	-0.2765	-0.1837	0.4679	-0.2838	-0.0468	-0.0319	-0.561	0.0221	-8.4691	0.9091	-5.7991	0.8839	A-	B-	A-
ELA	4	504067	6	D	3	13165	0.429	0.2209	0.429	0.2522	0.0923	0.0016	0.004	0.3241	-0.1884	0.3241	-0.129	-0.0751	-0.0316	-0.0517	1.1531	0.0197	9.9011	1.0959	9.9012	1.1692	A-	A-	A-
ELA	4	581069	6	D	2	13165	0.4171	0.1838	0.4171	0.171	0.2222	0.0046	0.0013	0.2904	-0.1758	0.2904	-0.0888	-0.0905	-0.0451	-0.0276	1.2142	0.0198	9.9011	1.1321	9.9012	1.2259	A-	A-	A-
ELA	4	581099	6	D	2	13165	0.7672	0.0889	0.0482	0.0928	0.7672	0.002	0.001	0.4481	-0.1657	-0.2572	-0.2904	0.4481	-0.0353	-0.0427	-0.6838	0.0226	-7.1991	0.9182	-3.5891	0.9216	A+	A-	A-
ELA	4	579147	7	B-C	2	13191	0.6208	0.6208	0.0818	0.0936	0.1972	0.0053	0.0013	0.3115	0.3115	-0.2933	-0.2852	0.0428	-0.0532	-0.0228	0.1728	0.0201	9.9011	1.1082	9.9014	1.376	A+	A-	A+
ELA	4	579151	7	B-C	2	13191	0.7122	0.1034	0.0711	0.1065	0.7122	0.004	0.0027	0.4767	-0.2549	-0.2655	-0.2078	0.4767	-0.056	-0.0448	-0.3383	0.0213	-8.7391	0.9147	-8.6091	0.8515	A-	A-	A+
ELA	4	579155	7	B-K	2	13191	0.6649	0.6649	0.1049	0.1175	0.111	0.0011	0.0005	0.393	0.393	-0.2016	-0.2465	-0.1398	-0.0019	-0.0167	-0.0664	0.0206	3.081	1.0284	0.641	1.0099	A-	A-	A+
ELA	4	579156	7	B-K	2	13191	0.4121	0.1676	0.193	0.2148	0.4121	0.0116	0.0008	0.3075	-0.253	-0.0914	-0.0387	0.3075	-0.0378	-0.0274	1.2382	0.0198	9.9011	1.1088	9.9012	1.2313	A-	A+	A+
ELA	4	579159	7	B-K	2	13191	0.44	0.1891	0.0945	0.2715	0.44	0.0027	0.0022	0.3584	-0.2579	-0.1987	-0.0318	0.3584	-0.0577	-0.0344	1.0952	0.0197	7.8211	1.0627	9.4111	1.1133	A-	A-	A-
ELA	4	579161	7	B-K	2	13191	0.5223	0.2445	0.1268	0.5223	0.1011	0.0029	0.0024	0.4683	-0.2294	-0.1774	0.4683	-0.2344	-0.059	-0.0496	0.6795	0.0196	-7.8991	0.9394	-5.4391	0.9398	A-	A-	A-
ELA	4	579163	7	B-V	2	13191	0.8259	0.0588	0.8259	0.0471	0.0644	0.0024	0.0015	0.491	-0.2957	0.491	-0.2307	-0.2578	-0.0502	-0.0525	-1.1151	0.0248	-9.8992	0.8438	-9.8993	0.6745	A-	A-	A-
ELA	4	579165	7	B-V	2	13191	0.5009	0.3129	0.5009	0.0922	0.091	0.0022	0.0008	0.3346	-0.0906	0.3346	-0.1959	-0.2268	-0.049	-0.0391	0.7872	0.0196	9.9011	1.0996	9.9011	1.1484	A-	A-	A-
ELA	4	504088	7	D	3	13191	0.4893	0.2678	0.4893	0.1227	0.1166	0.0012	0.0024	0.4906	-0.2792	0.4906	-0.1297	-0.2373	-0.0369	-0.0332	0.8456	0.0196	-9.8991	0.9162	-7.5791	0.9177	A+	A-	A-
ELA	4	581070	7	D	2	13191	0.5131	0.1537	0.1688	0.5131	0.1577	0.0062	0.0006	0.3701	-0.1727	-0.1828	0.3701	-0.1308	-0.074	-0.0289	0.7261	0.0196	8.1811	1.0652	7.2411	1.0834	A-	A-	A-
ELA	4	581100	7	D	2	13191	0.6621	0.1607	0.0905	0.084	0.6621	0.002	0.0007	0.4859	-0.2296	-0.211	-0.2975	0.4859	-0.0385	-0.029	-0.0508	0.0205	-8.3591	0.9258	-8.4491	0.8757	A+	A-	A-
ELA	4	574505	8	B-C	3	13219	0.1844	0.2886	0.1459	0.3751	0.1844	0.0044	0.0017	-0.0155	0.0034	-0.2126	0.1727	-0.0155	-0.0467	-0.0241	2.6174	0.0242	9.9013	1.2984	9.9023	2.2786	A+	A-	A+
ELA	4	574506	8	B-C	3	13219	0.3601	0.2359	0.3601	0.2561	0.1428	0.0041	0.0009	0.3054	-0.0885	0.3054	-0.0925	-0.1871	-0.0416	-0.0175	1.5237	0.0201	6.8111	1.058	9.9012	1.2146	A-	A-	A-
ELA	4	574508	8	B-K	2	13219	0.4383	0.0999	0.3148	0.1441	0.4383	0.0022	0.0006	0.2606	-0.2637	0.0651	-0.223	0.2606	-0.0373	-0.0158	1.1185	0.0196	9.9012	1.1689	9.9013	1.2662	A+	A+	A+
ELA	4	574560	8	B-K	2	13219	0.4531	0.1143	0.2751	0.1449	0.4531	0.0117	0.0009	0.3573	-0.2578	-0.0604	-0.1916	0.3573	-0.0075	-0.0206	1.0437	0.0195	6.6411	1.0518	9.9011	1.128	A-	A-	A-
ELA	4	574561	8	B-K	2	13219	0.6735	0.0904	0.0974	0.6735	0.134	0.003	0.0017	0.482	-0.2056	-0.2225	0.482	-0.2847	-0.0415	-0.0441	-0.0942	0.0206	-8.9891	0.9186	-5.4991	0.9173	A-	A-	A+
ELA	4	574554	8	B-V	2	13219	0.8834	0.8834	0.0382	0.0278	0.0421	0.0061	0.0024	0.4369	0.4369	-0.2336	-0.2257	-0.2722	-0.0422	-0.0079	-1.6304	0.0288	-8.5292	0.8462	-9.5093	0.6855	A+	A-	A-
ELA	4	574555	8	B-V	2	13219	0.8121	0.0582	0.0707	0.0542	0.8121	0.0027	0.0021	0.5052	-0.2318	-0.3202	-0.2494	0.5052	-0.0422	-0.0521	-0.9858	0.0242	-9.8992	0.8379	-9.8993	0.7023	A-	A-	A-
ELA	4	574556	8	B-V	2	13219	0.7133	0.0963	0.7133	0.0701	0.1185	0.0018		0.4803	-0.2853	0.4803	-0.2367	-0.2203	-0.0336		-0.3242	0.0213	-9.0991	0.9106	-8.4391	0.8577	B-	B-	B-
ELA	4	504065	8	D	3	13219	0.8181	0.0653	0.0462	0.8181	0.0666	0.0022	0.0016	0.4471	-0.2118	-0.2178	0.4471	-0.2878	-0.0393	-0.0206	-1.0323	0.0244	-8.5691	0.8857	-5.7491	0.8532	A+	A-	A-
ELA	4	581073	8	D	2	13219	0.5528	0.1082	0.1796	0.5528	0.1532	0.0054	0.0008	0.4181	-0.2299	-0.1178	0.4181	-0.241	-0.0492	-0.0294	0.5434	0.0196	0.781	1.0061	0.391	1.0044	A-	A-	A-
ELA	4	581101	8	D	2	13219	0.7827	0.7827	0.0257	0.0195	0.1682	0.0028	0.0011	0.2685	0.2685	-0.2213	-0.1853	-0.1264	-0.0263	-0.0422	-0.7708	0.023	6.9311	1.0871	9.9013	1.3042	A-	A+	A-
ELA	4	579406	9	B-C	3	13267	0.2976	0.2908	0.2976	0.297	0.1024	0.0109	0.0014	0.2278	-0.0513	0.2278	-0.0289	-0.1958	-0.069	-0.0305	1.8551	0.021	9.9011	1.1173	9.9014	1.441	A-	A-	A+
ELA	4	579407	9	B-C	2	13267	0.5695	0.2014	0.5695	0.0818	0.1448	0.002	0.0006	0.4255	-0.2144	0.4255	-0.2419	-0.1582	-0.047	-0.028	0.4392	0.0196	-1.009	0.992	-1.429	0.983	A+	A-	A-
ELA	4	579408	9	B-C	2	13267	0.3872	0.1704	0.2017	0.3872	0.2352	0.0029	0.0026	0.3399	-0.174	-0.0971	0.3399	-0.1303	-0.0586	-0.0546	1.3632	0.0199	6.2511	1.0515	9.9012	1.1735	A-	A-	A-
ELA	4	579410	9	B-K	2	13267	0.6969	0.1224	0.1149	0.6969	0.064	0.0012	0.0006	0.5706	-0.3791	-0.2702	0.5706	-0.2035	-0.0423	-0.0223	-0.2469	0.0209	-9.8992	0.8198	-9.8993	0.7161	A-	A-	A-
ELA	4	579411	9	B-K	3	13267	0.6711	0.125	0.1137	0.6711	0.085	0.0032	0.002	0.4787	-0.1761	-0.2651	0.4787	-0.2807	-0.0483	-0.034	-0.1003	0.0205	-8.2891	0.9257	-8.7091	0.8699	A-	A-	A+
ELA	4	579412	9	B-K	2	13267	0.4385	0.13	0.2254	0.2006	0.4385	0.0041	0.0014	0.2908	-0.212	-0.0408	-0.1285	0.2908	-0.0655	-0.0094	1.0992	0.0196	9.9011	1.1262	9.9012	1.2056	A+	A+	A-
ELA	4	579402	9	B-V	2	13267	0.3635	0.2594	0.1296	0.2419	0.3635	0.0051	0.0005	0.107	0.0103	-0.1906	0.0287	0.107	-0.0554	-0.0153	1.4883	0.0201	9.9013	1.3466	9.9015	1.5468	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	4	579405	9	B-V	2	13267	0.7607	0.7607	0.057	0.0525	0.1266	0.0017	0.0017	0.4545	0.4545	-0.2553	-0.2966	-0.1984	-0.0441	-0.0207	-0.6396	0.0223	-6.9191	0.9234	-6.5491	0.8658	A-	A-	B-
ELA	4	504066	9	D	3	13267	0.7092	0.151	0.0923	0.0447	0.7092	0.0015	0.0014	0.4905	-0.2399	-0.2905	-0.2426	0.4905	-0.0338	-0.0368	-0.3189	0.0212	-9.8991	0.8992	-9.8992	0.8258	A+	A-	B-
ELA	4	581093	9	D	2	13267	0.5804	0.1372	0.1676	0.1088	0.5804	0.0054	0.0006	0.353	-0.1749	-0.1235	-0.2059	0.353	-0.0428	-0.0244	0.3833	0.0197	9.7811	1.081	7.7811	1.0983	A-	A-	A-
ELA	4	581102	9	D	2	13267	0.9185	0.0244	0.0225	0.0318	0.9185	0.0023	0.0004	0.3609	-0.2159	-0.2066	-0.186	0.3609	-0.0395	-0.0103	-2.0859	0.0332	-4.3791	0.8969	-8.5394	0.6487	A+	A-	A+
ELA	5	493345	0	A-C	3	120995	0.6003	0.6003	0.149	0.1744	0.0718	0.0037	0.0008	0.443	0.443	-0.165	-0.2256	-0.266	-0.0568	-0.0201	0.2478	0.0063	-6.989	0.9829	-0.259	0.999	A-	A-	A-
ELA	5	493349	0	A-K	3	120995	0.5586	0.2483	0.5586	0.1129	0.0754	0.0038	0.0011	0.45	-0.1477	0.45	-0.2861	-0.2438	-0.066	-0.0219	0.2611	0.0063	4.001	1.0098	8.211	1.0316	A+	A+	A+
ELA	5	493351	0	A-K	3	120995	0.7496	0.7496	0.1377	0.0369	0.0726	0.0024	0.0008	0.5073	0.5073	-0.2919	-0.22	-0.2849	-0.0624	-0.0259	-0.7829	0.0072	-9.8991	0.9396	-9.8992	0.811	A+	A+	A+
ELA	5	495883	0	A-K	3	120995	0.5658	0.2213	0.0552	0.5658	0.1555	0.001	0.0011	0.4395	-0.1955	-0.2516	0.4395	-0.2133	-0.0273	-0.0319	0.3739	0.0062	0.631	1.0015	4.711	1.0173	A-	A+	A+
ELA	5	495887	0	A-K	2	120995	0.6249	0.1132	0.6249	0.1559	0.1008	0.004	0.0012	0.425	-0.2436	0.425	-0.1545	-0.2289	-0.0417	-0.0289	0.0512	0.0064	0.941	1.0024	7.081	1.0303	A+	A+	A+
ELA	5	493347	0	A-V	2	120995	0.7595	0.0934	0.0919	0.0507	0.7595	0.0037	0.0008	0.4496	-0.2361	-0.2095	-0.2677	0.4496	-0.0611	-0.0177	-0.7681	0.0071	-9.8991	0.942	-3.449	0.9765	A+	A+	A+
ELA	5	493352	0	A-V	2	120995	0.6986	0.109	0.119	0.6986	0.0704	0.0022	0.0007	0.4994	-0.2442	-0.2468	0.4994	-0.2724	-0.0582	-0.0262	-0.2948	0.0066	-9.8991	0.9014	-9.8992	0.8424	A-	A+	A+
ELA	5	495884	0	A-V	2	120995	0.8736	0.8736	0.0326	0.0605	0.0292	0.0027	0.0014	0.4028	0.4028	-0.1772	-0.2703	-0.2088	-0.0323	-0.0295	-1.5025	0.0086	-9.8992	0.8267	-9.8993	0.7453	A+	A+	A+
ELA	5	495889	0	A-V	2	120995	0.4937	0.0858	0.4937	0.2982	0.1189	0.0023	0.001	0.3767	-0.2116	0.3767	-0.3	0.0328	-0.0347	-0.0239	0.6511	0.0062	9.9011	1.0768	9.9011	1.1254	A-	A-	A-
ELA	5	495890	0	A-V	2	120995	0.4631	0.1785	0.2307	0.1253	0.4631	0.0014	0.001	0.3697	-0.2936	-0.0924	-0.0938	0.3697	-0.0332	-0.0208	0.8468	0.0062	9.9011	1.0842	9.9011	1.1284	A+	A-	A-
ELA	5	341044	0	B-C	3	120995	0.5017	0.1465	0.1427	0.2002	0.5017	0.0079	0.0009	0.5201	-0.2309	-0.1982	-0.2559	0.5201	-0.0671	-0.0249	0.6245	0.0062	-9.8991	0.9199	-9.8991	0.91	A-	A-	A-
ELA	5	341064	0	B-C	2	120995	0.3611	0.2451	0.2675	0.1204	0.3611	0.0052	0.0007	0.453	-0.1487	-0.2573	-0.1049	0.453	-0.07	-0.0218	1.3791	0.0065	-8.999	0.9756	9.9011	1.0559	A+	A-	A-
ELA	5	341083	0	B-C	3	120995	0.4487	0.4487	0.069	0.3147	0.1612	0.0052	0.0012	0.2141	0.2141	-0.1967	-0.072	-0.0501	-0.0553	-0.0226	0.8999	0.0062	9.9013	1.2594	9.9014	1.3772	A-	A+	A-
ELA	5	341084	0	B-C	3	120995	0.4531	0.4531	0.1967	0.2083	0.1376	0.0035	0.0009	0.3795	0.3795	-0.2121	-0.0991	-0.174	-0.0635	-0.0248	0.8954	0.0062	9.9011	1.0743	9.9011	1.1124	A-	A+	A+
ELA	5	341085	0	B-C	3	120995	0.4793	0.2533	0.1617	0.4793	0.1009	0.0039	0.0009	0.4526	-0.1217	-0.2749	0.4526	-0.2224	-0.0649	-0.0297	0.7635	0.0062	-1.599	0.9962	2.151	1.0073	A-	A-	A+
ELA	5	409603	0	B-C	2	120995	0.6317	0.0864	0.6317	0.1033	0.1754	0.0029	0.0004	0.541	-0.2921	0.541	-0.3141	-0.2109	-0.0497	-0.0239	0.0553	0.0064	-9.8991	0.8748	-9.8992	0.821	A+	A-	A-
ELA	5	409605	0	B-C	3	120995	0.3733	0.1562	0.1232	0.3733	0.3452	0.0014	0.0008	0.4238	-0.2271	-0.1516	0.4238	-0.1479	-0.0423	-0.03	1.3188	0.0064	-0.049	0.9999	9.9011	1.0853	A+	A+	A+
ELA	5	341106	0	B-K	3	120995	0.4828	0.2749	0.0629	0.4828	0.173	0.0058	0.0006	0.3339	-0.1508	-0.2773	0.3339	-0.0695	-0.071	-0.0211	0.6907	0.0062	9.9011	1.1324	9.9012	1.2054	A-	A+	A+
ELA	5	409606	0	B-K	3	120995	0.6485	0.1658	0.1181	0.6485	0.0643	0.0029	0.0005	0.4698	-0.2864	-0.1802	0.4698	-0.2312	-0.0451	-0.0243	-0.0292	0.0064	-9.8991	0.9475	-9.8991	0.9246	A-	A+	A+
ELA	5	409608	0	B-K	3	120995	0.6776	0.6776	0.1669	0.1029	0.0499	0.0022	0.0005	0.4655	0.4655	-0.2707	-0.2566	-0.1666	-0.0389	-0.0257	-0.2386	0.0066	-9.8991	0.9472	-9.8991	0.9469	A+	A+	A+
ELA	5	340996	0	B-V	2	120995	0.5562	0.1027	0.5562	0.0737	0.2646	0.0021	0.0006	0.3911	-0.2414	0.3911	-0.246	-0.121	-0.0604	-0.0245	0.3636	0.0062	9.9011	1.0655	9.9011	1.096	B-	A+	A+
ELA	5	409609	0	B-V	1	120995	0.5445	0.1943	0.5445	0.1479	0.1115	0.0013	0.0005	0.427	-0.2036	0.427	-0.228	-0.1568	-0.0369	-0.0217	0.473	0.0062	6.801	1.0163	9.9011	1.059	A-	A-	A-
ELA	5	409611	0	B-V	2	120995	0.8651	0.0237	0.0552	0.0539	0.8651	0.0014	0.0007	0.3972	-0.199	-0.2199	-0.235	0.3972	-0.0397	-0.0239	-1.5094	0.0086	-9.8991	0.8884	-9.8992	0.7875	B+	A+	A-
ELA	5	252244	0	D	1	120995	0.6062	0.1194	0.6062	0.1391	0.133	0.0016	0.0007	0.3481	-0.1373	0.3481	-0.1519	-0.2085	-0.0374	-0.0264	0.1846	0.0063	9.9011	1.0934	9.9011	1.1137	A+	A+	A+
ELA	5	256101	0	D	3	120995	0.5677	0.0716	0.0702	0.5677	0.2885	0.0013	0.0006	0.4828	-0.2658	-0.227	0.4828	-0.2441	-0.0383	-0.0283	0.3634	0.0062	-9.899	0.9542	-9.8991	0.9311	A+	A-	A-
ELA	5	341037	0	D	2	120995	0.6525	0.1512	0.6525	0.0562	0.1381	0.0007	0.0012	0.3845	-0.2183	0.3845	-0.238	-0.14	-0.0241	-0.0313	-0.0791	0.0064	9.901	1.0356	9.9011	1.0626	A+	A+	A+
ELA	5	411656	0	D	2	120995	0.2663	0.3998	0.1626	0.1689	0.2663	0.0014	0.0009	0.3696	-0.23	0.011	-0.1393	0.3696	-0.044	-0.0295	1.771	0.0068	-5.479	0.9825	9.9011	1.0886	A+	A-	A-
ELA	5	411657	0	D	1	120995	0.493	0.493	0.1491	0.1963	0.1595	0.0009	0.0011	0.2019	0.2019	-0.0977	-0.1329	-0.0323	-0.0215	-0.0252	0.6368	0.0062	9.9013	1.275	9.9014	1.4074	A-	A+	A+
ELA	5	411658	0	D	2	120995	0.8357	0.0851	0.0306	0.0463	0.8357	0.0015	0.0007	0.3776	-0.2357	-0.197	-0.181	0.3776	-0.0391	-0.0239	-1.183	0.0078	-9.8991	0.9017	-9.8991	0.8871	A+	A-	A-
ELA	5	411659	0	D	2	120995	0.6862	0.6862	0.0956	0.0614	0.1544	0.0016	0.0007	0.3962	0.3962	-0.2332	-0.148	-0.2142	-0.0417	-0.0261	-0.2092	0.0065	3.431	1.0097	-2.479	0.9879	A+	A-	A-
ELA	5	411661	0	D	2	120995	0.2876	0.0314	0.3618	0.2876	0.3172	0.0005	0.0014	0.3418	-0.2348	-0.1747	0.3418	-0.0605	-0.0235	-0.0297	1.7776	0.0068	9.9011	1.0539	9.9012	1.2425	A-	A-	A-
ELA	5	411662	0	D	2	120995	0.3712	0.1038	0.1885	0.3712	0.3338	0.0011	0.0016	0.2965	-0.1643	-0.0937	0.2965	-0.115	-0.0297	-0.0323	1.3403	0.0064	9.9012	1.1535	9.9013	1.2893	A-	A-	A-
ELA	5	566389	1	A-K	2	13497	0.5951	0.1416	0.0872	0.1739	0.5951	0.0018	0.0004	0.4768	-0.264	-0.2192	-0.2053	0.4768	-0.0481	-0.0167	0.1986	0.0175	-9.8991	0.9121	-8.8891	0.9094	A+	A-	A-
ELA	5	566391	1	A-K	3	13497	0.4878	0.2056	0.1606	0.1408	0.4878	0.0029	0.0024	0.3751	-0.0893	-0.2163	-0.1972	0.3751	-0.0469	-0.0183	0.6707	0.0173	6.281	1.0434	9.1511	1.0891	A-	A-	A-
ELA	5	566392	1	A-K	2	13497	0.719	0.0894	0.0854	0.719	0.0982	0.0074	0.0004	0.521	-0.301	-0.2475	0.521	-0.259	-0.0158	-0.0314	-0.4655	0.0186	-9.8992	0.839	-9.8993	0.7375	A+	A+	A-
ELA	5	566393	1	A-K	2	13497	0.6061	0.6061	0.0708	0.2226	0.0968	0.0028	0.0009	0.4903	0.4903	-0.2771	-0.237	-0.2275	-0.0335	-0.0278	0.1083	0.0176	-9.8991	0.8953	-9.8991	0.8565	A-	A-	A-
ELA	5	566394	1	A-K	2	13497	0.4663	0.3707	0.1153	0.4663	0.0449	0.0019	0.0009	0.3233	-0.0776	-0.2376	0.3233	-0.2183	-0.037	-0.0371	0.8066	0.0174	9.9011	1.098	9.9012	1.1745	A-	A-	A-
ELA	5	566395	1	A-V	1	13497	0.4971	0.4971	0.1939	0.1045	0.1974	0.0067	0.0004	0.369	0.369	-0.0969	-0.2066	-0.1983	-0.0476	-0.009	0.6593	0.0173	6.531	1.0452	8.0211	1.0778	A+	A-	A-
ELA	5	566396	1	A-V	2	13497	0.7894	0.0548	0.7894	0.1092	0.0448	0.0008	0.0009	0.4776	-0.2613	0.4776	-0.2676	-0.2421	-0.0317	-0.0254	-0.8986	0.02	-9.8992	0.8451	-9.8993	0.7039	A+	A-	A-
ELA	5	566397	1	A-V	2	13497	0.7205	0.7205	0.0874	0.057	0.1344	0.0005	0.0001	0.385	0.385	-0.2608	-0.218	-0.1411	-0.0113	-0.0107	-0.4807	0.0187	-4.039	0.9663	-5.2791	0.9209	A-	A-	B-
ELA	5	497144	1	B-C	2	67292	0.7257	0.0686	0.7257	0.0851	0.1184	0.0013	0.0009	0.4189	-0.2128	0.4189	-0.2365	-0.2009	-0.0349	-0.0316	-0.5166	0.009	-9.8991	0.9414	-9.8991	0.9208	A-	A-	A-
ELA	5	497145	1	B-C	2	67292	0.5349	0.5349	0.1637	0.0809	0.2176	0.0025	0.0004	0.391	0.391	-0.0923	-0.2212	-0.2403	-0.0207	-0.0182	0.4753	0.0082	2.831	1.009	5.041	1.0236	A+	A-	A-
ELA	5	497146	1	B-K	2	67292	0.4691	0.3436	0.0689	0.4691	0.1168	0.0009	0.0006	0.4613	-0.2378	-0.2472	0.4613	-0.1663	-0.0217	-0.0254	0.8357	0.0082	-9.8991	0.9412	-9.8991	0.9414	A-	A-	A-
ELA	5	497149	1	B-K	2	67292	0.592	0.167	0.1457	0.592	0.0923	0.0017	0.0012	0.4536	-0.1635	-0.2354	0.4536	-0.2625	-0.0391	-0.0356	0.2229	0.0083	-9.8991	0.9465	-9.8991	0.9193	A+	A-	A-
ELA	5	497143	1	B-V	2	67292	0.5441	0.5441	0.0795	0.1825	0.1923	0.0008	0.0008	0.4164	0.4164	-0.2083	-0.2243	-0.1596	-0.0276	-0.0247	0.4581	0.0082	-2.629	0.9917	1.231	1.0058	A-	A-	A-
ELA	5	497152	1	B-V	1	67292	0.5995	0.0879	0.5995	0.2346	0.0752	0.0017	0.0011	0.2637	-0.2367	0.2637	-0.0113	-0.2089	-0.0332	-0.0285	0.1718	0.0083	9.9011	1.1363	9.9012	1.2063	A+	A+	A-
ELA	5	505540	1	D	2	13497	0.7191	0.066	0.1322	0.7191	0.0801	0.0013	0.0013	0.5039	-0.2729	-0.2692	0.5039	-0.2395	-0.0355	-0.0344	-0.4408	0.0186	-9.8992	0.8412	-9.8992	0.7613	A+	A+	A-
ELA	5	581207	1	D	2	13497	0.3241	0.2997	0.1969	0.3241	0.1753	0.0037	0.0003	0.0346	0.1723	-0.1368	0.0346	-0.1005	-0.0389	-0.0111	1.519	0.0184	9.9014	1.3759	9.9017	1.6606	A+	A-	A-
ELA	5	581217	1	D	2	13497	0.3911	0.3911	0.1899	0.1408	0.2761	0.0013	0.0007	0.2288	0.2288	-0.0483	-0.2143	-0.0374	-0.0167	-0.031	1.1712	0.0178	9.9012	1.1995	9.9013	1.3016	A-	A-	A-
ELA	5	576322	2	A-C	3	13393	0.6038	0.1617	0.07	0.6038	0.1587	0.0049	0.0008	0.4179	-0.3075	-0.2334	0.4179	-0.0745	-0.0512	-0.0282	0.1847	0.0182	-4.189	0.9701	-2.929	0.9668	A+	A+	A-
ELA	5	576324	2	A-K	2	13393	0.6171	0.0999	0.2245	0.0559	0.6171	0.0019	0.0007	0.3597	-0.1652	-0.1844	-0.1977	0.3597	-0.05	-0.0293	0.0853	0.0184	2.661	1.0198	2.801	1.0341	A+	A+	A+
ELA	5	576326	2	A-K	2	13393	0.7586	0.0536	0.7586	0.0727	0.1079	0.006	0.0012	0.4956	-0.2663	0.4956	-0.2451	-0.278	-0.0279	-0.0023	-0.6977	0.0205	-9.8992	0.8397	-9.8993	0.7266	A+	A+	A-
ELA	5	576327	2	A-K	2	13393	0.4349	0.4349	0.162	0.083	0.3182	0.0016	0.0003	0.2928	0.2928	-0.1553	-0.2931	-0.0122	-0.022	-0.0292	1.0059	0.018	9.9011	1.1058	9.9012	1.1773	A-	A-	A-
ELA	5	576328	2	A-K	2	13393	0.542	0.351	0.542	0.0567	0.0491	0.0009	0.0003	0.3538	-0.2001	0.3538	-0.1565	-0.2024	-0.0151	-0.0198	0.4721	0.018	7.1911	1.0498	9.9011	1.1158	A+	A-	A+
ELA	5	576329	2	A-V	2	13393	0.77	0.0382	0.0604	0.1299	0.77	0.0009	0.0006	0.3823	-0.2113	-0.2569	-0.1722	0.3823	-0.0234	-0.0251	-0.7972	0.0209	-4.8691	0.948	0.221	1.0043	A+	A-	A-
ELA	5	576330	2	A-V	2	13393	0.7479	0.7479	0.0959	0.0797	0.0726	0.0028	0.001	0.43	0.43	-0.2293	-0.2252	-0.2159	-0.0311	-0.0165	-0.6484	0.0203	-7.7091	0.9244	-9.8992	0.8111	A-	A-	A-
ELA	5	576331	2	A-V	2	13393	0.6206	0.1158	0.6206	0.0613	0.1998	0.0017	0.0007	0.3384	-0.201	0.3384	-0.2197	-0.1117	-0.0324	-0.0423	0.0897	0.0183	7.0111	1.0527	9.9012	1.1837	A-	A-	A-
ELA	5	505542	2	D	2	13393	0.4478	0.2203	0.1658	0.163	0.4478	0.0016	0.0015	0.3319	-0.0999	-0.1311	-0.1949	0.3319	-0.032	-0.0426	0.9373	0.018	9.8911	1.0696	9.9011	1.1148	A-	A+	A+
ELA	5	581209	2	D	2	13393	0.7709	0.0821	0.0948	0.7709	0.0494	0.0025	0.0004	0.3612	-0.175	-0.17	0.3612	-0.2359	-0.0449	-0.0297	-0.8012	0.0209	-2.149	0.9767	-0.449	0.9907	A+	A-	A-
ELA	5	581218	2	D	2	13393	0.9072	0.0147	0.0488	0.0263	0.9072	0.0021	0.001	0.1989	-0.1736	-0.0044	-0.2064	0.1989	-0.0421	-0.0304	-1.9791	0.0292	-0.509	0.989	9.9017	1.6728	A+	A+	A-
ELA	5	579326	3	A-C	2	13460	0.7033	0.1074	0.7033	0.0793	0.1071	0.0019	0.001	0.4383	-0.1808	0.4383	-0.2175	-0.2678	-0.0292	-0.0432	-0.4308	0.0196	-7.8291	0.9305	-5.2591	0.9146	A+	A+	A-
ELA	5	579330	3	A-K	2	13460	0.6898	0.0551	0.0422	0.2102	0.6898	0.0017	0.001	0.3285	-0.2208	-0.2359	-0.1264	0.3285	-0.0448	-0.0258	-0.3087	0.0192	3.801	1.0332	7.3311	1.1179	B+	A-	A-
ELA	5	579332	3	A-K	3	13460	0.5167	0.0764	0.3273	0.5167	0.0778	0.0012	0.0007	0.331	-0.2481	-0.0871	0.331	-0.2136	-0.0243	-0.024	0.5877	0.018	9.9011	1.0795	9.9011	1.1453	A+	A-	A-
ELA	5	579334	3	A-K	2	13460	0.7842	0.0695	0.7842	0.0686	0.0712	0.0062	0.0003	0.476	-0.26	0.476	-0.2343	-0.262	-0.0344	-0.0212	-0.9279	0.0215	-9.8992	0.8496	-9.8993	0.7393	A+	A+	A-
ELA	5	579338	3	A-K	2	13460	0.5974	0.1053	0.5974	0.1354	0.1596	0.0014	0.0008	0.4532	-0.2328	0.4532	-0.2375	-0.1854	-0.0294	-0.0179	0.1911	0.0183	-7.5191	0.9457	-6.4391	0.9263	A+	A-	A-
ELA	5	579302	3	A-V	2	13460	0.8959	0.0384	0.0267	0.8959	0.038	0.0007	0.0003	0.4292	-0.2606	-0.215	0.4292	-0.2363	-0.0291	-0.0225	-1.9084	0.0282	-9.7792	0.8188	-9.8995	0.5154	A-	A+	A-
ELA	5	579303	3	A-V	2	13460	0.2888	0.2888	0.471	0.1506	0.0874	0.0014	0.0007	0.1752	0.1752	0.0284	-0.0962	-0.2027	-0.0337	-0.0236	1.7863	0.0196	9.9012	1.2071	9.9015	1.4878	A+	A-	A-
ELA	5	579340	3	A-V	2	13460	0.9157	0.0313	0.0244	0.9157	0.0231	0.0051	0.0004	0.3694	-0.2288	-0.2116	0.3694	-0.1839	-0.037	0.0046	-2.1844	0.031	-6.8692	0.8492	-9.8994	0.5688	A+	A-	B-
ELA	5	505543	3	D	2	13460	0.2825	0.2825	0.3358	0.1704	0.2085	0.0012	0.0015	0.2587	0.2587	-0.065	-0.0964	-0.1176	-0.0292	-0.0194	1.821	0.0197	9.9011	1.1165	9.9013	1.3409	A-	A-	A+
ELA	5	581210	3	D	2	13460	0.5264	0.1338	0.0569	0.5264	0.2803	0.0023	0.0002	0.3647	-0.1468	-0.18	0.3647	-0.1952	-0.0529	-0.0157	0.5428	0.018	7.8711	1.0558	6.1811	1.0651	A+	A-	A-
ELA	5	581219	3	D	2	13460	0.5567	0.1019	0.1683	0.5567	0.1705	0.0018	0.0008	0.332	-0.1868	-0.1325	0.332	-0.1525	-0.0202	-0.0219	0.376	0.0181	9.9011	1.0773	9.9011	1.1334	A+	A-	A-
ELA	5	580582	4	A-K	2	13456	0.7793	0.7793	0.0579	0.0488	0.1123	0.0016	0.0002	0.3483	0.3483	-0.1838	-0.2101	-0.1714	-0.0537	-0.0045	-0.8735	0.0226	-2.389	0.9719	4.5411	1.1071	A-	A-	A-
ELA	5	580583	4	A-K	2	13456	0.7351	0.1444	0.7351	0.0625	0.0574	0.0003	0.0004	0.3976	-0.1936	0.3976	-0.2392	-0.2095	-0.0315	-0.0139	-0.5879	0.0214	-5.1491	0.9478	-3.1191	0.9408	A+	A+	A+
ELA	5	580584	4	A-K	2	13456	0.9076	0.0242	0.0288	0.9076	0.0371	0.0015	0.0009	0.405	-0.2143	-0.2098	0.405	-0.2468	-0.0425	-0.0347	-2.0317	0.0312	-8.5292	0.8212	-9.8995	0.495	A+	A+	A-
ELA	5	580585	4	A-K	2	13456	0.7451	0.0641	0.7451	0.1076	0.0731	0.0059	0.0042	0.495	-0.2623	0.495	-0.2509	-0.2707	-0.029	-0.0161	-0.6501	0.0216	-9.8992	0.8421	-9.8992	0.7556	A+	A+	A-
ELA	5	580586	4	A-K	2	13456	0.7328	0.168	0.0484	0.7328	0.0484	0.0016	0.0009	0.4591	-0.2624	-0.234	0.4591	-0.2479	-0.0333	-0.0119	-0.5738	0.0213	-9.8991	0.8829	-8.7192	0.8417	A+	A+	A-
ELA	5	580581	4	A-V	2	13456	0.62	0.2165	0.62	0.0949	0.0656	0.0019	0.0011	0.3954	-0.1352	0.3954	-0.2165	-0.2797	-0.0513	-0.0384	0.0562	0.0197	0.151	1.0012	1.681	1.0225	A+	A+	A-
ELA	5	580588	4	A-V	2	13456	0.5354	0.0706	0.5354	0.1879	0.2053	0.0007	0.0001	0.244	-0.2987	0.244	-0.0082	-0.1011	-0.0397	-0.0117	0.4861	0.0193	9.9012	1.1815	9.9013	1.2648	A+	A+	A+
ELA	5	580589	4	A-V	2	13456	0.6826	0.6826	0.0641	0.1413	0.1071	0.0042	0.0007	0.4733	0.4733	-0.3012	-0.3246	-0.0993	-0.0356	-0.0169	-0.2811	0.0204	-9.8991	0.8902	-7.5591	0.8829	A+	A-	A-
ELA	5	505544	4	D	2	13456	0.7523	0.0818	0.059	0.7523	0.1047	0.0009	0.0013	0.4586	-0.2779	-0.2468	0.4586	-0.2024	-0.0161	-0.0329	-0.6957	0.0218	-9.8991	0.886	-9.6892	0.8134	A+	A-	B-
ELA	5	581211	4	D	2	13456	0.4096	0.3506	0.1182	0.1187	0.4096	0.0026	0.0002	0.3691	-0.0737	-0.2002	-0.2473	0.3691	-0.0283	-0.0171	1.1158	0.0195	4.651	1.0369	8.6011	1.1051	A+	A-	A-
ELA	5	581220	4	D	2	13456	0.458	0.1622	0.2727	0.105	0.458	0.0011	0.0009	0.3969	-0.2369	-0.1266	-0.1727	0.3969	-0.012	-0.0226	0.8712	0.0193	2.161	1.0163	3.991	1.0446	A-	A-	A-
ELA	5	579331	5	A-K	2	13486	0.4806	0.3247	0.4806	0.1014	0.0894	0.0021	0.0018	0.2434	-0.0056	0.2434	-0.2351	-0.155	-0.0353	-0.0513	0.7612	0.0191	9.9012	1.1606	9.9012	1.2202	A-	A-	A-
ELA	5	579333	5	A-K	2	13486	0.4353	0.1889	0.4353	0.0856	0.2823	0.0074	0.0004	0.2586	-0.2418	0.2586	-0.2063	0.0625	-0.0463	-0.0008	0.9841	0.0192	9.9011	1.135	9.9012	1.2102	A+	A-	A-
ELA	5	579335	5	A-K	2	13486	0.7038	0.0977	0.0965	0.0937	0.7038	0.0042	0.0039	0.4682	-0.2123	-0.2806	-0.2201	0.4682	-0.0493	-0.0078	-0.3778	0.0206	-9.8991	0.8843	-9.3791	0.8532	A+	A-	A-
ELA	5	579337	5	A-K	2	13486	0.7476	0.1069	0.0567	0.7476	0.0869	0.0011	0.0009	0.4839	-0.2614	-0.2287	0.4839	-0.2655	-0.0236	-0.0331	-0.6369	0.0215	-9.8991	0.8555	-9.8992	0.753	A+	A-	A-
ELA	5	579339	5	A-K	2	13486	0.6079	0.1034	0.0898	0.6079	0.1946	0.003	0.0013	0.3485	-0.1649	-0.21	0.3485	-0.1419	-0.0402	-0.041	0.1337	0.0194	4.571	1.0353	4.4911	1.0559	A+	A-	A-
ELA	5	579301	5	A-V	2	13486	0.5956	0.2169	0.0558	0.1286	0.5956	0.0015	0.0017	0.2576	-0.0852	-0.2618	-0.0881	0.2576	-0.0213	-0.0225	0.1958	0.0193	9.9011	1.1228	9.9012	1.2432	A-	A-	A-
ELA	5	579304	5	A-V	2	13486	0.7707	0.0961	0.7707	0.0853	0.0454	0.0014	0.0011	0.4768	-0.3013	0.4768	-0.2275	-0.22	-0.0312	-0.0342	-0.7838	0.0221	-9.8991	0.8606	-9.8993	0.743	A-	A+	B-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	5	579305	5	A-V	2	13486	0.722	0.722	0.0621	0.0756	0.139	0.0007	0.0006	0.425	0.425	-0.2151	-0.2232	-0.2295	0.005	-0.0098	-0.4828	0.0209	-6.7991	0.9353	-7.8091	0.8689	A+	A+	A-
ELA	5	505545	5	D	2	13486	0.6625	0.1598	0.0944	0.0805	0.6625	0.0007	0.0022	0.4119	-0.1593	-0.2268	-0.2518	0.4119	-0.0157	-0.0253	-0.1504	0.0199	-5.179	0.9571	-2.879	0.9591	B+	A-	A-
ELA	5	581212	5	D	2	13486	0.5982	0.0275	0.281	0.5982	0.0905	0.0023	0.0005	0.206	-0.1649	-0.037	0.206	-0.1944	-0.0267	-0.0151	0.1828	0.0193	9.9012	1.1823	9.9013	1.294	A-	A-	A-
ELA	5	581221	5	D	2	13486	0.6155	0.0365	0.6155	0.0491	0.2961	0.002	0.0008	0.3607	-0.2254	0.3607	-0.2455	-0.1739	-0.0038	-0.0196	0.0949	0.0195	3.131	1.0244	1.191	1.0149	A+	B-	A-
ELA	5	495075	6	A-C	3	53703	0.6693	0.0594	0.6693	0.1438	0.1257	0.0008	0.0009	0.4872	-0.2742	0.4872	-0.2394	-0.2373	-0.0248	-0.0324	-0.1953	0.0101	-9.8991	0.8837	-9.8992	0.8275	A-	A+	A-
ELA	5	495076	6	A-K	2	53703	0.7054	0.0819	0.1487	0.0613	0.7054	0.0022	0.0005	0.4849	-0.2962	-0.2009	-0.278	0.4849	-0.0248	-0.0222	-0.396	0.0103	-9.8991	0.8724	-9.8992	0.807	A-	A+	A-
ELA	5	495078	6	A-K	2	53703	0.5015	0.0955	0.2408	0.5015	0.159	0.0018	0.0014	0.3669	-0.2663	-0.1074	0.3669	-0.155	-0.0346	-0.0298	0.6546	0.0096	8.681	1.0318	9.9011	1.0564	A-	A-	A-
ELA	5	495080	6	A-K	3	53703	0.6715	0.0806	0.0936	0.6715	0.1516	0.0015	0.0013	0.4306	-0.2469	-0.2437	0.4306	-0.1709	-0.0409	-0.0346	-0.2074	0.0101	-9.8991	0.941	-9.8991	0.903	A+	A-	A-
ELA	5	495077	6	A-V	1	53703	0.5252	0.3386	0.5252	0.085	0.0488	0.0011	0.0013	0.2944	-0.1036	0.2944	-0.2308	-0.1464	-0.0298	-0.0302	0.5383	0.0096	9.9011	1.1085	9.9011	1.1399	A+	A-	A-
ELA	5	495084	6	A-V	2	53703	0.4528	0.4528	0.1816	0.1301	0.2341	0.0006	0.0008	0.3048	0.3048	-0.3385	-0.109	0.0393	-0.0212	-0.0233	0.8945	0.0096	9.9011	1.0952	9.9012	1.1601	A+	A+	A+
ELA	5	580490	6	B-C	2	13503	0.7057	0.1439	0.7057	0.0833	0.0645	0.0017	0.0009	0.4998	-0.2766	0.4998	-0.2244	-0.2676	-0.0453	-0.0359	-0.3954	0.0206	-9.8991	0.8598	-9.8992	0.7616	A+	A-	A-
ELA	5	580454	6	B-K	1	13503	0.4592	0.4592	0.1253	0.1536	0.2595	0.0013	0.001	0.3473	0.3473	-0.157	-0.225	-0.0857	-0.0399	-0.0289	0.8698	0.0192	7.1511	1.0541	8.1911	1.0901	A-	A+	A-
ELA	5	580456	6	B-K	2	13503	0.5948	0.5948	0.1116	0.1297	0.1571	0.0061	0.0007	0.4821	0.4821	-0.2383	-0.1964	-0.2546	-0.0317	-0.021	0.1971	0.0194	-9.8991	0.907	-9.8991	0.8765	A-	A-	A-
ELA	5	580457	6	B-K	2	13503	0.2594	0.1967	0.0707	0.2594	0.4711	0.0012	0.0009	0.06	-0.2064	-0.2472	0.06	0.2419	-0.0346	-0.0153	1.9533	0.0216	9.9013	1.3033	9.9017	1.7387	A+	A-	A-
ELA	5	580458	6	B-K	2	13503	0.4118	0.1275	0.166	0.4118	0.2919	0.0022	0.0006	0.3254	-0.16	-0.2023	0.3254	-0.0634	-0.0454	-0.0215	1.1081	0.0194	8.2311	1.0656	9.9011	1.1355	A+	A-	A-
ELA	5	580491	6	B-K	2	13503	0.448	0.2374	0.1368	0.448	0.1768	0.0008	0.0002	0.4154	-0.28	-0.1573	0.4154	-0.0857	-0.0225	-0.0027	0.9258	0.0192	-2.999	0.9776	-0.489	0.9947	A+	A-	A-
ELA	5	580459	6	B-V	2	13503	0.7589	0.7589	0.0601	0.0435	0.1283	0.0085	0.0007	0.2768	0.2768	-0.1876	-0.2292	-0.0656	-0.0484	-0.0239	-0.7164	0.0218	4.441	1.0488	9.3512	1.2073	A-	A-	A-
ELA	5	580460	6	B-V	2	13503	0.4583	0.1477	0.3107	0.0812	0.4583	0.0011	0.001	0.301	-0.222	-0.0539	-0.1629	0.301	-0.0301	-0.0245	0.8742	0.0192	9.9011	1.1063	9.9012	1.1551	A-	A-	A-
ELA	5	505541	6	D	2	13503	0.8189	0.0185	0.8189	0.1428	0.0178	0.0005	0.0015	0.4163	-0.1698	0.4163	-0.323	-0.1716	-0.0285	-0.0281	-1.1345	0.0239	-8.7791	0.8854	-7.0792	0.8242	A+	A-	A-
ELA	5	581213	6	D	2	13503	0.5611	0.1303	0.1807	0.5611	0.1248	0.0027	0.0004	0.4252	-0.2257	-0.1398	0.4252	-0.2382	-0.0375	-0.0288	0.3659	0.0192	-3.699	0.9728	-3.719	0.9578	A+	A-	A-
ELA	5	581222	6	D	2	13503	0.6079	0.0583	0.6079	0.0558	0.2767	0.0007	0.0007	0.449	-0.1745	0.449	-0.2123	-0.2883	-0.0219	-0.0013	0.1304	0.0195	-7.9291	0.94	-6.8991	0.9144	A+	A-	A-
ELA	5	574352	7	B-C	2	13377	0.424	0.2545	0.1499	0.1613	0.424	0.0076	0.0026	0.2692	0.0574	-0.1914	-0.2365	0.2692	-0.021	-0.0166	1.0343	0.0194	9.9011	1.1247	9.9012	1.204	A+	A-	A+
ELA	5	574354	7	B-K	2	13377	0.3693	0.1491	0.1054	0.3693	0.3751	0.0007	0.0003	0.2386	-0.2025	-0.2034	0.2386	0.0425	-0.0322	-0.0138	1.314	0.0198	9.9011	1.1431	9.9012	1.2404	A-	A-	A-
ELA	5	574355	7	B-K	3	13377	0.6516	0.6516	0.1038	0.1238	0.1146	0.0055	0.0007	0.4452	0.4452	-0.231	-0.2158	-0.2127	-0.0345	-0.0109	-0.1002	0.0199	-8.7891	0.9296	-7.7091	0.8942	A-	A-	A-
ELA	5	574357	7	B-K	3	13377	0.4286	0.1629	0.4286	0.1035	0.3025	0.0016	0.0009	0.2259	-0.0978	0.2259	-0.2384	-0.0014	-0.0391	-0.0281	1.0114	0.0194	9.9012	1.1717	9.9012	1.2494	A-	A-	A-
ELA	5	574358	7	B-V	2	13377	0.3762	0.3872	0.3762	0.0967	0.1387	0.0007	0.0006	0.2015	-0.0766	0.2015	-0.1622	-0.033	-0.0091	-0.0288	1.2781	0.0197	9.9012	1.1992	9.9013	1.3146	A-	A-	A-
ELA	5	574359	7	B-V	2	13377	0.5775	0.1631	0.0984	0.5775	0.1603	0.0003	0.0004	0.3814	-0.2206	-0.2197	0.3814	-0.1114	-0.0215	-0.0131	0.2783	0.0193	0.971	1.0072	4.8711	1.0575	A-	A-	A-
ELA	5	574558	7	B-V	2	13377	0.6037	0.6037	0.1429	0.1606	0.0886	0.0025	0.0017	0.4478	0.4478	-0.2696	-0.2007	-0.1695	-0.0275	-0.0354	0.1467	0.0195	-8.2991	0.9381	-7.2891	0.9125	A-	A-	A-
ELA	5	574576	7	B-V	1	13377	0.6644	0.0989	0.6644	0.1122	0.1183	0.0053	0.0009	0.4748	-0.2558	0.4748	-0.1967	-0.2544	-0.0405	-0.0229	-0.1686	0.02	-9.8991	0.8962	-9.8992	0.8323	A-	A-	A-
ELA	5	505536	7	D	3	13377	0.5283	0.5283	0.2202	0.1521	0.0964	0.001	0.0019	0.3551	0.3551	-0.1586	-0.23	-0.0919	-0.0255	-0.0226	0.5208	0.0192	5.911	1.0433	5.2011	1.0562	A+	A-	A-
ELA	5	581214	7	D	2	13377	0.8048	0.0617	0.8048	0.0718	0.0588	0.0027	0.0001	0.3857	-0.1826	0.3857	-0.2228	-0.212	-0.0269	-0.008	-1.026	0.0233	-5.5891	0.9298	-6.2991	0.8523	A+	A+	A+
ELA	5	581223	7	D	2	13377	0.4032	0.1518	0.4032	0.4061	0.0364	0.002	0.0004	0.2695	-0.1254	0.2695	-0.1152	-0.1595	-0.0135	-0.0072	1.1391	0.0195	9.9011	1.1284	9.9012	1.1948	A+	A-	A-
ELA	5	580489	8	B-C	2	13386	0.7719	0.0872	0.7719	0.032	0.1058	0.0022	0.0009	0.463	-0.2785	0.463	-0.2203	-0.2416	-0.0343	-0.0348	-0.8156	0.0223	-9.8991	0.8754	-9.8993	0.7399	A+	A-	A-
ELA	5	580492	8	B-C	1	13386	0.706	0.0904	0.0806	0.706	0.1217	0.0007	0.0006	0.3992	-0.174	-0.2319	0.3992	-0.207	-0.0114	-0.0342	-0.4106	0.0207	-4.109	0.9616	-1.789	0.9698	A+	A-	A-
ELA	5	580471	8	B-K	2	13386	0.4822	0.2308	0.4822	0.245	0.0372	0.0043	0.0004	0.2813	-0.1258	0.2813	-0.1018	-0.2168	-0.0326	-0.0306	0.7408	0.0192	9.9011	1.1335	9.9012	1.2022	A-	A-	A-
ELA	5	580472	8	B-K	2	13386	0.6923	0.6923	0.1266	0.0718	0.0994	0.0068	0.0031	0.3814	0.3814	-0.135	-0.2561	-0.2059	-0.0259	-0.0238	-0.3329	0.0205	-2.489	0.9775	0.891	1.0143	A+	A+	A+
ELA	5	580473	8	B-K	2	13386	0.7189	0.0329	0.053	0.7189	0.1929	0.0011	0.0013	0.1999	-0.233	-0.2284	0.1999	0.0133	-0.0324	-0.0369	-0.4857	0.021	9.9011	1.1373	9.9014	1.4313	A+	A-	A-
ELA	5	580474	8	B-K	2	13386	0.5131	0.5131	0.2227	0.1418	0.1206	0.0013	0.0006	0.4037	0.4037	-0.1478	-0.2023	-0.2093	-0.0247	-0.0279	0.5892	0.0192	-0.899	0.9935	-0.339	0.9964	A+	A+	A+
ELA	5	580469	8	B-V	2	13386	0.9159	0.0333	0.0291	0.0185	0.9159	0.0011	0.002	0.3389	-0.1889	-0.2185	-0.1622	0.3389	-0.0252	-0.0158	-2.1251	0.0324	-5.3391	0.8772	-8.4993	0.669	B+	A-	A-
ELA	5	580475	8	B-V	2	13386	0.7722	0.1295	0.7722	0.0459	0.0511	0.0005	0.0007	0.4365	-0.2932	0.4365	-0.2145	-0.174	-0.0166	-0.0382	-0.8171	0.0223	-9.8991	0.887	-3.9391	0.9168	A-	A+	A-
ELA	5	505537	8	D	2	13386	0.6481	0.6481	0.18	0.0796	0.0899	0.001	0.0015	0.4051	0.4051	-0.2406	-0.2572	-0.1028	-0.0306	-0.0279	-0.0921	0.0199	-2.099	0.9826	-3.579	0.9505	A+	A-	A-
ELA	5	581215	8	D	2	13386	0.7468	0.033	0.0782	0.1396	0.7468	0.002	0.0004	0.4396	-0.2326	-0.2647	-0.2209	0.4396	-0.0371	-0.0149	-0.654	0.0216	-9.3891	0.9038	-7.6891	0.8561	A+	B-	A-
ELA	5	581224	8	D	2	13386	0.5601	0.5601	0.1095	0.1098	0.2189	0.0011	0.0005	0.4207	0.4207	-0.1579	-0.186	-0.242	-0.0263	-0.0169	0.3569	0.0193	-2.889	0.9787	-2.409	0.973	A+	A-	A-
ELA	5	580462	9	B-C	2	13437	0.4278	0.4278	0.1139	0.2455	0.2047	0.0074	0.0007	0.2811	0.2811	-0.2038	-0.0201	-0.1514	-0.0459	-0.0262	1.0227	0.0193	9.9011	1.1119	9.9012	1.1955	A-	A-	A-
ELA	5	580488	9	B-C	3	13437	0.2406	0.2406	0.3333	0.2504	0.1724	0.0016	0.0016	0.1036	0.1036	0.092	-0.1358	-0.068	-0.0392	-0.038	2.0613	0.022	9.9012	1.2338	9.9016	1.6116	A-	A+	A+
ELA	5	580493	9	B-C	2	13437	0.4624	0.4624	0.1376	0.2604	0.135	0.0036	0.001	0.3533	0.3533	-0.2019	-0.1426	-0.1196	-0.0404	-0.0235	0.8515	0.0192	5.971	1.0445	7.1311	1.0759	A-	A-	A+
ELA	5	580464	9	B-K	2	13437	0.6905	0.0788	0.6905	0.0829	0.1423	0.0051	0.0004	0.4582	-0.2804	0.4582	-0.2671	-0.1736	-0.0192	-0.0293	-0.3048	0.0204	-9.8991	0.9019	-8.8291	0.866	A+	A+	A-
ELA	5	580465	9	B-K	2	13437	0.6106	0.2627	0.6106	0.0793	0.0459	0.0004	0.001	0.3742	-0.1642	0.3742	-0.2264	-0.2263	-0.0195	-0.039	0.1185	0.0195	0.221	1.0017	4.2811	1.0542	A+	A-	A-
ELA	5	580466	9	B-K	2	13437	0.5639	0.5639	0.0854	0.2141	0.1337	0.0017	0.0012	0.2535	0.2535	-0.1866	-0.0464	-0.1543	-0.0332	-0.0182	0.3528	0.0192	9.9011	1.1422	9.9013	1.2963	A-	A-	A-
ELA	5	580467	9	B-V	2	13437	0.7034	0.083	0.0694	0.7034	0.1433	0.0006	0.0003	0.3956	-0.2445	-0.2708	0.3956	-0.1235	-0.026	-0.0299	-0.3772	0.0206	-5.049	0.9541	-1.459	0.9759	A-	A-	A-
ELA	5	580468	9	B-V	2	13437	0.182	0.182	0.0804	0.3888	0.3429	0.0022	0.0037	0.1002	0.1002	-0.118	-0.0873	0.0839	-0.0444	-0.0289	2.4768	0.0241	9.9012	1.1867	9.9018	1.7502	A+	A+	A+
ELA	5	505538	9	D	2	13437	0.5331	0.1512	0.5331	0.1872	0.1258	0.0009	0.0019	0.4412	-0.2696	0.4412	-0.2077	-0.1208	-0.0263	-0.0386	0.5047	0.0191	-7.1991	0.9487	-5.4191	0.9434	A+	A-	A-
ELA	5	581216	9	D	2	13437	0.5106	0.1698	0.5106	0.2157	0.1008	0.0024	0.0007	0.389	-0.1633	0.389	-0.2757	-0.054	-0.0506	-0.0383	0.6149	0.0191	-0.049	0.9996	1.061	1.011	A+	A-	A-
ELA	5	581225	9	D	2	13437	0.5975	0.1506	0.5975	0.1398	0.1097	0.0014	0.001	0.4546	-0.2422	0.4546	-0.2099	-0.1985	-0.0232	-0.0204	0.1848	0.0194	-8.8191	0.9344	-8.0591	0.906	A+	A-	A-
ELA	6	416075	0	A-C	2	120683	0.6878	0.0903	0.6878	0.1026	0.1161	0.0021	0.001	0.5049	-0.2199	0.5049	-0.2954	-0.2417	-0.0642	-0.029	0.0751	0.0065	-9.8991	0.8893	-9.8992	0.8372	A-	A+	A+
ELA	6	416077	0	A-C	2	120683	0.3714	0.2689	0.1387	0.2153	0.3714	0.0048	0.0009	0.4149	-0.1535	-0.2369	-0.1107	0.4149	-0.0633	-0.0212	1.5822	0.0063	-5.229	0.9868	9.901	1.042	A-	A+	A+
ELA	6	416082	0	A-C	3	120683	0.4919	0.1161	0.1121	0.4919	0.2763	0.0031	0.0005	0.3439	-0.2521	-0.329	0.3439	0.0367	-0.0604	-0.0176	1.0113	0.0061	9.9011	1.0851	9.9011	1.1218	A-	A+	A+
ELA	6	416085	0	A-C	3	120683	0.5394	0.2096	0.5394	0.1167	0.127	0.0047	0.0027	0.5206	-0.2202	0.5206	-0.2716	-0.2324	-0.0664	-0.0148	0.8129	0.0062	-9.8991	0.9039	-9.8991	0.8834	A-	A+	A+
ELA	6	497125	0	A-C	2	120683	0.6096	0.6096	0.1386	0.0908	0.1555	0.0047	0.0009	0.4644	0.4644	-0.1491	-0.2757	-0.2542	-0.0463	-0.0192	0.4638	0.0063	-9.8991	0.9461	-9.8991	0.9314	A+	A-	A-
ELA	6	497126	0	A-C	2	120683	0.7537	0.0435	0.7537	0.0534	0.1463	0.0018	0.0013	0.3437	-0.2391	0.3437	-0.2475	-0.1168	-0.0373	-0.0223	-0.3553	0.007	3.901	1.0135	9.9011	1.1356	A+	A-	A-
ELA	6	416079	0	A-K	2	120683	0.4279	0.3164	0.1814	0.0709	0.4279	0.0026	0.0007	0.3667	-0.1585	-0.073	-0.2968	0.3667	-0.0601	-0.0135	1.327	0.0062	9.9011	1.0608	9.9011	1.1004	A+	A-	A-
ELA	6	416083	0	A-K	2	120683	0.5787	0.1314	0.186	0.5787	0.1014	0.0021	0.0005	0.4922	-0.2103	-0.2497	0.4922	-0.2378	-0.0588	-0.0188	0.5835	0.0062	-9.8991	0.9341	-9.8991	0.9173	A+	A+	A+
ELA	6	497127	0	A-K	2	120683	0.5506	0.0659	0.3115	0.0688	0.5506	0.002	0.0012	0.4895	-0.2972	-0.2216	-0.254	0.4895	-0.0387	-0.0325	0.7251	0.0062	-9.8991	0.9329	-9.8991	0.9122	A-	A-	A-
ELA	6	497128	0	A-K	3	120683	0.6943	0.0797	0.052	0.1719	0.6943	0.0013	0.0009	0.3069	-0.2591	-0.1851	-0.0751	0.3069	-0.0314	-0.0218	0.012	0.0066	9.9011	1.0608	9.9013	1.2531	A+	A+	A-
ELA	6	416076	0	A-V	2	120683	0.4364	0.4364	0.1227	0.2161	0.2181	0.0059	0.0009	0.4328	0.4328	-0.1998	-0.2376	-0.1096	-0.0705	-0.023	1.2384	0.0062	-6.239	0.9857	3.421	1.011	A-	A+	A+
ELA	6	497132	0	A-V	2	120683	0.5212	0.2382	0.0565	0.1802	0.5212	0.0024	0.0015	0.4255	-0.1521	-0.1852	-0.2659	0.4255	-0.0378	-0.0258	0.8614	0.0061	-0.849	0.9981	1.541	1.0048	A-	A-	A-
ELA	6	404576	0	B-C	3	120683	0.5157	0.2105	0.5157	0.1328	0.1362	0.0035	0.0013	0.292	-0.1387	0.292	-0.2007	-0.0496	-0.06	-0.0207	0.9056	0.0061	9.9011	1.1337	9.9012	1.1794	A-	A+	A+
ELA	6	404577	0	B-C	2	120683	0.8188	0.8188	0.0527	0.0495	0.0728	0.0055	0.0007	0.5249	0.5249	-0.2818	-0.2793	-0.2804	-0.069	-0.0251	-0.8229	0.0077	-9.8992	0.8363	-9.8994	0.6392	A-	A-	A-
ELA	6	404579	0	B-C	2	120683	0.5419	0.1127	0.1188	0.5419	0.2217	0.0037	0.0013	0.4128	-0.2653	-0.1797	0.4128	-0.1417	-0.0708	-0.0138	0.7167	0.0062	9.901	1.0253	9.901	1.0429	A-	A+	A+
ELA	6	497114	0	B-C	3	120683	0.6026	0.6026	0.1147	0.0653	0.2146	0.0026	0.0003	0.4785	0.4785	-0.2465	-0.2539	-0.2212	-0.0365	-0.0167	0.5112	0.0062	-9.8991	0.9326	-9.8991	0.9024	A-	A+	A+
ELA	6	497115	0	B-C	3	120683	0.323	0.3575	0.323	0.0956	0.2219	0.0015	0.0005	0.2499	-0.0193	0.2499	-0.2139	-0.1035	-0.033	-0.0203	1.8904	0.0066	9.9012	1.1577	9.9013	1.3355	A+	A+	A+
ELA	6	497116	0	B-C	2	120683	0.5776	0.0959	0.2059	0.1183	0.5776	0.002	0.0004	0.5036	-0.257	-0.1969	-0.2837	0.5036	-0.0338	-0.0177	0.6014	0.0062	-9.8991	0.9138	-9.8991	0.8996	A-	A+	A-
ELA	6	497117	0	B-C	2	120683	0.551	0.0757	0.1154	0.2562	0.551	0.001	0.0007	0.378	-0.2531	-0.1537	-0.1612	0.378	-0.0345	-0.0182	0.7565	0.0062	9.901	1.0482	9.9011	1.0541	A-	A+	A+
ELA	6	404582	0	B-K	3	120683	0.5129	0.2636	0.5129	0.1251	0.0919	0.0058	0.0007	0.4783	-0.2159	0.4783	-0.2092	-0.241	-0.0611	-0.0179	0.9384	0.0061	-9.899	0.9511	-9.8991	0.9486	A-	A+	A+
ELA	6	404585	0	B-V	2	120683	0.6384	0.1599	0.1081	0.0887	0.6384	0.0043	0.0006	0.5097	-0.2191	-0.2842	-0.2509	0.5097	-0.0704	-0.0178	0.2517	0.0064	-9.8991	0.9154	-9.8991	0.8775	B-	A-	A-
ELA	6	497121	0	B-V	2	120683	0.8346	0.0646	0.8346	0.0702	0.0284	0.0019	0.0004	0.4666	-0.2712	0.4666	-0.2791	-0.1998	-0.041	-0.0219	-0.9557	0.008	-9.8991	0.8811	-9.8993	0.7123	A-	A-	A-
ELA	6	497122	0	B-V	2	120683	0.7581	0.0778	0.1088	0.7581	0.0536	0.0014	0.0004	0.4234	-0.246	-0.2009	0.4234	-0.2256	-0.0435	-0.0231	-0.4399	0.0071	-9.249	0.9669	-5.549	0.9656	A-	A+	A+
ELA	6	272269	0	D	2	120683	0.6824	0.093	0.1048	0.118	0.6824	0.0013	0.0004	0.2961	-0.1149	-0.1483	-0.1793	0.2961	-0.0214	-0.0213	0.0856	0.0065	9.9011	1.0854	9.9012	1.1537	A+	A-	A-
ELA	6	275824	0	D	2	120683	0.4663	0.127	0.234	0.171	0.4663	0.0009	0.0008	0.3086	-0.1113	-0.125	-0.1653	0.3086	-0.029	-0.0299	1.1986	0.0062	9.9011	1.1209	9.9012	1.1669	A+	A+	A+
ELA	6	279258	0	D	2	120683	0.7807	0.0326	0.7807	0.0175	0.1682	0.0006	0.0004	0.3456	-0.1822	0.3456	-0.0882	-0.2622	-0.024	-0.0207	-0.4702	0.0071	-9.259	0.9663	6.801	1.0441	A-	A-	A+
ELA	6	341234	0	D	2	120683	0.3959	0.1634	0.2592	0.3959	0.1803	0.0007	0.0005	0.3837	-0.2913	-0.0769	0.3837	-0.117	-0.0274	-0.024	1.4264	0.0062	8.651	1.0209	9.9011	1.0501	A+	A-	A-
ELA	6	412355	0	D	2	120683	0.2986	0.1847	0.2986	0.1086	0.4062	0.0011	0.0008	0.3982	-0.2708	0.3982	-0.2744	0.02	-0.0295	-0.0217	2.0182	0.0067	-3.319	0.9899	9.9011	1.0723	B+	A+	A+
ELA	6	412356	0	D	2	120683	0.5666	0.5666	0.067	0.1844	0.1808	0.0005	0.0007	0.3672	0.3672	-0.2098	-0.1193	-0.2133	-0.0209	-0.0264	0.6237	0.0062	9.9011	1.0634	9.9011	1.0643	A-	A+	A-
ELA	6	412402	0	D	2	120683	0.671	0.068	0.1189	0.141	0.671	0.0005	0.0007	0.465	-0.2906	-0.1146	-0.3085	0.465	-0.0191	-0.0184	0.1079	0.0065	-9.8991	0.9237	-0.349	0.9984	A+	A-	A-
ELA	6	412404	0	D	2	120683	0.3904	0.1518	0.3904	0.2957	0.1608	0.0006	0.0006	0.3412	-0.1962	0.3412	-0.0778	-0.1614	-0.0239	-0.0269	1.4439	0.0063	9.9011	1.0563	9.9011	1.1323	A+	A-	A-
ELA	6	503921	0	D	2	120683	0.4271	0.2686	0.134	0.4271	0.1686	0.0012	0.0005	0.4212	-0.1097	-0.1634	0.4212	-0.2735	-0.0344	-0.0227	1.3135	0.0062	-3.789	0.9912	6.791	1.0224	A+	A-	A-
ELA	6	495897	1	A-C	2	67122	0.67	0.67	0.1153	0.0516	0.1616	0.0007	0.0007	0.2877	0.2877	-0.1713	-0.1541	-0.1231	-0.0246	-0.0182	0.1115	0.0085	9.9011	1.0616	9.9011	1.1255	A+	A-	A-
ELA	6	499798	1	A-C	2	67122	0.5568	0.1462	0.5568	0.1911	0.1035	0.0019	0.0005	0.299	-0.0288	0.299	-0.1922	-0.2009	-0.0288	-0.0156	0.6936	0.0081	9.9011	1.08	9.9011	1.139	A+	A-	A-
ELA	6	495898	1	A-K	3	67122	0.4993	0.2977	0.1225	0.0779	0.4993	0.0015	0.001	0.4491	-0.1694	-0.2778	-0.2003	0.4491	-0.0374	-0.0259	0.9969	0.0081	-9.8991	0.9254	-9.8991	0.9239	A+	A-	A-
ELA	6	495899	1	A-K	2	67122	0.5816	0.1502	0.129	0.1367	0.5816	0.0013	0.0013	0.4826	-0.2328	-0.2344	-0.215	0.4826	-0.0336	-0.0351	0.61	0.0081	-9.8991	0.896	-9.8991	0.8786	A+	A-	A-
ELA	6	495900	1	A-V	2	67122	0.726	0.085	0.726	0.045	0.143	0.0005	0.0006	0.212	-0.1768	0.212	-0.1173	-0.0575	-0.0189	-0.0158	-0.1998	0.0089	9.9011	1.1167	9.9012	1.2249	A-	A+	A+
ELA	6	495902	1	A-V	2	67122	0.8925	0.0227	0.0274	0.8925	0.0558	0.0009	0.0007	0.3093	-0.2152	-0.188	0.3093	-0.1372	-0.0267	-0.0282	-1.4509	0.0122	-9.8991	0.9178	-6.4291	0.9075	A+	A-	A-
ELA	6	579313	1	B-C	2	13484	0.6836	0.1216	0.6836	0.0819	0.1118	0.0009	0.0002	0.4309	-0.2133	0.4309	-0.247	-0.1964	-0.0243	-0.0239	0.0629	0.0179	-9.1891	0.9317	-8.6091	0.8914	B-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	6	579314	1	B-C	3	13484	0.635	0.1654	0.114	0.635	0.0824	0.0022	0.0011	0.4804	-0.3149	-0.1633	0.4804	-0.2169	-0.0351	-0.0351	0.3485	0.0175	-9.8991	0.8968	-9.8992	0.8496	A-	A+	A-
ELA	6	579315	1	B-K	3	13484	0.5954	0.1307	0.5954	0.172	0.1007	0.0009	0.0004	0.4965	-0.2992	0.4965	-0.1568	-0.2736	-0.0318	-0.0217	0.5171	0.0173	-9.8991	0.8873	-9.8992	0.8487	A-	A-	A-
ELA	6	579316	1	B-K	2	13484	0.6689	0.6689	0.0443	0.0802	0.2003	0.0053	0.001	0.4622	0.4622	-0.1905	-0.176	-0.3171	-0.0348	-0.0336	0.1347	0.0178	-9.8991	0.8939	-9.8991	0.8568	A-	A-	A-
ELA	6	579317	1	B-K	2	13484	0.6418	0.6418	0.0866	0.1321	0.1376	0.0013	0.0005	0.5133	0.5133	-0.2852	-0.2737	-0.2071	-0.0365	-0.0233	0.3073	0.0175	-9.8991	0.8551	-9.8992	0.794	A-	A+	A-
ELA	6	579318	1	B-K	3	13484	0.3284	0.0861	0.2092	0.3739	0.3284	0.0021	0.0004	0.305	-0.2076	-0.1252	-0.0666	0.305	-0.04	-0.003	1.8201	0.0182	9.3911	1.0784	9.9012	1.2282	A-	A-	A-
ELA	6	579296	1	B-V	2	13484	0.8167	0.0729	0.0297	0.0799	0.8167	0.0004	0.0004	0.4344	-0.2434	-0.2199	-0.2462	0.4344	-0.0151	-0.0211	-0.7543	0.0207	-9.8991	0.8612	-9.8993	0.7215	A-	A-	A-
ELA	6	579319	1	B-V	2	13484	0.5251	0.1594	0.5251	0.1211	0.1896	0.0039	0.0008	0.4025	-0.2021	0.4025	-0.2464	-0.1125	-0.0294	-0.0244	0.8403	0.0171	1.811	1.0119	3.051	1.0285	C-	A-	A-
ELA	6	503919	1	D	2	13484	0.5947	0.1394	0.1651	0.5947	0.0992	0.0007	0.001	0.3927	-0.1702	-0.1768	0.3927	-0.2236	-0.0133	-0.0318	0.5085	0.0173	3.511	1.0238	1.831	1.0189	A+	A-	A-
ELA	6	584194	1	D	2	13484	0.7624	0.0761	0.094	0.0663	0.7624	0.001	0.0002	0.2756	-0.1448	-0.1225	-0.1709	0.2756	-0.0172	-0.0079	-0.4918	0.0195	6.3211	1.0628	9.7612	1.1898	A+	A-	A-
ELA	6	584203	1	D	2	13484	0.4542	0.1221	0.181	0.4542	0.2407	0.0019	0.0001	0.2282	-0.1796	-0.1623	0.2282	0.0212	-0.0296	-0.0111	1.0967	0.0172	9.9012	1.196	9.9013	1.2639	A+	A+	A-
ELA	6	580593	2	B-C	3	13431	0.6237	0.1624	0.6237	0.0645	0.1465	0.0024	0.0005	0.3809	-0.1533	0.3809	-0.2354	-0.1934	-0.03	-0.0139	0.3488	0.0182	-2.849	0.9795	-0.189	0.9978	A+	A+	A+
ELA	6	580594	2	B-C	3	13431	0.6257	0.0862	0.2087	0.6257	0.0777	0.0016	0.0001	0.3845	-0.1624	-0.2046	0.3845	-0.21	-0.025	-0.0134	0.3167	0.0182	-3.139	0.9772	-3.119	0.965	A+	A-	A-
ELA	6	580595	2	B-C	2	13431	0.6935	0.1385	0.0937	0.0727	0.6935	0.001	0.0006	0.481	-0.268	-0.226	-0.2383	0.481	-0.0313	-0.019	-0.0169	0.019	-9.8991	0.8749	-9.8992	0.8063	A+	A-	A-
ELA	6	580596	2	B-C	3	13431	0.4711	0.0723	0.4711	0.231	0.2205	0.0048	0.0003	0.3815	-0.2542	0.3815	-0.2263	-0.0623	-0.0454	-0.0167	1.0924	0.0177	-1.159	0.9925	0.811	1.0072	A+	A-	A-
ELA	6	580597	2	B-K	3	13431	0.7725	0.7725	0.0594	0.0942	0.0711	0.0019	0.001	0.5114	0.5114	-0.2613	-0.297	-0.245	-0.0402	-0.0382	-0.4729	0.0206	-9.8992	0.8242	-9.8993	0.6924	A+	A+	A-
ELA	6	580598	2	B-K	2	13431	0.5015	0.1167	0.0736	0.3015	0.5015	0.0054	0.0013	0.3575	-0.2334	-0.2427	-0.0816	0.3575	-0.0292	-0.0241	0.9725	0.0177	2.971	1.0193	4.461	1.0399	A-	A-	A-
ELA	6	580599	2	B-K	3	13431	0.5957	0.1911	0.0716	0.5957	0.1406	0.0003	0.0008	0.4721	-0.2025	-0.2516	0.4721	-0.2482	-0.015	-0.0251	0.4834	0.018	-9.8991	0.9078	-9.8991	0.8745	A+	A-	A-
ELA	6	580601	2	B-V	2	13431	0.5038	0.0509	0.5038	0.1511	0.2913	0.0018	0.001	0.3313	-0.2219	0.3313	-0.1573	-0.1265	-0.0479	-0.0326	0.9403	0.0177	6.981	1.0457	7.1711	1.0647	A+	A-	A-
ELA	6	503918	2	D	2	13431	0.3474	0.3474	0.1569	0.0661	0.428	0.0007	0.0009	0.2038	0.2038	-0.1814	-0.1817	0.0308	-0.0215	-0.0203	1.7235	0.0185	9.9012	1.1525	9.9013	1.2742	A+	A-	A-
ELA	6	584195	2	D	2	13431	0.6218	0.1855	0.6218	0.1237	0.0654	0.0031	0.0005	0.28	-0.0788	0.28	-0.1905	-0.1623	-0.0323	-0.0229	0.3416	0.0182	9.9011	1.0877	9.9011	1.1233	A+	A-	A-
ELA	6	584204	2	D	1	13431	0.5817	0.5817	0.1256	0.222	0.0688	0.0016	0.0002	0.4351	0.4351	-0.2456	-0.1797	-0.2287	-0.0088	-0.0212	0.5537	0.0179	-6.729	0.9549	-7.5391	0.9269	A+	A-	A-
ELA	6	576358	3	B-C	2	13422	0.5791	0.0676	0.0726	0.2778	0.5791	0.0016	0.0012	0.3051	-0.2309	-0.2699	-0.0452	0.3051	-0.0368	-0.0261	0.6055	0.018	9.9011	1.0709	9.9011	1.1494	A+	A+	A+
ELA	6	578140	3	B-C	2	13422	0.632	0.1747	0.0855	0.106	0.632	0.0015	0.0003	0.3746	-0.1249	-0.2567	-0.1943	0.3746	-0.0374	-0.0119	0.3353	0.0183	-0.659	0.9951	2.521	1.0296	A+	A+	A+
ELA	6	576364	3	B-K	2	13422	0.6155	0.0615	0.6155	0.1636	0.1501	0.0051	0.0043	0.4117	-0.2222	0.4117	-0.187	-0.2073	-0.0385	-0.0156	0.3849	0.0182	-4.699	0.9658	-4.059	0.9547	A+	A+	A-
ELA	6	576365	3	B-K	2	13422	0.6105	0.6105	0.0896	0.2237	0.074	0.0009	0.0013	0.4121	0.4121	-0.2403	-0.1887	-0.1971	-0.0286	-0.0344	0.4325	0.0182	-5.019	0.9641	-7.0491	0.9243	A+	A+	A+
ELA	6	576366	3	B-K	2	13422	0.6748	0.1245	0.115	0.6748	0.0803	0.0049	0.0005	0.5469	-0.2817	-0.2795	0.5469	-0.2619	-0.0369	-0.0122	0.083	0.0189	-9.8992	0.8235	-9.8993	0.7261	A+	A+	A-
ELA	6	576379	3	B-K	2	13422	0.6342	0.6342	0.1074	0.1477	0.1036	0.0066	0.0006	0.42	0.42	-0.2023	-0.209	-0.1994	-0.0508	-0.0263	0.3292	0.0183	-7.0191	0.9483	-5.0691	0.942	A+	A-	A-
ELA	6	576367	3	B-V	2	13422	0.8159	0.1083	0.0418	0.8159	0.0328	0.0007	0.0005	0.3379	-0.2484	-0.1964	0.3379	-0.073	-0.039	-0.0179	-0.8009	0.0224	-3.739	0.9526	-2.8791	0.9345	A+	A-	A-
ELA	6	576368	3	B-V	2	13422	0.7901	0.065	0.7901	0.0931	0.0505	0.0013	0.0001	0.4596	-0.2657	0.4596	-0.2437	-0.2265	-0.0377	0.004	-0.6076	0.0213	-9.8991	0.8544	-9.8992	0.7577	A+	A-	A-
ELA	6	503920	3	D	2	13422	0.7446	0.7446	0.0729	0.1444	0.0357	0.0007	0.0016	0.4143	0.4143	-0.2228	-0.2151	-0.2449	-0.0361	-0.0178	-0.3134	0.0201	-7.7391	0.9251	-6.0891	0.8983	A+	A-	A-
ELA	6	584196	3	D	2	13422	0.8448	0.0545	0.0749	0.8448	0.0235	0.0021	0.0001	0.3386	-0.2077	-0.1721	0.3386	-0.1879	-0.0331	-0.0119	-1.0582	0.0239	-3.5091	0.9486	-3.3891	0.9114	A+	A-	A-
ELA	6	584205	3	D	1	13422	0.7836	0.0693	0.0317	0.7836	0.1135	0.0015	0.0004	0.401	-0.2202	-0.213	0.401	-0.2217	-0.0281	-0.022	-0.5656	0.0211	-7.7091	0.9152	-7.6891	0.8528	A+	A+	A+
ELA	6	576370	4	B-C	2	13375	0.5231	0.1119	0.5231	0.2478	0.1131	0.0035	0.0005	0.1492	-0.1067	0.1492	0.0722	-0.2218	-0.0237	-0.0186	0.8576	0.019	9.9012	1.2148	9.9013	1.3024	A-	A+	A-
ELA	6	576371	4	B-C	2	13375	0.3317	0.3251	0.2555	0.0844	0.3317	0.0018	0.0016	0.093	0.0737	-0.016	-0.2456	0.093	-0.0365	-0.0387	1.8011	0.0199	9.9012	1.2445	9.9014	1.3757	A-	A-	A-
ELA	6	576377	4	B-C	2	13375	0.4595	0.1682	0.4595	0.0538	0.3175	0.0004	0.0005	0.2614	-0.2938	0.2614	-0.236	0.0716	0.0007	-0.0209	1.1624	0.019	9.9011	1.1062	9.9011	1.1487	A+	A+	A-
ELA	6	576381	4	B-C	3	13375	0.2058	0.2767	0.3961	0.2058	0.1203	0.0006	0.0004	-0.0346	-0.0287	0.2037	-0.0346	-0.2221	-0.0147	-0.0081	2.5529	0.0228	9.9013	1.281	9.9019	1.8805	A-	A+	A+
ELA	6	576374	4	B-K	3	13375	0.2674	0.2294	0.1302	0.2674	0.368	0.0037	0.0013	0.1001	-0.0843	-0.2675	0.1001	0.172	-0.0251	-0.0078	2.1596	0.0211	9.9012	1.2052	9.9014	1.4436	A-	A-	A-
ELA	6	576375	4	B-K	2	13375	0.5198	0.2196	0.165	0.0944	0.5198	0.001	0.0002	0.2948	-0.0533	-0.1655	-0.216	0.2948	-0.0094	-0.0214	0.8737	0.019	9.9011	1.0735	9.9011	1.1017	A+	A+	A+
ELA	6	576383	4	B-K	2	13375	0.6627	0.6627	0.0393	0.1234	0.1731	0.0007	0.0007	0.2601	0.2601	-0.2391	-0.2076	-0.0199	-0.0047	-0.0212	0.1636	0.0199	9.0311	1.0781	9.9012	1.1927	A-	A-	A-
ELA	6	576384	4	B-V	2	13375	0.7857	0.0993	0.0755	0.7857	0.0387	0.0002	0.0006	0.3836	-0.1617	-0.307	0.3836	-0.1417	0.0018	-0.0262	-0.5623	0.0226	-5.6891	0.9326	-6.1691	0.8791	A-	A-	A-
ELA	6	276094	4	D	2	13375	0.6732	0.6732	0.0451	0.0426	0.2375	0.0004	0.0011	0.4327	0.4327	-0.2141	-0.2077	-0.2715	-0.0199	-0.0187	0.1079	0.02	-8.0991	0.9316	-9.6491	0.8773	A+	A-	A-
ELA	6	584197	4	D	2	13375	0.8109	0.8109	0.0775	0.0548	0.0545	0.0019	0.0004	0.2909	0.2909	-0.1378	-0.1766	-0.1569	-0.0156	-0.0303	-0.7406	0.0235	0.641	1.0085	0.501	1.0114	A+	A-	A-
ELA	6	584206	4	D	1	13375	0.6881	0.1036	0.6881	0.1016	0.1051	0.0013	0.0001	0.4628	-0.2628	0.4628	-0.2282	-0.2114	-0.0143	0.0013	0.0269	0.0203	-9.8991	0.9027	-9.8992	0.8341	A+	A-	A-
ELA	6	574578	5	B-C	2	13410	0.7119	0.7119	0.0718	0.1522	0.0626	0.001	0.0005	0.4753	0.4753	-0.2676	-0.2162	-0.2757	-0.0333	-0.0294	-0.1031	0.0206	-9.8991	0.8733	-9.8992	0.8076	A-	A-	A-
ELA	6	574579	5	B-C	2	13410	0.4952	0.1751	0.109	0.4952	0.2187	0.0011	0.0009	0.4178	-0.1261	-0.203	0.4178	-0.2328	-0.0382	-0.0074	0.9896	0.0189	-6.319	0.9574	-4.139	0.9628	A-	A-	A-
ELA	6	574581	5	B-K	2	13410	0.6331	0.0487	0.0733	0.6331	0.2359	0.0084	0.0006	0.3303	-0.2048	-0.2356	0.3303	-0.1185	-0.0328	-0.0157	0.3176	0.0195	2.421	1.0189	4.7011	1.0559	A+	A-	A-
ELA	6	574582	5	B-K	2	13410	0.4858	0.4858	0.1926	0.0855	0.2306	0.0052	0.0003	0.1437	0.1437	0.0816	-0.1881	-0.1172	-0.0271	-0.006	1.0342	0.0189	9.9012	1.2252	9.9013	1.2972	A+	A+	A+
ELA	6	574583	5	B-K	2	13410	0.4839	0.0603	0.1132	0.3397	0.4839	0.0025	0.0004	0.3124	-0.2828	-0.2625	-0.0077	0.3124	-0.0344	-0.0125	1.0434	0.0189	7.7011	1.0537	7.8411	1.0731	A+	A+	A+
ELA	6	574584	5	B-V	2	13410	0.6477	0.1128	0.6477	0.1998	0.0366	0.0023	0.0007	0.3927	-0.3344	0.3927	-0.0966	-0.2158	-0.0436	-0.0208	0.2427	0.0197	-4.199	0.9667	-1.539	0.9813	A-	A-	A-
ELA	6	574585	5	B-V	2	13410	0.5082	0.0944	0.1156	0.2808	0.5082	0.0006	0.0004	0.5101	-0.2262	-0.2818	-0.2184	0.5101	-0.0079	-0.021	0.9273	0.0189	-9.8991	0.874	-9.8991	0.8529	A-	A+	A-
ELA	6	574586	5	B-V	1	13410	0.1536	0.6037	0.1536	0.1518	0.088	0.0013	0.0016	-0.0116	0.138	-0.0116	-0.0489	-0.1509	-0.0471	-0.0342	2.9552	0.0253	9.9012	1.1978	9.902	2.0233	A+	A-	A-
ELA	6	503922	5	D	2	13410	0.5976	0.5976	0.1718	0.1287	0.0992	0.0013	0.0014	0.2598	0.2598	-0.1443	-0.087	-0.1399	-0.0312	-0.0252	0.4953	0.0192	9.9011	1.1012	9.9011	1.1425	A+	A+	A+
ELA	6	584198	5	D	2	13410	0.511	0.511	0.0392	0.3755	0.0716	0.0023	0.0004	0.4004	0.4004	-0.2104	-0.2371	-0.1648	-0.0323	-0.0226	0.9138	0.0189	-3.399	0.9769	-2.919	0.9736	A+	A-	A-
ELA	6	584207	5	D	2	13410	0.2911	0.2098	0.1949	0.2911	0.3023	0.0016	0.0003	0.1147	0.0765	-0.1741	0.1147	-0.0292	-0.0153	-0.0171	2.0217	0.0206	9.9012	1.2013	9.9014	1.3902	A+	A-	A-
ELA	6	579172	6	A-C	2	13409	0.3458	0.3458	0.0855	0.3132	0.253	0.0019	0.0005	0.2492	0.2492	-0.1989	-0.0549	-0.0805	-0.0417	-0.0273	1.7128	0.0197	9.9011	1.0916	9.9012	1.2077	A+	A+	A-
ELA	6	579175	6	A-C	2	13409	0.5471	0.109	0.1583	0.1841	0.5471	0.0003	0.0012	0.3589	-0.0825	-0.2425	-0.1627	0.3589	-0.0176	-0.0309	0.7298	0.019	1.471	1.0102	1.891	1.0179	A+	A-	A-
ELA	6	579187	6	A-C	2	13409	0.2862	0.1791	0.1589	0.3753	0.2862	0.0003	0.0002	0.2111	-0.1761	-0.2158	0.1061	0.2111	-0.015	-0.0065	2.0372	0.0207	9.9011	1.1006	9.9013	1.2702	A+	A-	A+
ELA	6	579178	6	A-K	2	13409	0.4673	0.2035	0.4673	0.0545	0.2698	0.0035	0.0013	0.1326	-0.0822	0.1326	-0.2291	0.0514	-0.0509	-0.0234	1.1115	0.0189	9.9012	1.2289	9.9013	1.305	A+	A+	A-
ELA	6	579183	6	A-K	2	13409	0.6554	0.1177	0.1436	0.0785	0.6554	0.004	0.0007	0.4481	-0.2199	-0.1713	-0.2942	0.4481	-0.0329	-0.0294	0.1917	0.0197	-9.8991	0.9123	-9.8991	0.8707	A+	A-	A+
ELA	6	579190	6	A-K	2	13409	0.6351	0.0913	0.0984	0.6351	0.1729	0.0015	0.0007	0.4713	-0.2581	-0.2605	0.4713	-0.1922	-0.042	-0.0225	0.2962	0.0195	-9.8991	0.8978	-9.8992	0.8449	A+	A-	A-
ELA	6	579193	6	A-V	2	13409	0.3923	0.279	0.1459	0.3923	0.175	0.0069	0.0009	0.3516	-0.1681	-0.1421	0.3516	-0.1103	-0.0425	-0.0229	1.4765	0.0193	0.601	1.0044	4.9911	1.054	A-	A-	A-
ELA	6	579196	6	A-V	2	13409	0.5966	0.2504	0.0956	0.0553	0.5966	0.0007	0.0013	0.2754	-0.0761	-0.2535	-0.1157	0.2754	-0.0233	-0.0153	0.489	0.0192	9.9011	1.0769	9.9011	1.1438	A+	A+	A+
ELA	6	495085	6	B-C	3	53561	0.5379	0.5379	0.2703	0.1031	0.0856	0.0025	0.0005	0.1372	0.1372	0.0646	-0.1031	-0.2301	-0.0191	-0.0167	0.7847	0.0095	9.9012	1.2253	9.9013	1.3234	A-	A+	A+
ELA	6	495090	6	B-C	2	53561	0.5423	0.0872	0.5423	0.2889	0.0786	0.0015	0.0015	0.2943	-0.2051	0.2943	-0.0388	-0.2551	-0.028	-0.037	0.7636	0.0095	9.9011	1.0757	9.9011	1.1258	A+	A-	A-
ELA	6	495091	6	B-K	2	53561	0.4106	0.1055	0.1599	0.3211	0.4106	0.0018	0.0012	0.28	-0.2419	-0.2177	0.0402	0.28	-0.0336	-0.0287	1.3994	0.0096	9.9011	1.087	9.9011	1.1295	A-	A+	A+
ELA	6	495092	6	B-K	2	53561	0.6591	0.1293	0.1307	0.6591	0.0788	0.0013	0.0008	0.4309	-0.2079	-0.2026	0.4309	-0.2375	-0.0354	-0.0328	0.1801	0.0099	-9.8991	0.9272	-9.8991	0.9063	A-	A-	A-
ELA	6	495093	6	B-K	2	53561	0.6881	0.1082	0.0721	0.1301	0.6881	0.0007	0.0009	0.3626	-0.1306	-0.2085	-0.2146	0.3626	-0.0225	-0.0241	0.0246	0.0101	-3.919	0.9826	0.451	1.0032	A+	A+	A-
ELA	6	495094	6	B-V	2	53561	0.6968	0.2351	0.6968	0.0249	0.0419	0.0006	0.0007	0.3261	-0.2167	0.3261	-0.1898	-0.1363	-0.0222	-0.0208	-0.0234	0.0102	3.691	1.0169	8.7911	1.0659	A-	A-	A-
ELA	6	503917	6	D	2	13409	0.3923	0.3502	0.1494	0.3923	0.1061	0.001	0.001	0.1923	0.0083	-0.1451	0.1923	-0.1467	-0.0195	-0.0099	1.4765	0.0193	9.9012	1.1608	9.9012	1.2354	A+	A-	A-
ELA	6	584199	6	D	2	13409	0.5851	0.0567	0.5851	0.2671	0.0891	0.0016	0.0004	0.3839	-0.1744	0.3839	-0.2316	-0.158	-0.0263	-0.015	0.5454	0.0191	-1.729	0.9875	-1.729	0.9824	A-	A-	A-
ELA	6	584208	6	D	2	13409	0.8074	0.012	0.135	0.0441	0.8074	0.0012	0.0003	0.3549	-0.1554	-0.2615	-0.1619	0.3549	-0.0111	-0.0027	-0.7214	0.0233	-4.0691	0.9475	-4.4791	0.9026	A+	A+	A-
ELA	6	579167	7	A-C	3	13381	0.3627	0.1305	0.3627	0.3238	0.1809	0.0012	0.001	0.3065	-0.1906	0.3065	-0.1286	-0.0563	-0.0367	-0.0023	1.6374	0.0196	4.541	1.0361	9.9011	1.1209	A+	A-	A-
ELA	6	579170	7	A-C	3	13381	0.4172	0.1835	0.4172	0.2128	0.1851	0.001	0.0003	0.3467	-0.1407	0.3467	-0.1906	-0.0975	-0.0171	-0.0035	1.3649	0.0191	1.941	1.014	6.0411	1.0617	A+	A-	A+
ELA	6	579173	7	A-C	2	13381	0.1782	0.2051	0.1782	0.1073	0.5063	0.0025	0.0007	0.0073	-0.0908	0.0073	-0.12	0.1475	-0.0478	-0.0147	2.7548	0.024	9.9012	1.191	9.9019	1.9042	A-	A-	A-
ELA	6	579176	7	A-K	3	13381	0.4766	0.3069	0.4766	0.1299	0.0818	0.0039	0.0008	0.2694	-0.0524	0.2694	-0.1151	-0.2533	-0.0326	-0.0066	1.0781	0.0189	9.9011	1.0999	9.9011	1.1426	A+	A+	A+
ELA	6	579184	7	A-K	2	13381	0.7774	0.0873	0.0536	0.076	0.7774	0.0055	0.0002	0.3969	-0.227	-0.2024	-0.1976	0.3969	-0.0391	-0.0121	-0.5029	0.0222	-6.9591	0.921	-6.0091	0.8852	A+	A+	A+
ELA	6	579186	7	A-K	2	13381	0.706	0.0957	0.1084	0.0886	0.706	0.0009	0.0005	0.5389	-0.2798	-0.3033	-0.2367	0.5389	-0.0411	-0.0196	-0.0705	0.0205	-9.8992	0.8178	-9.8993	0.7173	A+	A-	A-
ELA	6	579189	7	A-K	2	13381	0.5693	0.1487	0.5693	0.1479	0.1324	0.0013	0.0004	0.4684	-0.2179	0.4684	-0.2633	-0.1752	-0.0369	-0.0117	0.6337	0.0191	-9.8991	0.8999	-9.8991	0.8766	A+	A-	A-
ELA	6	579191	7	A-V	2	13381	0.4651	0.198	0.1365	0.4651	0.199	0.0011	0.0004	0.1467	-0.1031	-0.1633	0.1467	0.0637	-0.0352	-0.0149	1.1336	0.019	9.9012	1.2175	9.9013	1.269	A+	A+	A+
ELA	6	503912	7	D	2	13381	0.7603	0.097	0.7603	0.0677	0.074	0.0004	0.0006	0.4313	-0.201	0.4313	-0.247	-0.235	-0.0149	-0.0308	-0.3922	0.0217	-8.7491	0.907	-9.8592	0.8282	A+	A-	A-
ELA	6	584200	7	D	2	13381	0.7741	0.7741	0.0732	0.1001	0.0495	0.0028	0.0003	0.3333	0.3333	-0.1315	-0.1976	-0.2014	-0.034	-0.0218	-0.4809	0.0221	-3.309	0.9623	5.7611	1.117	A-	A-	A-
ELA	6	584209	7	D	2	13381	0.4487	0.1158	0.4487	0.1856	0.2483	0.0013	0.0002	0.3773	-0.1343	0.3773	-0.1587	-0.1896	-0.023	-0.0131	1.2122	0.019	-1.359	0.9906	0.781	1.0074	A+	A-	A-
ELA	6	579306	8	A-C	3	13360	0.7787	0.0603	0.7787	0.0871	0.0686	0.0052	0.0001	0.5084	-0.263	0.5084	-0.2811	-0.2656	-0.0272	-0.0093	-0.5204	0.0224	-9.8992	0.8161	-9.8993	0.6754	A+	A-	A-
ELA	6	579307	8	A-C	2	13360	0.5146	0.0697	0.5146	0.2829	0.1304	0.0013	0.001	0.4519	-0.2066	0.4519	-0.2274	-0.2054	-0.0359	-0.0105	0.9045	0.0191	-9.5891	0.9334	-7.7591	0.9269	A-	A-	A-
ELA	6	579308	8	A-C	3	13360	0.5782	0.5782	0.1095	0.1321	0.1784	0.001	0.0007	0.3792	0.3792	-0.1577	-0.1454	-0.2287	-0.0161	-0.026	0.5939	0.0193	-0.179	0.9987	-0.349	0.9962	A+	A-	A-
ELA	6	579309	8	A-C	2	13360	0.7442	0.0922	0.1197	0.7442	0.0418	0.0013	0.0008	0.3634	-0.2418	-0.1517	0.3634	-0.1857	-0.0317	-0.0371	-0.3001	0.0214	-3.389	0.965	-1.949	0.9651	A+	A+	A+
ELA	6	579310	8	A-K	3	13360	0.2592	0.2594	0.3638	0.2592	0.1135	0.0034	0.0007	0.0727	-0.1218	0.0866	0.0727	-0.0587	-0.0266	0.0011	2.2324	0.0214	9.9013	1.2546	9.9016	1.554	A+	A+	A+
ELA	6	579320	8	A-K	3	13360	0.5787	0.1302	0.2213	0.0664	0.5787	0.0022	0.0013	0.4355	-0.1679	-0.2086	-0.278	0.4355	-0.0327	-0.0328	0.5917	0.0193	-8.7791	0.9363	-6.7691	0.9298	A+	A-	A-
ELA	6	579322	8	A-K	3	13360	0.5978	0.5978	0.099	0.1678	0.1329	0.001	0.0016	0.3408	0.3408	-0.1877	-0.151	-0.1594	0.0026	-0.0157	0.4968	0.0194	3.431	1.0262	4.6911	1.0531	A+	A-	A-
ELA	6	579323	8	A-V	2	13360	0.735	0.0669	0.1513	0.735	0.0455	0.0003	0.0009	0.4996	-0.266	-0.3224	0.4996	-0.1812	-0.0013	-0.0215	-0.2447	0.0212	-9.8992	0.8474	-9.8993	0.7367	A-	A-	A-
ELA	6	503913	8	D	2	13360	0.5557	0.1442	0.5557	0.1844	0.1136	0.0012	0.0009	0.3741	-0.1518	0.3741	-0.1799	-0.1925	-0.0168	-0.0394	0.7047	0.0192	1.801	1.0131	1.481	1.015	A-	A-	A-
ELA	6	584201	8	D	2	13360	0.4027	0.1848	0.4027	0.3231	0.0872	0.0022		0.3761	-0.1607	0.3761	-0.131	-0.209	-0.0388		1.4517	0.0194	-0.199	0.9984	2.871	1.0314	A+	A-	A-
ELA	6	584210	8	D	2	13360	0.4499	0.1798	0.1871	0.4499	0.1819	0.001	0.0003	0.256	-0.1352	-0.1435	0.256	-0.0496	-0.0013	-0.0175	1.2184	0.0191	9.9011	1.1296	9.9012	1.1751	A+	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	6	579168	9	A-C	2	13411	0.3733	0.1661	0.3262	0.1284	0.3733	0.0045	0.0015	0.1013	-0.258	0.1924	-0.1205	0.1013	-0.0277	-0.0256	1.5876	0.0194	9.9013	1.2502	9.9014	1.3742	A+	A-	A+
ELA	6	579171	9	A-C	3	13411	0.8732	0.0424	0.0542	0.8732	0.0277	0.0016	0.0009	0.4547	-0.2567	-0.2736	0.4547	-0.2155	-0.0311	-0.0342	-1.2735	0.0273	-9.8992	0.8158	-9.8994	0.5572	B+	A+	A+
ELA	6	579174	9	A-C	2	13411	0.7076	0.0446	0.1911	0.7076	0.0556	0.0007	0.0003	0.3809	-0.2129	-0.1991	0.3809	-0.218	-0.0255	-0.0215	-0.0813	0.0206	-3.979	0.9625	-0.659	0.9901	A-	A+	A-
ELA	6	579177	9	A-K	3	13411	0.697	0.102	0.1308	0.0661	0.697	0.0021	0.0021	0.5023	-0.3252	-0.1969	-0.2526	0.5023	-0.0372	-0.0352	-0.0214	0.0204	-9.8991	0.854	-9.8992	0.8019	A+	A-	A-
ELA	6	579179	9	A-K	2	13411	0.3121	0.4604	0.0726	0.1529	0.3121	0.0013	0.0007	0.0869	0.1599	-0.2804	-0.1261	0.0869	-0.036	-0.0208	1.9077	0.0202	9.9012	1.2391	9.9014	1.4313	A+	A+	A+
ELA	6	579188	9	A-K	2	13411	0.7254	0.0515	0.1118	0.7254	0.1032	0.0076	0.0004	0.3495	-0.1672	-0.319	0.3495	-0.0486	-0.0375	-0.0234	-0.1842	0.021	-3.959	0.9608	6.3011	1.1048	A+	A+	A-
ELA	6	579192	9	A-V	2	13411	0.6001	0.1863	0.1739	0.6001	0.0385	0.0004	0.0008	0.3356	-0.1784	-0.1429	0.3356	-0.2071	-0.0081	-0.0263	0.4851	0.0193	5.271	1.0402	5.6711	1.0614	A-	A-	A-
ELA	6	579195	9	A-V	2	13411	0.3583	0.4827	0.0865	0.3583	0.0709	0.0006	0.001	0.2405	-0.0178	-0.2006	0.2405	-0.1893	-0.0273	-0.0256	1.664	0.0196	9.9011	1.1101	9.9012	1.2284	A-	A-	A-
ELA	6	503915	9	D	3	13411	0.5633	0.1542	0.5633	0.1	0.1807	0.0012	0.0006	0.3727	-0.2486	0.3727	-0.1548	-0.1221	-0.0278	-0.0295	0.666	0.0191	0.051	1.0004	0.771	1.0075	A-	A-	A-
ELA	6	584202	9	D	2	13411	0.7415	0.0464	0.1334	0.7415	0.074	0.0044	0.0004	0.5215	-0.2103	-0.3221	0.5215	-0.2759	-0.0315	-0.0135	-0.2799	0.0213	-9.8992	0.8279	-9.8993	0.72	A+	B-	A-
ELA	6	584211	9	D	1	13411	0.2882	0.4003	0.2882	0.1866	0.123	0.0016	0.0003	0.2509	-0.0234	0.2509	-0.1329	-0.1476	-0.0392	-0.0215	2.0407	0.0206	7.2811	1.0693	9.9013	1.2672	A+	A-	A-
ELA	7	495922	0	A-C	2	118588	0.5822	0.2066	0.5822	0.1191	0.0886	0.0028	0.0007	0.48	-0.2224	0.48	-0.2223	-0.2483	-0.0627	-0.031	0.3797	0.0062	-9.899	0.9573	-9.8991	0.937	A-	A-	A-
ELA	7	495924	0	A-C	2	118588	0.6014	0.103	0.1332	0.6014	0.1589	0.0027	0.0009	0.4988	-0.292	-0.2209	0.4988	-0.2093	-0.0559	-0.0343	0.3092	0.0063	-9.8991	0.9317	-9.8991	0.9175	A+	A+	A+
ELA	7	495926	0	A-C	3	118588	0.5938	0.157	0.0724	0.1727	0.5938	0.0034	0.0008	0.5033	-0.2292	-0.2926	-0.2206	0.5033	-0.0651	-0.0304	0.3977	0.0062	-9.8991	0.9148	-9.8991	0.8841	A+	A+	A+
ELA	7	497095	0	A-C	2	118588	0.5504	0.1161	0.1963	0.1347	0.5504	0.002	0.0006	0.3402	-0.1647	-0.1809	-0.1249	0.3402	-0.0319	-0.0233	0.6031	0.0062	9.9011	1.0704	9.9011	1.092	A-	A+	A+
ELA	7	497097	0	A-C	3	118588	0.5016	0.2069	0.5016	0.1369	0.1515	0.0023	0.0009	0.3784	-0.125	0.3784	-0.2262	-0.1634	-0.0389	-0.0121	0.8343	0.0061	9.901	1.0352	9.9011	1.0527	A+	A+	A+
ELA	7	497100	0	A-K	2	118588	0.6891	0.6891	0.0499	0.1267	0.1291	0.0044	0.0008	0.5348	0.5348	-0.2695	-0.3017	-0.2509	-0.0555	-0.0247	-0.1147	0.0066	-9.8991	0.8804	-9.8992	0.8058	A-	A-	A-
ELA	7	495928	0	A-V	2	118588	0.5588	0.5588	0.1489	0.2096	0.0777	0.0043	0.0007	0.4266	0.4266	-0.156	-0.2156	-0.2357	-0.074	-0.0237	0.5163	0.0062	1.231	1.0028	-1.749	0.9945	A+	A+	A+
ELA	7	495929	0	A-V	2	118588	0.8074	0.0455	0.0444	0.1001	0.8074	0.002	0.0006	0.5439	-0.2838	-0.2866	-0.3091	0.5439	-0.063	-0.0289	-0.9082	0.0077	-9.8991	0.8597	-9.8993	0.6726	A-	A-	A+
ELA	7	495930	0	A-V	2	118588	0.5725	0.0904	0.5725	0.1345	0.1997	0.0023	0.0007	0.2944	-0.2956	0.2944	-0.1578	-0.0092	-0.0596	-0.0226	0.6315	0.0062	9.9011	1.1122	9.9012	1.1656	A-	A+	A-
ELA	7	495931	0	A-V	1	118588	0.511	0.3746	0.0591	0.511	0.0507	0.004	0.0007	0.2147	0.0068	-0.2277	0.2147	-0.2378	-0.0648	-0.026	0.7517	0.0061	9.9012	1.2067	9.9013	1.2705	A-	A-	A+
ELA	7	497101	0	A-V	2	118588	0.8288	0.0731	0.0481	0.8288	0.047	0.0027	0.0004	0.4822	-0.2742	-0.2732	0.4822	-0.2299	-0.0526	-0.0231	-0.9518	0.0078	-9.8991	0.8505	-9.8993	0.7072	A-	A-	B-
ELA	7	497102	0	A-V	2	118588	0.8177	0.8177	0.0829	0.0637	0.034	0.0011	0.0006	0.2697	0.2697	-0.051	-0.233	-0.1717	-0.0429	-0.026	-0.8929	0.0077	5.871	1.0263	9.9013	1.2752	A+	A-	A-
ELA	7	406549	0	B-C	3	118588	0.7104	0.7104	0.1164	0.0681	0.101	0.002	0.0021	0.3865	0.3865	-0.2739	-0.2556	-0.0646	-0.0616	-0.019	-0.2257	0.0067	1.391	1.0043	9.9011	1.0519	A-	A-	A+
ELA	7	406550	0	B-C	2	118588	0.5456	0.1992	0.5456	0.1834	0.0685	0.0026	0.0006	0.4328	-0.183	0.4328	-0.2069	-0.2322	-0.0631	-0.0187	0.6715	0.0062	-9.679	0.9787	-9.769	0.9711	A+	A+	A+
ELA	7	406552	0	B-C	2	118588	0.6771	0.1277	0.0831	0.6771	0.109	0.0022	0.0009	0.4692	-0.1367	-0.2635	0.4692	-0.3115	-0.0661	-0.0295	0.1267	0.0064	-9.8991	0.8965	-9.8991	0.873	A+	A-	A+
ELA	7	406553	0	B-C	2	118588	0.3211	0.1165	0.3211	0.2396	0.32	0.002	0.0007	0.3128	-0.144	0.3128	-0.2451	0.0171	-0.0559	-0.0242	1.6382	0.0064	8.711	1.0233	9.9012	1.162	A-	A+	A+
ELA	7	495108	0	B-C	2	118588	0.4002	0.4217	0.0879	0.0864	0.4002	0.0031	0.0007	0.3214	-0.0866	-0.1672	-0.2295	0.3214	-0.0418	-0.0216	1.4216	0.0063	9.9011	1.0898	9.9012	1.1733	A+	A+	A+
ELA	7	406556	0	B-K	2	118588	0.5887	0.0682	0.1574	0.5887	0.1793	0.0059	0.0005	0.5259	-0.2531	-0.2773	0.5259	-0.2314	-0.0628	-0.0186	0.4446	0.0062	-9.8991	0.8946	-9.8991	0.859	A-	A+	A-
ELA	7	495105	0	B-K	2	118588	0.4234	0.2548	0.4234	0.0654	0.2536	0.0022	0.0006	0.2127	-0.0407	0.2127	-0.2891	-0.031	-0.0441	-0.0129	1.1959	0.0062	9.9012	1.1872	9.9013	1.2679	A-	A-	A-
ELA	7	495110	0	B-K	2	118588	0.3659	0.3659	0.1775	0.0991	0.3532	0.0025	0.0017	0.2836	0.2836	-0.2053	-0.2015	0.0102	-0.0413	-0.0179	1.4591	0.0063	9.9011	1.1018	9.9012	1.1978	A-	A+	A+
ELA	7	495112	0	B-K	2	118588	0.3599	0.0931	0.3586	0.186	0.3599	0.0017	0.0007	0.369	-0.2805	-0.0786	-0.1437	0.369	-0.0369	-0.0175	1.482	0.0063	4.951	1.0123	9.9011	1.0733	A+	A+	A-
ELA	7	406558	0	B-V	2	118588	0.8137	0.0722	0.0695	0.8137	0.0419	0.0021	0.0006	0.414	-0.1991	-0.2373	0.414	-0.2286	-0.0629	-0.0259	-0.8429	0.0076	-9.8991	0.9102	-9.8991	0.8612	A-	A-	A-
ELA	7	495113	0	B-V	2	118588	0.7855	0.7855	0.0805	0.0469	0.0857	0.001	0.0005	0.4826	0.4826	-0.279	-0.2607	-0.2335	-0.0402	-0.0218	-0.6322	0.0072	-9.8991	0.8665	-9.8992	0.7701	A-	A+	A+
ELA	7	276099	0	D	2	118588	0.4709	0.3148	0.4709	0.0877	0.1255	0.0005	0.0005	0.5176	-0.2773	0.5176	-0.2291	-0.1916	-0.0278	-0.0269	1.0194	0.0062	-9.8991	0.8878	-9.8991	0.8904	A+	B-	A-
ELA	7	278231	0	D	2	118588	0.5903	0.1439	0.1043	0.1597	0.5903	0.0012	0.0006	0.3424	-0.1881	-0.202	-0.1068	0.3424	-0.0288	-0.0209	0.4047	0.0062	9.9011	1.0684	9.9011	1.0982	A-	A-	A-
ELA	7	279150	0	D	2	118588	0.6926	0.1032	0.1244	0.0788	0.6926	0.0005	0.0005	0.4788	-0.2244	-0.2768	-0.224	0.4788	-0.0233	-0.0187	-0.1033	0.0066	-9.8991	0.9075	-9.8991	0.8592	A+	A+	A+
ELA	7	341161	0	D	2	118588	0.5932	0.095	0.5932	0.1917	0.1181	0.0016	0.0005	0.4227	-0.2066	0.4227	-0.1959	-0.21	-0.0415	-0.025	0.4429	0.0062	-5.609	0.987	-9.899	0.9648	A+	A-	A-
ELA	7	341162	0	D	2	118588	0.4225	0.0835	0.4225	0.2952	0.1965	0.0018	0.0005	0.3048	-0.1614	0.3048	-0.0994	-0.148	-0.0288	-0.0229	1.1859	0.0062	9.9011	1.0883	9.9012	1.1519	A-	A-	A-
ELA	7	341167	0	D	2	118588	0.3129	0.3129	0.3515	0.2682	0.0662	0.0005	0.0007	0.3196	0.3196	-0.0865	-0.103	-0.2419	-0.0187	-0.0263	1.8282	0.0066	9.901	1.0478	9.9012	1.2069	A+	A+	A-
ELA	7	413189	0	D	3	118588	0.7344	0.7344	0.0513	0.0784	0.1347	0.0008	0.0003	0.438	0.438	-0.2681	-0.2202	-0.2158	-0.0323	-0.0264	-0.36	0.0069	-9.8991	0.948	-9.8991	0.9072	A+	A+	A+
ELA	7	413191	0	D	2	118588	0.5244	0.0927	0.3152	0.5244	0.0669	0.0004	0.0004	0.2953	-0.2427	-0.0214	0.2953	-0.2649	-0.0197	-0.0264	0.7384	0.0061	9.9011	1.1184	9.9012	1.1572	A-	A+	A+
ELA	7	413196	0	D	2	118588	0.5027	0.5027	0.2494	0.1051	0.1414	0.0009	0.0006	0.2182	0.2182	0.0153	-0.2668	-0.0932	-0.0265	-0.0257	0.8562	0.0061	9.9012	1.1919	9.9012	1.2432	A-	A+	A+
ELA	7	578096	1	A-C	3	13287	0.6141	0.103	0.072	0.2085	0.6141	0.0017	0.0007	0.2739	-0.1387	-0.2711	-0.0493	0.2739	-0.0175	-0.014	0.2836	0.0173	9.1511	1.0633	9.9012	1.1572	A-	A-	A-
ELA	7	578098	1	A-C	2	13287	0.6516	0.6516	0.1325	0.1833	0.0315	0.0003	0.0007	0.2236	0.2236	-0.2123	0.0031	-0.2022	-0.0102	-0.0093	0.1246	0.0175	9.9011	1.1057	9.9011	1.1311	A+	A+	A-
ELA	7	578100	1	A-C	2	13287	0.5923	0.1493	0.5923	0.1757	0.0818	0.0004	0.0005	0.3606	-0.2333	0.3606	-0.1138	-0.1819	-0.0142	-0.0274	0.4449	0.0171	-1.149	0.9926	0.551	1.0049	A+	A+	A-
ELA	7	578071	1	A-K	3	13287	0.6186	0.0446	0.0706	0.2636	0.6186	0.0011	0.0015	0.2464	-0.2161	-0.2867	0.0012	0.2464	-0.028	-0.032	0.2337	0.0173	9.9011	1.0919	9.9011	1.1478	A+	A-	A+
ELA	7	578084	1	A-K	3	13287	0.6211	0.6211	0.1481	0.1772	0.0513	0.0014	0.0008	0.4485	0.4485	-0.2494	-0.1959	-0.2385	-0.0251	-0.0205	0.3108	0.0172	-9.8991	0.9178	-9.8991	0.9054	A-	A-	A-
ELA	7	578103	1	A-K	2	13287	0.6068	0.1457	0.047	0.6068	0.1955	0.0044	0.0005	0.3707	-0.2646	-0.208	0.3707	-0.1009	-0.0502	-0.0149	0.3884	0.0171	-2.129	0.9861	0.681	1.0061	A+	A-	A+
ELA	7	578073	1	A-V	1	13287	0.6352	0.024	0.158	0.6352	0.1818	0.0003	0.0008	0.3711	-0.1914	-0.0991	0.3711	-0.2915	-0.0062	-0.0248	0.1909	0.0174	-2.309	0.9839	-0.589	0.994	A-	A-	A-
ELA	7	578075	1	A-V	2	13287	0.7222	0.0998	0.7222	0.1158	0.0602	0.0011	0.001	0.2981	-0.1438	0.2981	-0.1557	-0.1627	-0.0272	-0.0332	-0.2781	0.0184	1.211	1.0103	4.2111	1.0577	A+	A+	A+
ELA	7	494379	1	B-C	2	65989	0.5977	0.1374	0.5977	0.1017	0.162	0.0005	0.0006	0.3437	-0.1294	0.3437	-0.2629	-0.118	-0.0247	-0.0177	0.3861	0.0082	4.041	1.0126	9.901	1.0454	A-	A-	A-
ELA	7	494380	1	B-C	2	65989	0.6125	0.2139	0.1039	0.0687	0.6125	0.0005	0.0004	0.3896	-0.1442	-0.2155	-0.2527	0.3896	-0.0266	-0.0172	0.3259	0.0082	-9.899	0.9608	-7.209	0.968	A+	A+	A+
ELA	7	494382	1	B-K	2	65989	0.473	0.2563	0.473	0.2136	0.0552	0.0015	0.0005	0.3285	-0.1965	0.3285	-0.0563	-0.2373	-0.02	-0.0072	0.9924	0.008	9.901	1.0304	9.9011	1.0563	A+	A-	A-
ELA	7	494384	1	B-K	2	65989	0.5198	0.0876	0.2362	0.5198	0.1542	0.0011	0.0011	0.3803	-0.1676	-0.1575	0.3803	-0.2043	-0.0272	-0.0307	0.7718	0.008	-5.159	0.9853	-2.559	0.9901	A-	A+	A-
ELA	7	494378	1	B-V	2	65989	0.7992	0.1152	0.0614	0.7992	0.0224	0.0008	0.0009	0.399	-0.2151	-0.2365	0.399	-0.2195	-0.0317	-0.0319	-0.7504	0.0097	-9.8991	0.9134	-9.8992	0.8264	A+	A-	A-
ELA	7	494385	1	B-V	2	65989	0.6911	0.6911	0.1755	0.05	0.0815	0.0009	0.001	0.4018	0.4018	-0.2126	-0.2274	-0.1948	-0.0333	-0.0292	-0.1118	0.0086	-9.899	0.9512	-9.8991	0.902	A-	A-	A-
ELA	7	503931	1	D	2	13287	0.6229	0.266	0.0595	0.049	0.6229	0.001	0.0017	0.2439	-0.0169	-0.222	-0.2575	0.2439	-0.0126	-0.0559	0.1606	0.0175	9.9011	1.1308	9.9012	1.1904	A+	A-	A-
ELA	7	584045	1	D	2	13287	0.8371	0.8371	0.1075	0.0309	0.0216	0.0028		0.3258	0.3258	-0.17	-0.227	-0.1804	-0.04		-1.0518	0.0217	-3.969	0.9502	-1.159	0.9747	A+	A-	A-
ELA	7	584072	1	D	2	13287	0.7431	0.0431	0.1523	0.0597	0.7431	0.0012	0.0006	0.3295	-0.2197	-0.1193	-0.2336	0.3295	-0.0154	-0.024	-0.4138	0.0189	-0.119	0.9989	1.701	1.0251	A-	A+	A+
ELA	7	578097	2	A-C	3	13114	0.4905	0.4905	0.2224	0.1281	0.1508	0.0075	0.0007	0.3687	0.3687	-0.1696	-0.2068	-0.112	-0.0477	-0.0178	0.8865	0.0177	-1.369	0.9914	-0.439	0.9962	A-	A-	A+
ELA	7	578099	2	A-C	2	13114	0.6435	0.1286	0.1437	0.6435	0.0812	0.0022	0.0008	0.3361	-0.1446	-0.1621	0.3361	-0.194	-0.0386	-0.0339	0.1427	0.0183	2.221	1.0166	3.571	1.041	A-	A-	A-
ELA	7	578072	2	A-K	3	13114	0.6826	0.068	0.1164	0.1299	0.6826	0.0018	0.0012	0.493	-0.2102	-0.2673	-0.2605	0.493	-0.041	-0.042	-0.0593	0.0188	-9.8991	0.8644	-9.8992	0.7972	A+	A+	A-
ELA	7	578082	2	A-K	2	13114	0.7144	0.7144	0.0976	0.0772	0.1042	0.0059	0.0008	0.3682	0.3682	-0.1307	-0.2137	-0.2164	-0.0486	-0.0238	-0.2354	0.0193	-4.209	0.9631	3.111	1.0456	A+	A+	A+
ELA	7	578083	2	A-K	2	13114	0.4684	0.0758	0.2707	0.1813	0.4684	0.0018	0.002	0.4401	-0.2344	-0.1772	-0.1978	0.4401	-0.034	-0.0272	1.0144	0.0177	-9.8991	0.9163	-8.5591	0.9271	A-	A+	A+
ELA	7	578102	2	A-K	2	13114	0.2372	0.3515	0.2928	0.2372	0.1162	0.0016	0.0007	0.0925	0.0563	-0.091	0.0925	-0.0691	-0.0435	-0.036	2.2367	0.0205	9.9012	1.175	9.9016	1.5614	A-	A-	A+
ELA	7	578074	2	A-V	1	13114	0.1972	0.592	0.1972	0.0971	0.1127	0.0002	0.0008	0.1054	0.128	0.1054	-0.1551	-0.1828	-0.006	-0.035	2.4652	0.0216	9.9011	1.1443	9.9016	1.6127	A-	A-	A-
ELA	7	578076	2	A-V	1	13114	0.6993	0.0904	0.6993	0.0432	0.1659	0.0003	0.0008	0.4294	-0.2189	0.4294	-0.172	-0.2647	-0.0013	-0.0222	-0.1842	0.0191	-8.5291	0.928	-8.9891	0.8794	A-	A-	A-
ELA	7	503932	2	D	2	13114	0.5502	0.2373	0.5502	0.1151	0.0942	0.0013	0.002	0.4186	-0.1797	0.4186	-0.2482	-0.1689	-0.0215	-0.0557	0.5843	0.0178	-7.219	0.9539	-7.5991	0.933	A+	A-	A-
ELA	7	584046	2	D	2	13114	0.5976	0.0968	0.1562	0.5976	0.147	0.0021	0.0002	0.4274	-0.201	-0.1931	0.4274	-0.2198	-0.0425	-0.0181	0.3832	0.018	-8.2891	0.9445	-8.2891	0.9204	A-	A-	A-
ELA	7	584073	2	D	2	13114	0.4937	0.088	0.1603	0.4937	0.2561	0.0016	0.0003	0.3666	-0.2433	-0.2443	0.3666	-0.054	-0.0182	-0.0267	0.8858	0.0177	0.521	1.0033	2.161	1.0186	A+	A-	A-
ELA	7	576315	3	A-C	2	13219	0.7037	0.7037	0.0761	0.0788	0.1386	0.0018	0.001	0.4623	0.4623	-0.3033	-0.3143	-0.1273	-0.0299	-0.0239	-0.1856	0.0191	-9.8991	0.885	-9.8992	0.8473	A+	A+	A-
ELA	7	576287	3	A-K	2	13219	0.8349	0.8349	0.0513	0.0571	0.0551	0.0011	0.0005	0.4507	0.4507	-0.2692	-0.2618	-0.1998	-0.0375	-0.0155	-1.048	0.0229	-9.8992	0.8414	-9.8993	0.7104	A+	A+	A-
ELA	7	576288	3	A-K	2	13219	0.3977	0.1727	0.247	0.1807	0.3977	0.0011	0.0008	0.1898	-0.0434	-0.1225	-0.0597	0.1898	-0.0091	-0.0142	1.3232	0.0179	9.9012	1.1674	9.9012	1.2319	A-	A-	A-
ELA	7	576289	3	A-K	3	13219	0.8194	0.0757	0.0589	0.8194	0.0425	0.0022	0.0014	0.458	-0.2756	-0.2594	0.458	-0.2006	-0.0216	-0.0206	-0.9423	0.0223	-9.8991	0.8529	-9.8993	0.6848	A+	A+	A+
ELA	7	576290	3	A-K	2	13219	0.7095	0.7095	0.1938	0.0358	0.0545	0.0048	0.0016	0.3556	0.3556	-0.1345	-0.234	-0.2686	-0.0458	-0.0161	-0.2287	0.0192	-2.209	0.9805	-2.129	0.9699	A-	A-	A-
ELA	7	576292	3	A-K	3	13219	0.45	0.2119	0.2707	0.0652	0.45	0.0011	0.001	0.3972	-0.1112	-0.1915	-0.2637	0.3972	-0.0365	-0.0244	1.096	0.0177	-6.129	0.9612	-1.499	0.9865	A+	A+	A-
ELA	7	576286	3	A-V	2	13219	0.4879	0.1609	0.2494	0.0933	0.4879	0.0079	0.0005	0.3838	-0.1935	-0.1027	-0.2479	0.3838	-0.0454	-0.0082	0.8974	0.0176	-2.809	0.9824	-0.659	0.9942	A-	A-	A+
ELA	7	576293	3	A-V	1	13219	0.3488	0.3488	0.0685	0.1121	0.4695	0.0003	0.0008	0.3353	0.3353	-0.2444	-0.1978	-0.0692	-0.0205	-0.0272	1.5858	0.0184	-0.749	0.9944	7.0211	1.0838	B-	B-	A-
ELA	7	503933	3	D	2	13219	0.4361	0.4361	0.3383	0.1316	0.0922	0.0011	0.0006	0.3306	0.3306	-0.1227	-0.1486	-0.1881	-0.0286	-0.0109	1.1426	0.0177	4.431	1.0289	7.4411	1.0699	A-	A-	A-
ELA	7	584047	3	D	2	13219	0.469	0.469	0.2849	0.2016	0.0412	0.003	0.0002	0.3801	0.3801	-0.2074	-0.1354	-0.1957	-0.0473	-0.016	0.985	0.0176	-2.479	0.9844	1.741	1.0153	A-	A-	A-
ELA	7	584074	3	D	2	13219	0.5965	0.0832	0.5965	0.1489	0.1703	0.001	0.0002	0.4827	-0.2241	0.4827	-0.2222	-0.252	-0.0233	-0.0289	0.2936	0.018	-9.8991	0.8974	-9.8991	0.8541	A+	A-	A-
ELA	7	574360	4	A-C	2	13186	0.4592	0.4592	0.1138	0.2259	0.1993	0.0009	0.0009	0.3522	0.3522	-0.1178	-0.1392	-0.1947	-0.0406	-0.0286	1.0371	0.0188	-2.609	0.9834	0.531	1.0045	A+	A-	A-
ELA	7	574361	4	A-C	2	13186	0.2952	0.323	0.2952	0.1449	0.2351	0.0012	0.0006	-0.0602	0.1089	-0.0602	-0.1525	0.0754	-0.0255	-0.0343	1.8491	0.0204	9.9013	1.3089	9.9015	1.5064	A-	A+	A-
ELA	7	574362	4	A-C	2	13186	0.1593	0.1379	0.5811	0.1203	0.1593	0.0011	0.0004	-0.0121	-0.0336	0.0468	-0.0207	-0.0121	-0.0096	-0.0015	2.7332	0.0249	9.9012	1.1807	9.9017	1.7183	A-	A-	A-
ELA	7	574363	4	A-K	2	13186	0.4973	0.2499	0.1039	0.4973	0.1475	0.0007	0.0007	0.223	0.0237	-0.238	0.223	-0.1375	0.0003	-0.0149	0.8595	0.0188	9.9011	1.101	9.9011	1.1266	A+	A+	A+
ELA	7	574365	4	A-K	2	13186	0.1795	0.1795	0.2268	0.2456	0.3453	0.0021	0.0006	-0.159	-0.159	0.0094	0.022	0.1039	-0.0298	-0.0172	2.5753	0.0238	9.9013	1.2969	9.902	2.0167	A-	A-	A-
ELA	7	574367	4	A-V	1	13186	0.6249	0.6249	0.155	0.0804	0.1364	0.0018	0.0015	0.2802	0.2802	-0.1584	-0.2163	-0.0478	-0.0285	-0.0484	0.2538	0.0194	6.451	1.0495	8.7311	1.0925	A-	A-	B-
ELA	7	574368	4	A-V	2	13186	0.3034	0.3212	0.2179	0.1533	0.3034	0.0029	0.0014	0.1001	0.043	-0.0165	-0.1564	0.1001	-0.0395	-0.0221	1.8052	0.0202	9.9012	1.1682	9.9013	1.3386	A-	A-	A-
ELA	7	574369	4	A-V	2	13186	0.59	0.2088	0.084	0.59	0.1092	0.0075	0.0005	0.0981	0.0846	-0.2494	0.0981	-0.0293	-0.0473	-0.011	0.4237	0.0191	9.9012	1.1915	9.9013	1.3111	A+	A-	A-
ELA	7	503916	4	D	2	13186	0.6135	0.1317	0.132	0.6135	0.1204	0.0015	0.0008	0.4248	-0.2386	-0.1819	0.4248	-0.1932	-0.0179	-0.0353	0.3101	0.0193	-9.4191	0.9322	-9.8991	0.902	A+	A-	B-
ELA	7	584048	4	D	2	13186	0.8684	0.055	0.8684	0.0343	0.0397	0.0025	0.0001	0.4222	-0.2424	0.4222	-0.2302	-0.2267	-0.0259	-0.0013	-1.3025	0.027	-8.3591	0.8572	-9.8993	0.6851	A+	A-	A-
ELA	7	584075	4	D	2	13186	0.2155	0.2155	0.5132	0.1564	0.1132	0.0016	0.0002	0.1007	0.1007	0.178	-0.1964	-0.1827	-0.0226	-0.0182	2.3238	0.0224	9.3911	1.1167	9.9015	1.4668	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	7	580604	5	A-C	2	13183	0.6521	0.6521	0.0701	0.1962	0.079	0.002	0.0007	0.4568	0.4568	-0.2731	-0.2435	-0.1791	-0.0447	-0.0326	0.0898	0.0199	-9.8991	0.9015	-9.8991	0.8604	A-	A-	A-
ELA	7	580590	5	A-K	3	13183	0.5792	0.5792	0.1926	0.0651	0.161	0.0017	0.0005	0.4546	0.4546	-0.2663	-0.2913	-0.128	-0.002	-0.0196	0.458	0.0193	-9.8991	0.9157	-9.8991	0.8894	A+	A-	A-
ELA	7	580603	5	A-K	3	13183	0.7398	0.0436	0.7398	0.094	0.1197	0.0023	0.0006	0.4967	-0.2466	0.4967	-0.2811	-0.2579	-0.0256	-0.0253	-0.4001	0.0214	-9.8992	0.8481	-9.8993	0.7283	A+	A+	A+
ELA	7	580605	5	A-K	3	13183	0.4184	0.2657	0.108	0.4184	0.2012	0.0061	0.0005	0.1627	-0.0227	-0.23	0.1627	0.0152	-0.0577	-0.0182	1.2332	0.0193	9.9012	1.193	9.9013	1.2726	A+	A-	A-
ELA	7	580575	5	A-V	3	13183	0.6117	0.1325	0.05	0.2035	0.6117	0.0014	0.0009	0.4514	-0.2345	-0.2525	-0.207	0.4514	-0.0242	-0.0411	0.2967	0.0195	-9.8991	0.91	-9.8991	0.8801	A+	A+	A-
ELA	7	580591	5	A-V	2	13183	0.6453	0.1277	0.1922	0.0337	0.6453	0.0005	0.0006	0.3368	-0.2126	-0.1317	-0.2116	0.3368	-0.0036	-0.0017	0.1254	0.0199	3.431	1.0285	2.221	1.0273	A-	A-	A-
ELA	7	580592	5	A-V	2	13183	0.4155	0.1522	0.2972	0.4155	0.1336	0.0008	0.0006	0.4125	-0.2687	-0.1718	0.4125	-0.0804	-0.0058	-0.0295	1.2474	0.0193	-7.6291	0.9462	-2.029	0.9792	C-	A-	C-
ELA	7	580607	5	A-V	2	13183	0.7356	0.1076	0.0899	0.0646	0.7356	0.0014	0.0008	0.546	-0.3048	-0.2669	-0.2769	0.546	-0.0296	-0.0265	-0.3745	0.0213	-9.8992	0.8051	-9.8993	0.6773	A-	A-	A-
ELA	7	503934	5	D	1	13183	0.509	0.509	0.0661	0.3413	0.0816	0.001	0.0011	0.3285	0.3285	-0.2118	-0.102	-0.2265	-0.0194	-0.0187	0.797	0.0191	7.0511	1.0496	7.0811	1.067	A+	A-	A-
ELA	7	584049	5	D	2	13183	0.6768	0.1327	0.0911	0.6768	0.0971	0.0019	0.0005	0.3117	-0.1518	-0.213	0.3117	-0.1047	-0.0304	-0.0299	-0.041	0.0203	4.271	1.0383	7.6511	1.1074	A+	A-	A-
ELA	7	584126	5	D	2	13183	0.2736	0.1656	0.1525	0.4063	0.2736	0.0018	0.0002	0.1707	-0.1154	-0.1554	0.0492	0.1707	-0.0271	-0.0244	1.9946	0.0211	9.9011	1.131	9.9013	1.3478	A+	A-	B-
ELA	7	493380	6	A-C	2	52599	0.4227	0.299	0.1339	0.4227	0.1423	0.0014	0.0008	0.2901	-0.1239	-0.1499	0.2901	-0.098	-0.017	-0.023	1.2204	0.0096	9.9011	1.0536	9.9011	1.1087	A-	A-	A-
ELA	7	493381	6	A-C	3	52599	0.667	0.667	0.0679	0.1486	0.1147	0.0015	0.0003	0.4059	0.4059	-0.2458	-0.2403	-0.1344	-0.0228	-0.0147	0.0305	0.01	-9.8991	0.9388	-9.8991	0.9114	A+	A+	A+
ELA	7	493386	6	A-C	3	52599	0.3861	0.1862	0.2498	0.3861	0.176	0.0009	0.001	0.2703	-0.1532	-0.0141	0.2703	-0.1704	-0.0189	-0.0126	1.3994	0.0097	9.9011	1.0666	9.9011	1.1395	A-	A-	A-
ELA	7	493383	6	A-K	3	52599	0.4694	0.3746	0.4694	0.108	0.0467	0.0006	0.0006	0.2697	-0.1091	0.2697	-0.1801	-0.1182	-0.0233	-0.0167	0.9964	0.0095	9.9011	1.0798	9.9011	1.1141	A+	A+	A+
ELA	7	493387	6	A-V	2	52599	0.6441	0.1426	0.6441	0.1202	0.0913	0.0009	0.0009	0.3638	-0.1953	0.3638	-0.1899	-0.149	-0.0256	-0.015	0.1493	0.0099	-2.449	0.9901	-5.449	0.9677	A+	A-	A-
ELA	7	493388	6	A-V	2	52599	0.674	0.0565	0.061	0.2063	0.674	0.0009	0.0013	0.3205	-0.1634	-0.2288	-0.1385	0.3205	-0.0234	-0.0274	-0.0066	0.0101	4.191	1.0183	1.951	1.0129	A+	A-	A-
ELA	7	579272	6	B-C	2	13101	0.4046	0.173	0.3578	0.4046	0.0636	0.0005	0.0005	0.2563	-0.2049	0.0137	0.2563	-0.2215	-0.0067	-0.0296	1.3147	0.0193	9.9011	1.0719	9.9011	1.1453	A+	A+	A+
ELA	7	579298	6	B-C	2	13101	0.5058	0.2753	0.1148	0.1022	0.5058	0.0011	0.0008	0.2709	-0.0134	-0.1786	-0.2341	0.2709	-0.0254	-0.0276	0.8338	0.019	9.8611	1.0666	9.7411	1.088	A+	A+	A+
ELA	7	579300	6	B-C	2	13101	0.4428	0.2249	0.4428	0.1017	0.2248	0.0053	0.0005	0.1849	0.0377	0.1849	-0.2698	-0.0531	-0.0464	-0.02	1.1312	0.0191	9.9011	1.1473	9.9012	1.2061	A-	A-	A+
ELA	7	579275	6	B-K	2	13101	0.5895	0.5895	0.1488	0.19	0.0692	0.0016	0.0009	0.3697	0.3697	-0.2522	-0.0841	-0.2255	-0.0369	-0.0124	0.4353	0.0193	-2.119	0.9849	-2.409	0.9762	A-	A-	A-
ELA	7	579276	6	B-K	3	13101	0.4857	0.2005	0.1482	0.4857	0.1638	0.0009	0.0008	0.3095	-0.0593	-0.1963	0.3095	-0.16	-0.0292	-0.0389	0.9283	0.019	5.411	1.0361	8.0211	1.0722	A+	A+	A+
ELA	7	579271	6	B-V	2	13101	0.7451	0.7451	0.11	0.0953	0.0474	0.0014	0.0008	0.2377	0.2377	-0.0176	-0.2005	-0.1749	-0.0342	-0.0268	-0.3904	0.0215	4.011	1.0431	9.9013	1.2657	A-	A-	A-
ELA	7	579277	6	B-V	2	13101	0.7306	0.0753	0.1117	0.7306	0.0811	0.0007	0.0006	0.4556	-0.1855	-0.2428	0.4556	-0.2752	-0.0243	-0.0385	-0.304	0.0211	-9.8991	0.8793	-9.8992	0.8295	A-	A-	A-
ELA	7	582701	6	B-V	2	13101	0.7664	0.0715	0.0648	0.7664	0.0963	0.0002	0.0007	0.4542	-0.2993	-0.218	0.4542	-0.2057	-0.0036	-0.0226	-0.5222	0.0221	-9.8991	0.8788	-9.8992	0.7844	A-	A-	A-
ELA	7	503925	6	D	2	13101	0.6914	0.0845	0.1786	0.0436	0.6914	0.0009	0.001	0.5181	-0.2812	-0.2822	-0.2526	0.5181	-0.0153	-0.0313	-0.0838	0.0204	-9.8992	0.8378	-9.8992	0.7514	A+	B-	A-
ELA	7	584050	6	D	2	13101	0.4123	0.244	0.1349	0.4123	0.2055	0.0029	0.0004	0.3053	-0.0409	-0.1888	0.3053	-0.1655	-0.0241	-0.0031	1.2773	0.0192	4.721	1.0334	7.5311	1.0759	A+	A-	A-
ELA	7	584127	6	D	2	13101	0.4687	0.2047	0.1891	0.4687	0.1349	0.0018	0.0007	0.1177	0.0497	-0.0723	0.1177	-0.1438	-0.0138	-0.0283	1.0082	0.019	9.9012	1.212	9.9013	1.2792	A+	A+	A+
ELA	7	566576	7	B-C	2	13191	0.6811	0.6811	0.1266	0.1248	0.0664	0.0005	0.0006	0.4527	0.4527	-0.1989	-0.2732	-0.2143	-0.0244	-0.0264	-0.0558	0.0203	-9.8991	0.9077	-9.8991	0.8677	A-	A-	A-
ELA	7	566577	7	B-C	2	13191	0.6493	0.1842	0.0982	0.0659	0.6493	0.0016	0.0008	0.4155	-0.1587	-0.2246	-0.2749	0.4155	-0.0294	-0.0187	0.113	0.0199	-8.7691	0.9291	-7.0091	0.9147	A+	A-	A+
ELA	7	566584	7	B-C	3	13191	0.7911	0.0542	0.0878	0.7911	0.0656	0.0011	0.0002	0.4682	-0.2488	-0.2465	0.4682	-0.2546	-0.0289	-0.0177	-0.7229	0.023	-9.8991	0.8539	-9.8993	0.714	A+	A+	A+
ELA	7	566579	7	B-K	2	13191	0.5222	0.1541	0.5222	0.2128	0.1083	0.0022	0.0004	0.2774	-0.1015	0.2774	-0.1622	-0.1081	-0.0409	0.0004	0.7413	0.0191	9.9011	1.081	9.9011	1.109	A-	A-	A-
ELA	7	566580	7	B-K	2	13191	0.8285	0.0427	0.8285	0.052	0.0699	0.0045	0.0024	0.4324	-0.2299	0.4324	-0.2215	-0.2562	-0.0234	-0.0086	-0.9998	0.0246	-9.8991	0.858	-9.8592	0.7719	A+	A+	A+
ELA	7	566581	7	B-K	2	13191	0.4073	0.0603	0.0939	0.4373	0.4073	0.0009	0.0003	0.142	-0.195	-0.0671	-0.006	0.142	-0.0189	-0.0114	1.2945	0.0193	9.9012	1.2169	9.9013	1.3087	A-	A-	A+
ELA	7	566582	7	B-V	2	13191	0.6	0.6	0.0687	0.0785	0.2511	0.0009	0.0008	0.3973	0.3973	-0.2252	-0.218	-0.1787	-0.0235	-0.0298	0.3631	0.0194	-3.459	0.9742	-4.7391	0.9495	A-	A-	A-
ELA	7	566583	7	B-V	2	13191	0.4827	0.4827	0.1854	0.1831	0.1454	0.0032	0.0002	0.4046	0.4046	-0.141	-0.2352	-0.1547	-0.0293	-0.0119	0.9302	0.0191	-6.159	0.9587	-3.369	0.9686	B+	B-	A-
ELA	7	503926	7	D	2	13191	0.8354	0.0575	0.8354	0.0485	0.057	0.001	0.0005	0.4345	-0.243	0.4345	-0.2423	-0.2206	-0.0224	-0.0259	-1.0555	0.025	-9.3291	0.8655	-9.8993	0.7157	A+	A-	A-
ELA	7	584069	7	D	2	13191	0.5981	0.0878	0.5981	0.1972	0.114	0.0028	0.0002	0.4745	-0.2361	0.4745	-0.2799	-0.1639	-0.0413	-0.0144	0.3728	0.0194	-9.8991	0.9037	-9.8991	0.8589	A-	B-	B-
ELA	7	584128	7	D	2	13191	0.8128	0.8128	0.0289	0.0879	0.0691	0.0009	0.0004	0.3877	0.3877	-0.2125	-0.2285	-0.1981	-0.0082	-0.0215	-0.8789	0.0238	-6.3891	0.9149	-5.7791	0.8706	A+	A-	A-
ELA	7	574338	8	B-C	3	13184	0.6016	0.1693	0.0824	0.14	0.6016	0.0058	0.0009	0.372	-0.1528	-0.2058	-0.1787	0.372	-0.0787	-0.0081	0.3626	0.0194	-2.299	0.9828	-1.119	0.988	A+	A-	A+
ELA	7	574332	8	B-K	2	13184	0.6497	0.1081	0.6497	0.1126	0.1275	0.0014	0.0006	0.3944	-0.2151	0.3944	-0.1923	-0.1764	-0.0321	-0.0217	0.1187	0.0199	-4.479	0.9634	-5.5491	0.9327	A+	A+	A+
ELA	7	574333	8	B-K	2	13184	0.7531	0.0777	0.0495	0.7531	0.1174	0.0017	0.0006	0.4595	-0.3116	-0.1888	0.4595	-0.2216	-0.0429	-0.0278	-0.4642	0.0218	-9.8991	0.8717	-9.8992	0.82	A-	A-	A-
ELA	7	574334	8	B-K	2	13184	0.8239	0.0487	0.8239	0.0721	0.0507	0.0042	0.0005	0.4531	-0.2449	0.4531	-0.2414	-0.2487	-0.039	-0.0167	-0.9536	0.0243	-9.8992	0.8415	-9.8993	0.715	A+	A-	A-
ELA	7	574339	8	B-K	2	13184	0.8703	0.0477	0.8703	0.0353	0.0379	0.008	0.0008	0.4438	-0.236	0.4438	-0.2417	-0.2461	-0.0748	-0.019	-1.3571	0.0273	-9.8992	0.8312	-9.8994	0.6206	A+	A-	A-
ELA	7	574335	8	B-V	2	13184	0.6814	0.0844	0.174	0.6814	0.059	0.0008	0.0005	0.362	-0.2097	-0.2142	0.362	-0.1191	-0.0407	0.0019	-0.0491	0.0203	-1.239	0.989	-0.839	0.9884	A-	A-	A-
ELA	7	574337	8	B-V	1	13184	0.7665	0.7665	0.0783	0.1157	0.0388	0.0005	0.0003	0.4502	0.4502	-0.2225	-0.2922	-0.1912	-0.0179	0.0056	-0.5488	0.0221	-9.8991	0.8877	-9.8992	0.7942	A-	A-	A-
ELA	7	574341	8	B-V	1	13184	0.4936	0.4936	0.3038	0.0724	0.1289	0.001	0.0003	0.4201	0.4201	-0.1455	-0.216	-0.257	-0.021	-0.0202	0.885	0.019	-7.349	0.9509	-5.189	0.9525	A-	A-	B-
ELA	7	503927	8	D	3	13184	0.4507	0.4507	0.2114	0.1277	0.209	0.0008	0.0005	0.348	0.348	-0.0972	-0.2817	-0.093	-0.033	-0.0312	1.09	0.0191	2.571	1.0178	5.7311	1.0561	A+	A-	A-
ELA	7	584070	8	D	2	13184	0.3942	0.1459	0.3942	0.2216	0.2351	0.0027	0.0006	0.3502	-0.1111	0.3502	-0.1219	-0.1864	-0.0378	-0.0139	1.3654	0.0194	-0.139	0.999	5.1711	1.0572	A+	A-	A+
ELA	7	584129	8	D	2	13184	0.7334	0.7334	0.0965	0.1226	0.0465	0.0011		0.4652	0.4652	-0.2613	-0.2227	-0.2589	-0.0311		-0.3441	0.0213	-9.8991	0.8816	-9.8992	0.806	A+	B-	A-
ELA	7	574323	9	B-C	2	13123	0.6657	0.0541	0.2085	0.6657	0.0646	0.0066	0.0005	0.3833	-0.2481	-0.1355	0.3833	-0.2653	-0.0473	-0.0249	0.0345	0.02	-5.269	0.9563	-3.059	0.9622	A+	A+	A+
ELA	7	574324	9	B-C	2	13123	0.4362	0.2149	0.2398	0.4362	0.1077	0.0011	0.0004	0.2721	-0.1699	-0.0544	0.2721	-0.1328	-0.0108	-0.0213	1.1447	0.0191	9.9011	1.074	9.9011	1.117	A-	A+	A+
ELA	7	574325	9	B-C	2	13123	0.3742	0.3742	0.3345	0.1577	0.132	0.0011	0.0005	0.2622	0.2622	-0.0843	-0.1725	-0.0681	-0.0238	-0.02	1.4461	0.0195	8.5611	1.0654	9.9011	1.1225	A-	A-	A-
ELA	7	574326	9	B-C	2	13123	0.4073	0.2441	0.4073	0.1857	0.1519	0.006	0.005	0.2372	0.0132	0.2372	-0.1606	-0.1625	-0.0198	0.0013	1.2836	0.0193	9.9011	1.0913	9.9012	1.1529	A-	A-	A+
ELA	7	574329	9	B-K	2	13123	0.2924	0.2907	0.1321	0.2924	0.2805	0.0038	0.0005	0.1094	-0.0721	-0.1087	0.1094	0.0525	-0.0506	-0.0287	1.8748	0.0206	9.9012	1.171	9.9014	1.4005	A-	A-	A-
ELA	7	574322	9	B-V	2	13123	0.1331	0.0905	0.0866	0.6889	0.1331	0.0005	0.0004	-0.0594	-0.1985	-0.2445	0.3162	-0.0594	-0.0163	-0.0067	2.9868	0.0269	9.9012	1.2016	9.902	2.0411	A+	A+	A-
ELA	7	574330	9	B-V	2	13123	0.6617	0.6617	0.078	0.1298	0.1281	0.0014	0.0009	0.3499	0.3499	-0.236	-0.2076	-0.0917	-0.0308	-0.0219	0.0552	0.0199	-1.559	0.987	0.821	1.01	A-	A-	A-
ELA	7	574331	9	B-V	2	13123	0.5453	0.0664	0.2747	0.1119	0.5453	0.0008	0.0008	0.3793	-0.2828	-0.1944	-0.0983	0.3793	-0.0225	-0.0006	0.6289	0.019	-3.759	0.9747	-2.549	0.9771	A-	A-	A-
ELA	7	503928	9	D	3	13123	0.7188	0.0587	0.7188	0.0598	0.1612	0.0006	0.0009	0.3205	-0.2464	0.3205	-0.2446	-0.073	-0.0132	-0.0331	-0.2552	0.0209	0.261	1.0025	2.571	1.0394	A+	A+	A+
ELA	7	584071	9	D	2	13123	0.4478	0.4478	0.1054	0.1999	0.2442	0.0023	0.0005	0.3065	0.3065	-0.22	-0.1612	-0.0408	-0.0414	-0.0388	1.0896	0.0191	5.441	1.037	7.2111	1.0674	A+	A-	A-
ELA	7	584132	9	D	2	13123	0.4566	0.2464	0.1075	0.1878	0.4566	0.001	0.0006	0.2151	-0.0065	-0.1651	-0.1341	0.2151	-0.0183	-0.0093	1.0476	0.019	9.9011	1.1246	9.9012	1.1644	A+	A-	A-
ELA	8	411875	0	A-C	2	116461	0.4262	0.3857	0.1089	0.4262	0.0771	0.0017	0.0003	0.3069	-0.0623	-0.1882	0.3069	-0.2252	-0.059	-0.0171	1.1562	0.0064	9.9012	1.1515	9.9013	1.2694	A+	A+	A+
ELA	8	411877	0	A-C	2	116461	0.7344	0.7344	0.1109	0.0814	0.0701	0.0027	0.0005	0.5711	0.5711	-0.3203	-0.2775	-0.2791	-0.0758	-0.0244	-0.5627	0.007	-9.8991	0.852	-9.8993	0.7458	A-	A+	A-
ELA	8	497103	0	A-C	2	116461	0.5512	0.0444	0.2744	0.5512	0.1242	0.005	0.0008	0.3737	-0.2994	-0.0853	0.3737	-0.2475	-0.0565	-0.0193	0.5132	0.0063	9.9011	1.0814	9.9012	1.1734	A-	A-	A-
ELA	8	497105	0	A-C	2	116461	0.7059	0.1218	0.7059	0.0444	0.1242	0.0029	0.0008	0.4614	-0.2444	0.4614	-0.2896	-0.2028	-0.0555	-0.027	-0.3987	0.0068	-9.899	0.9603	-9.8991	0.9382	A+	A+	A+
ELA	8	411872	0	A-K	2	116461	0.7498	0.076	0.7498	0.0838	0.088	0.0017	0.0006	0.6086	-0.298	0.6086	-0.3383	-0.3092	-0.063	-0.0273	-0.642	0.0071	-9.8992	0.8022	-9.8993	0.6595	A+	A+	A+
ELA	8	411874	0	A-K	3	116461	0.6294	0.056	0.1071	0.2048	0.6294	0.0021	0.0006	0.4833	-0.3084	-0.3037	-0.1607	0.4833	-0.0688	-0.0255	0.0626	0.0065	-9.899	0.951	-1.779	0.9925	A+	A+	A+
ELA	8	411878	0	A-K	2	116461	0.7528	0.0865	0.0978	0.0605	0.7528	0.0019	0.0004	0.5203	-0.3633	-0.2075	-0.2408	0.5203	-0.0641	-0.0231	-0.6884	0.0072	-9.8991	0.88	-9.8991	0.8806	A+	A+	A-
ELA	8	497108	0	A-K	2	116461	0.7008	0.7008	0.0844	0.085	0.1274	0.0015	0.0009	0.4979	0.4979	-0.2853	-0.2792	-0.2054	-0.0428	-0.0221	-0.3872	0.0068	-9.8991	0.9304	-9.8991	0.8992	A-	A+	A+
ELA	8	411879	0	A-V	2	116461	0.5931	0.5931	0.1225	0.1501	0.1318	0.002	0.0004	0.3503	0.3503	-0.2342	-0.1965	-0.0641	-0.0665	-0.0243	-0.1069	0.0066	9.9012	1.1821	9.9013	1.2939	A+	A+	A+
ELA	8	497111	0	A-V	2	116461	0.6897	0.0393	0.2057	0.0623	0.6897	0.0018	0.0012	0.3547	-0.262	-0.095	-0.2977	0.3547	-0.0493	-0.0208	-0.2752	0.0067	9.9011	1.0617	9.9012	1.2392	A-	A+	A+
ELA	8	497112	0	A-V	2	116461	0.6634	0.2047	0.0596	0.6634	0.0707	0.0009	0.0007	0.3935	-0.1721	-0.3027	0.3935	-0.1681	-0.0362	-0.0249	-0.1415	0.0066	9.901	1.0424	9.9011	1.11	A+	A+	A+
ELA	8	400773	0	B-C	2	116461	0.7062	0.1541	0.0987	0.7062	0.0393	0.0011	0.0006	0.5697	-0.3275	-0.2891	0.5697	-0.2715	-0.0486	-0.0258	-0.3609	0.0068	-9.8992	0.8466	-9.8993	0.7479	A+	A+	A+
ELA	8	400774	0	B-C	2	116461	0.7619	0.7619	0.0906	0.1013	0.044	0.002	0.0002	0.418	0.418	-0.2711	-0.1849	-0.2052	-0.0475	-0.0156	-0.8251	0.0074	2.801	1.0108	2.431	1.0174	A+	A-	A-
ELA	8	400776	0	B-C	3	116461	0.7607	0.7607	0.1701	0.0472	0.0202	0.0012	0.0006	0.4235	0.4235	-0.2139	-0.3194	-0.2149	-0.049	-0.0277	-0.6482	0.0071	-9.899	0.953	-8.7691	0.9447	A+	A+	A+
ELA	8	400780	0	B-C	3	116461	0.6664	0.0537	0.2387	0.6664	0.0386	0.0021	0.0005	0.507	-0.2909	-0.2904	0.507	-0.243	-0.0533	-0.0194	-0.1145	0.0066	-9.8991	0.9146	-9.8992	0.8472	A-	A-	A-
ELA	8	494397	0	B-C	2	116461	0.7629	0.7629	0.0931	0.1025	0.0389	0.0024	0.0003	0.4932	0.4932	-0.2678	-0.2661	-0.2472	-0.0654	-0.0187	-0.6539	0.0071	-9.8991	0.8744	-9.8992	0.8404	A-	A-	A+
ELA	8	494399	0	B-C	3	116461	0.327	0.3912	0.1537	0.125	0.327	0.0027	0.0005	0.2699	0.0069	-0.1725	-0.194	0.2699	-0.0604	-0.0219	1.6536	0.0068	9.9012	1.158	9.9014	1.3968	A-	A+	A+
ELA	8	400779	0	B-K	2	116461	0.6363	0.1197	0.6363	0.1447	0.0974	0.0015	0.0003	0.3587	-0.2695	0.3587	-0.1609	-0.0881	-0.0473	-0.026	-0.0126	0.0065	9.9011	1.0844	9.9012	1.22	A+	A+	A+
ELA	8	494401	0	B-K	2	116461	0.4686	0.2285	0.1852	0.4686	0.1144	0.0027	0.0006	0.4671	-0.1383	-0.2785	0.4671	-0.1986	-0.0591	-0.0234	0.7905	0.0063	-9.899	0.9671	-3.559	0.9876	A-	A+	A-
ELA	8	400781	0	B-V	2	116461	0.398	0.1796	0.398	0.1575	0.2626	0.0017	0.0006	0.3782	-0.0675	0.3782	-0.1886	-0.1996	-0.051	-0.0215	1.2111	0.0064	9.9011	1.059	9.9011	1.136	B-	A-	A-
ELA	8	494398	0	B-V	2	116461	0.6161	0.0979	0.1173	0.1627	0.6161	0.0054	0.0005	0.5862	-0.2762	-0.316	-0.258	0.5862	-0.0762	-0.0226	0.0837	0.0065	-9.8991	0.8554	-9.8992	0.7914	A-	A-	A-
ELA	8	494400	0	B-V	2	116461	0.6078	0.096	0.6078	0.0769	0.2153	0.0023	0.0017	0.4463	-0.2604	0.4463	-0.3006	-0.1405	-0.0624	-0.0092	0.132	0.0064	1.001	1.0026	0.311	1.0013	C-	A-	A-
ELA	8	494405	0	B-V	2	116461	0.5133	0.2028	0.5133	0.1463	0.1344	0.0023	0.001	0.489	-0.2016	0.489	-0.2069	-0.253	-0.0638	-0.0275	0.617	0.0063	-9.8991	0.947	-9.8991	0.9375	A-	A-	A-
ELA	8	272756	0	D	2	116461	0.5262	0.2947	0.0875	0.0903	0.5262	0.0009	0.0003	0.5158	-0.342	-0.1991	-0.154	0.5158	-0.0318	-0.0131	0.4561	0.0063	-9.8991	0.926	-9.8991	0.8974	A+	A-	A-
ELA	8	278200	0	D	2	116461	0.2782	0.3841	0.2782	0.0835	0.2531	0.0006	0.0005	0.2135	0.0483	0.2135	-0.311	-0.0735	-0.0202	-0.0283	1.8987	0.007	9.9012	1.1757	9.9015	1.5243	A-	A+	A-
ELA	8	278241	0	D	2	116461	0.7403	0.0712	0.0867	0.7403	0.1004	0.0008	0.0005	0.4919	-0.2584	-0.2713	0.4919	-0.237	-0.0312	-0.0333	-0.5623	0.007	-9.8991	0.901	-9.8992	0.8176	A+	A-	A-
ELA	8	341011	0	D	2	116461	0.5492	0.2783	0.0866	0.5492	0.0849	0.0006	0.0004	0.3772	-0.121	-0.2478	0.3772	-0.2242	-0.0291	-0.0277	0.4574	0.0063	9.9011	1.0736	9.9011	1.0888	A-	A+	A+
ELA	8	341015	0	D	2	116461	0.3522	0.3224	0.1722	0.3522	0.1526	0.0003	0.0003	0.2966	-0.1132	-0.1026	0.2966	-0.1374	-0.0126	-0.0195	1.4401	0.0066	9.9011	1.139	9.9013	1.2628	A+	A-	A-
ELA	8	341253	0	D	2	116461	0.4348	0.111	0.4348	0.2153	0.2378	0.0008	0.0003	0.4092	-0.173	0.4092	-0.1675	-0.1841	-0.0339	-0.0167	1.0479	0.0064	7.351	1.0183	9.9011	1.0755	A+	A-	A-
ELA	8	416449	0	D	2	116461	0.3922	0.1229	0.3922	0.3526	0.1311	0.0008	0.0004	0.2066	-0.1325	0.2066	0.0137	-0.1856	-0.031	-0.0203	1.2348	0.0065	9.9012	1.2355	9.9014	1.3961	A-	A+	A-
ELA	8	416453	0	D	2	116461	0.8147	0.8147	0.0502	0.0536	0.0806	0.0006	0.0003	0.39	0.39	-0.2751	-0.288	-0.0936	-0.0328	-0.0165	-1.0109	0.0077	-9.8991	0.9299	-9.8991	0.9102	A+	A+	A+
ELA	8	416518	0	D	2	116461	0.481	0.481	0.0667	0.3232	0.1273	0.0013	0.0005	0.4996	0.4996	-0.3062	-0.2125	-0.2162	-0.038	-0.0214	0.7833	0.0063	-9.8991	0.9315	-9.8991	0.9422	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	8	497064	1	A-C	3	64668	0.6954	0.6954	0.1116	0.0531	0.1386	0.0006	0.0007	0.3499	0.3499	-0.1681	-0.2397	-0.153	-0.0272	-0.0305	-0.3455	0.0089	6.421	1.0261	7.7011	1.0543	A+	A+	A+
ELA	8	497065	1	A-C	2	64668	0.8612	0.0318	0.0429	0.8612	0.0627	0.0008	0.0005	0.3804	-0.2353	-0.2075	0.3804	-0.1923	-0.0322	-0.0282	-1.4908	0.0113	-9.8991	0.9117	-9.8992	0.8169	A+	A+	A-
ELA	8	497069	1	A-K	2	64668	0.4624	0.2926	0.1044	0.1388	0.4624	0.0012	0.0006	0.2557	-0.0129	-0.2674	-0.1099	0.2557	-0.0347	-0.0257	0.8627	0.0083	9.9011	1.1312	9.9012	1.1872	A+	A+	A+
ELA	8	497063	1	A-V	2	64668	0.7235	0.7235	0.0912	0.1245	0.06	0.0004	0.0003	0.2761	0.2761	-0.0299	-0.2138	-0.1831	-0.0227	-0.0158	-0.4874	0.0091	9.9011	1.0843	9.9012	1.1802	A+	A-	A-
ELA	8	497071	1	A-V	2	64668	0.2959	0.3867	0.2959	0.1991	0.1168	0.0008	0.0007	0.1655	0.0161	0.1655	-0.1086	-0.1222	-0.0192	-0.0105	1.713	0.0089	9.9012	1.1726	9.9014	1.445	A+	A-	A-
ELA	8	497072	1	A-V	2	64668	0.6342	0.2633	0.0594	0.0417	0.6342	0.0011	0.0003	0.297	-0.0619	-0.2831	-0.2383	0.297	-0.0309	-0.0139	0.0088	0.0085	9.9011	1.0935	9.9012	1.1713	A+	A-	A-
ELA	8	578039	1	B-C	2	12993	0.6716	0.6716	0.0606	0.0831	0.1798	0.0042	0.0006	0.3447	0.3447	-0.2721	-0.196	-0.0993	-0.0627	-0.0247	-0.2279	0.0182	2.781	1.022	3.9311	1.0515	A+	A+	A+
ELA	8	578040	1	B-C	2	12993	0.5558	0.1332	0.0991	0.2099	0.5558	0.0015	0.0006	0.308	-0.0834	-0.2555	-0.1145	0.308	-0.0333	-0.019	0.3942	0.0174	9.9011	1.0865	9.9011	1.1261	A-	A-	A-
ELA	8	578042	1	B-K	2	12993	0.6529	0.6529	0.0604	0.1649	0.1203	0.0011	0.0004	0.4278	0.4278	-0.2308	-0.3058	-0.1031	-0.0365	-0.0216	-0.0873	0.0179	-6.8991	0.9491	-7.0891	0.9181	A+	A+	A+
ELA	8	578043	1	B-K	2	12993	0.2567	0.2053	0.4239	0.1096	0.2567	0.004	0.0005	0.0647	-0.1223	0.1919	-0.2317	0.0647	-0.0141	-0.0181	1.858	0.0195	9.9013	1.2852	9.9017	1.6947	A+	A+	A+
ELA	8	578044	1	B-K	3	12993	0.6035	0.1372	0.6035	0.078	0.1782	0.0015	0.0016	0.2985	-0.1593	0.2985	-0.167	-0.1172	-0.0249	-0.0153	0.1366	0.0176	9.9011	1.0927	9.9012	1.1715	A+	A-	A-
ELA	8	578045	1	B-K	3	12993	0.5077	0.5077	0.0626	0.2584	0.1704	0.0005	0.0004	0.3405	0.3405	-0.249	-0.1628	-0.1011	-0.0194	-0.0091	0.5791	0.0174	9.3011	1.0628	8.3811	1.0804	A-	A+	A+
ELA	8	578038	1	B-V	2	12993	0.791	0.0695	0.791	0.1052	0.0324	0.0015	0.0005	0.5073	-0.263	0.5073	-0.2992	-0.2581	-0.0372	-0.0231	-0.9127	0.0203	-9.8992	0.8422	-9.8993	0.7197	A-	A-	A-
ELA	8	578046	1	B-V	2	12993	0.376	0.2033	0.376	0.3033	0.1164	0.0007	0.0003	0.1813	-0.1711	0.1813	-0.0838	0.0628	-0.0176	-0.0056	1.2333	0.0179	9.9012	1.1872	9.9013	1.3197	A+	A+	A+
ELA	8	503809	1	D	2	12993	0.6061	0.6061	0.188	0.1179	0.0868	0.0008	0.0003	0.3164	0.3164	-0.17	-0.1205	-0.1725	-0.0158	-0.0149	0.0987	0.0177	9.9011	1.0882	9.9011	1.119	A-	A-	A-
ELA	8	584076	1	D	2	12993	0.6506	0.0675	0.6506	0.1144	0.1652	0.0021	0.0002	0.4324	-0.224	0.4324	-0.2389	-0.1934	-0.0417	-0.0129	-0.0745	0.0179	-4.629	0.9658	-6.0591	0.9302	A+	A+	A-
ELA	8	584085	1	D	2	12993	0.3412	0.3412	0.2025	0.1529	0.3019	0.0012	0.0004	0.1389	0.1389	-0.0431	-0.0129	-0.0937	-0.0169	-0.0114	1.3572	0.0181	9.9012	1.2418	9.9015	1.4498	A+	A-	A-
ELA	8	574344	2	B-C	2	12940	0.7331	0.7331	0.1244	0.1199	0.0222	0.0003	0.0001	0.4435	0.4435	-0.1716	-0.3401	-0.1945	-0.0262	0.0079	-0.5741	0.0202	-6.7291	0.9358	-5.6091	0.9015	A-	A-	A+
ELA	8	574345	2	B-C	2	12940	0.5779	0.0871	0.5779	0.2291	0.1035	0.0019	0.0005	0.4139	-0.2307	0.4139	-0.1498	-0.2417	-0.0514	-0.023	0.2565	0.0184	-0.559	0.9958	-0.989	0.9885	A-	A+	A+
ELA	8	574346	2	B-C	3	12940	0.6473	0.1301	0.1396	0.0815	0.6473	0.0009	0.0006	0.4824	-0.2349	-0.2521	-0.2285	0.4824	-0.0368	-0.0199	-0.072	0.0189	-9.8991	0.9119	-9.8991	0.8702	A+	A-	A+
ELA	8	574347	2	B-K	2	12940	0.5734	0.1614	0.2174	0.5734	0.045	0.0021	0.0008	0.4065	-0.2382	-0.1694	0.4065	-0.1967	-0.036	-0.041	0.3117	0.0183	1.061	1.0077	-1.109	0.9874	A-	A-	A-
ELA	8	574348	2	B-K	2	12940	0.6033	0.6033	0.1358	0.0989	0.1607	0.001	0.0002	0.4783	0.4783	-0.2859	-0.2537	-0.1594	-0.0465	-0.0162	0.1464	0.0185	-9.8991	0.9241	-7.2691	0.9138	A-	A-	A-
ELA	8	574349	2	B-K	2	12940	0.7985	0.0461	0.7985	0.0503	0.1014	0.0036	0.0002	0.3579	-0.2342	0.3579	-0.2647	-0.1127	-0.041	-0.0108	-1.0213	0.022	-2.529	0.9698	5.5711	1.1364	A+	A+	A+
ELA	8	574350	2	B-K	2	12940	0.5662	0.1032	0.2319	0.0948	0.5662	0.0017	0.0022	0.3436	-0.2517	-0.0731	-0.204	0.3436	-0.0461	-0.0257	0.3329	0.0183	9.4511	1.0702	8.9111	1.1037	A+	A+	A-
ELA	8	574342	2	B-V	1	12940	0.6456	0.0673	0.1145	0.6456	0.1652	0.007	0.0003	0.4131	-0.229	-0.2366	0.4131	-0.1623	-0.0526	-0.0135	-0.0995	0.0189	0.401	1.0032	-0.629	0.9912	B-	A-	A-
ELA	8	503835	2	D	2	12940	0.5913	0.0922	0.1988	0.5913	0.1163	0.0005	0.0009	0.3553	-0.1596	-0.2175	0.3553	-0.1252	-0.0224	-0.0359	0.1782	0.0185	7.3511	1.0561	5.1611	1.0632	A+	A-	A-
ELA	8	584077	2	D	2	12940	0.502	0.0802	0.2878	0.502	0.1266	0.0029	0.0005	0.3899	-0.225	-0.1996	0.3899	-0.1223	-0.0377	-0.0336	0.6528	0.0182	3.251	1.023	3.891	1.0413	A+	A-	A-
ELA	8	584086	2	D	2	12940	0.525	0.1583	0.525	0.1344	0.1811	0.0009	0.0003	0.3081	-0.1554	0.3081	-0.1499	-0.1168	-0.0187	-0.0283	0.5402	0.0182	9.9011	1.1118	9.9011	1.1393	A+	A+	A+
ELA	8	578049	3	B-C	2	12942	0.5547	0.2405	0.0605	0.1434	0.5547	0.0008	0.0002	0.4483	-0.256	-0.282	-0.1299	0.4483	-0.0178	-0.008	0.402	0.0181	-6.999	0.9525	-4.689	0.9536	A+	B-	B-
ELA	8	578050	3	B-C	3	12942	0.3386	0.3386	0.1083	0.474	0.0775	0.0008	0.0008	0.2326	0.2326	-0.2334	0.0595	-0.2465	-0.0312	-0.0151	1.5134	0.0188	9.9011	1.1006	9.9013	1.2686	A-	A-	A-
ELA	8	578078	3	B-C	2	12942	0.4672	0.1005	0.4672	0.3145	0.1168	0.0007	0.0004	0.2909	-0.2463	0.2909	-0.0397	-0.1603	-0.0228	-0.0289	0.8298	0.018	9.9011	1.0835	9.9011	1.1204	A+	A-	A+
ELA	8	578047	3	B-K	2	12942	0.6258	0.1813	0.1287	0.6258	0.0628	0.0012	0.0002	0.3741	-0.1349	-0.1983	0.3741	-0.253	-0.0295	-0.0219	0.0613	0.0185	2.671	1.0203	3.691	1.0441	A+	A+	A-
ELA	8	578051	3	B-K	2	12942	0.4414	0.3649	0.0998	0.4414	0.0925	0.0012	0.0003	0.2942	-0.0371	-0.2285	0.2942	-0.2024	-0.0213	-0.0207	0.9908	0.0181	9.9011	1.087	9.9012	1.1581	A-	A-	A-
ELA	8	578052	3	B-K	2	12942	0.1939	0.4258	0.1939	0.192	0.1837	0.0043	0.0003	-0.0407	0.1528	-0.0407	-0.097	-0.0463	-0.05	-0.0027	2.4177	0.0222	9.9013	1.32	9.902	2.0267	A+	A+	A+
ELA	8	578048	3	B-V	2	12942	0.3189	0.3189	0.0919	0.2889	0.2969	0.0029	0.0005	0.2192	0.2192	-0.2283	-0.1353	0.0604	-0.0399	-0.0154	1.6036	0.019	9.9011	1.1096	9.9013	1.308	A-	A-	A-
ELA	8	578054	3	B-V	2	12942	0.7568	0.1124	0.7568	0.0628	0.0661	0.0013	0.0005	0.5451	-0.3387	0.5451	-0.2767	-0.2308	-0.0468	-0.0299	-0.6922	0.0206	-9.8992	0.8307	-9.8993	0.6832	A-	B-	A-
ELA	8	503810	3	D	2	12942	0.5193	0.5193	0.1466	0.2309	0.1017	0.0011	0.0005	0.3091	0.3091	-0.2726	-0.0007	-0.1872	-0.0266	-0.0148	0.5955	0.018	9.9011	1.0898	9.9011	1.1207	A+	A+	A+
ELA	8	584078	3	D	2	12942	0.7421	0.0738	0.7421	0.1233	0.0586	0.002	0.0002	0.4376	-0.2627	0.4376	-0.221	-0.2045	-0.0432	-0.011	-0.5872	0.0202	-7.0591	0.9312	-8.0191	0.8668	A+	A-	A-
ELA	8	584087	3	D	2	12942	0.4025	0.0353	0.4025	0.5182	0.042	0.0013	0.0006	0.1293	-0.2422	0.1293	0.0651	-0.2531	-0.0111	-0.0011	1.1844	0.0183	9.9013	1.2664	9.9014	1.4	A+	A-	A-
ELA	8	578056	4	B-C	2	12925	0.8791	0.8791	0.0505	0.0501	0.0192	0.0007	0.0003	0.3346	0.3346	-0.1563	-0.231	-0.1715	-0.021	-0.0192	-1.6775	0.0285	-2.489	0.9536	-2.0291	0.9291	A-	A-	B-
ELA	8	578090	4	B-C	2	12925	0.7566	0.0975	0.7566	0.1232	0.0214	0.001	0.0003	0.4352	-0.2419	0.4352	-0.2569	-0.2058	-0.0131	-0.0209	-0.6985	0.0224	-6.7291	0.9255	-6.9591	0.8638	A+	A-	A-
ELA	8	578058	4	B-K	2	12925	0.5172	0.3523	0.5172	0.0879	0.0413	0.0009	0.0004	0.1469	0.0307	0.1469	-0.1726	-0.1914	-0.0248	-0.0198	0.5965	0.0196	9.9013	1.2805	9.9014	1.4211	A+	A+	A+
ELA	8	578059	4	B-K	2	12925	0.4566	0.2097	0.4566	0.1701	0.1609	0.0024	0.0004	0.1314	-0.0543	0.1314	-0.0804	-0.0307	-0.0264	-0.0297	0.8955	0.0196	9.9013	1.2849	9.9014	1.4012	A+	A-	A+
ELA	8	578060	4	B-K	2	12925	0.2767	0.2767	0.1636	0.2667	0.291	0.0014	0.0007	0.267	0.267	-0.2098	-0.0894	-0.0008	-0.0378	-0.0216	1.8493	0.0215	3.841	1.0391	9.9013	1.3136	A-	A-	A-
ELA	8	578061	4	B-K	3	12925	0.3373	0.3351	0.1407	0.1815	0.3373	0.0046	0.0009	0.2027	-0.1274	-0.0606	-0.032	0.2027	-0.026	-0.0173	1.5067	0.0205	9.9011	1.1471	9.9014	1.3517	A-	A+	A+
ELA	8	578055	4	B-V	2	12925	0.8095	0.0978	0.0479	0.8095	0.0435	0.0009	0.0004	0.3844	-0.2287	-0.2004	0.3844	-0.1936	-0.0166	-0.0125	-1.0656	0.0242	-3.9591	0.9471	1.211	1.0309	A-	A+	A-
ELA	8	578062	4	B-V	2	12925	0.68	0.0692	0.1856	0.0638	0.68	0.0012	0.0002	0.5027	-0.1905	-0.3213	-0.2473	0.5027	-0.0227	-0.0031	-0.2422	0.0208	-9.8991	0.8967	-9.8992	0.8255	B-	A-	A-
ELA	8	503813	4	D	2	12925	0.5783	0.1643	0.0993	0.1563	0.5783	0.0009	0.0009	0.4885	-0.1865	-0.317	-0.208	0.4885	-0.0335	-0.0264	0.2926	0.0198	-9.7891	0.9249	-8.7491	0.9004	A-	A+	A+
ELA	8	584079	4	D	2	12925	0.6408	0.6408	0.0726	0.0915	0.1931	0.0019	0.0002	0.2936	0.2936	-0.1756	-0.0644	-0.1907	-0.032	-0.0064	-0.0292	0.0203	9.9011	1.106	9.3511	1.135	A+	A-	A-
ELA	8	584088	4	D	2	12925	0.3781	0.2676	0.1944	0.1578	0.3781	0.0017	0.0004	0.1847	-0.0459	-0.0805	-0.0987	0.1847	-0.0228	-0.0221	1.2909	0.02	9.9012	1.2035	9.9014	1.3553	A+	A-	A-
ELA	8	576296	5	B-C	2	12868	0.8291	0.0804	0.0459	0.8291	0.0428	0.0014	0.0003	0.4783	-0.2569	-0.2694	0.4783	-0.2563	-0.036	-0.0304	-1.211	0.0251	-9.8992	0.8394	-9.8993	0.7235	A+	A-	A-
ELA	8	576297	5	B-C	2	12868	0.4879	0.4879	0.1524	0.1571	0.1958	0.0064	0.0005	0.4113	0.4113	-0.2268	-0.1442	-0.1676	-0.0576	-0.0227	0.7363	0.0195	-3.299	0.9759	-1.269	0.9866	A+	A-	A-
ELA	8	576314	5	B-C	2	12868	0.6428	0.128	0.1721	0.0567	0.6428	0.0002	0.0004	0.5597	-0.3204	-0.2682	-0.2582	0.5597	-0.0035	-0.0106	-0.0401	0.0203	-9.8992	0.8371	-9.8992	0.7751	A-	B-	A-
ELA	8	576299	5	B-K	2	12868	0.451	0.1604	0.451	0.0743	0.313	0.0008	0.0005	0.122	-0.2222	0.122	-0.1369	0.124	-0.0202	-0.0104	0.9174	0.0196	9.9013	1.2885	9.9014	1.4027	A+	A+	A-
ELA	8	576301	5	B-K	2	12868	0.7878	0.056	0.0519	0.7878	0.1008	0.0026	0.0008	0.3985	-0.2488	-0.232	0.3985	-0.1713	-0.0313	-0.0374	-0.9028	0.0233	-5.1491	0.9369	0.451	1.0102	A-	A+	A-
ELA	8	576302	5	B-K	2	12868	0.5487	0.5487	0.0544	0.1654	0.2265	0.0044	0.0006	0.3595	0.3595	-0.2483	-0.1819	-0.1215	-0.0566	-0.0159	0.4374	0.0196	6.001	1.0457	5.4111	1.0609	A-	A-	A+
ELA	8	576295	5	B-V	2	12868	0.5783	0.0352	0.1358	0.5783	0.2498	0.0004	0.0005	0.4002	-0.2139	-0.2188	0.4002	-0.191	-0.0098	-0.0167	0.2902	0.0198	0.111	1.0008	-1.179	0.9863	A-	A-	A-
ELA	8	576303	5	B-V	2	12868	0.2939	0.3579	0.2939	0.1942	0.1526	0.0012	0.0002	0.234	-0.0874	0.234	-0.0677	-0.1025	-0.0255	-0.0109	1.7419	0.0212	9.9011	1.1236	9.9013	1.3396	A-	A-	A-
ELA	8	503814	5	D	2	12868	0.5256	0.1749	0.5256	0.0807	0.217	0.0011	0.0008	0.3617	-0.1175	0.3617	-0.2628	-0.1522	-0.0257	-0.0286	0.5511	0.0196	4.581	1.0343	3.921	1.0426	A+	A+	A+
ELA	8	584080	5	D	1	12868	0.9114	0.0144	0.9114	0.0623	0.0103	0.0012	0.0003	0.272	-0.1513	0.272	-0.1766	-0.1499	-0.0301	-0.021	-2.048	0.0324	-1.509	0.9647	-0.609	0.9732	A-	A-	A-
ELA	8	584099	5	D	1	12868	0.4409	0.1696	0.238	0.4409	0.1493	0.0016	0.0006	0.3112	-0.1879	-0.0818	0.3112	-0.1348	-0.0109	-0.0287	0.9675	0.0197	9.8711	1.0757	9.9011	1.1301	A-	A+	A+
ELA	8	576306	6	A-C	3	12947	0.3006	0.1712	0.2743	0.3006	0.2513	0.0015	0.0012	0.1687	-0.1528	-0.1203	0.1687	0.0831	-0.0459	-0.0108	1.7269	0.0211	9.9012	1.1559	9.9015	1.4686	A-	A-	A-
ELA	8	576307	6	A-K	2	12947	0.4841	0.4841	0.1857	0.1821	0.1463	0.0009	0.0008	0.2024	0.2024	0.0201	-0.1833	-0.1045	-0.0258	-0.017	0.7715	0.0196	9.9012	1.2281	9.9013	1.331	A+	A-	A-
ELA	8	576309	6	A-K	2	12947	0.4608	0.0907	0.3334	0.1125	0.4608	0.0018	0.0008	0.4434	-0.2413	-0.2082	-0.1634	0.4434	-0.0306	-0.0237	0.8869	0.0196	-9.8991	0.9244	-6.4791	0.9312	A-	A-	A+
ELA	8	576310	6	A-K	2	12947	0.7296	0.0614	0.0979	0.7296	0.1071	0.0036	0.0005	0.4417	-0.2534	-0.2639	0.4417	-0.1763	-0.0322	-0.0224	-0.5175	0.0216	-6.8291	0.9307	-5.9091	0.8931	A+	A-	A+
ELA	8	576311	6	A-K	2	12947	0.6034	0.6034	0.1362	0.0449	0.2147	0.0005	0.0004	0.3433	0.3433	-0.2568	-0.2027	-0.0916	0.0008	-0.0162	0.1766	0.0199	6.9811	1.0573	5.8311	1.0749	B-	A-	A-
ELA	8	576312	6	A-K	2	12947	0.5297	0.2109	0.1405	0.5297	0.1138	0.0043	0.0008	0.2659	-0.049	-0.1366	0.2659	-0.1958	-0.0373	-0.0229	0.5465	0.0196	9.9011	1.1441	9.9012	1.2125	A-	A-	A+
ELA	8	576304	6	A-V	2	12947	0.6535	0.6535	0.1196	0.0819	0.1426	0.0012	0.0012	0.3144	0.3144	-0.0427	-0.2638	-0.177	-0.0373	-0.0069	-0.0859	0.0204	9.3511	1.0839	9.9012	1.2319	A-	A+	A+
ELA	8	576313	6	A-V	1	12947	0.5551	0.2449	0.5551	0.1305	0.0684	0.0003	0.0007	0.3888	-0.1784	0.3888	-0.1587	-0.2474	-0.0122	-0.0132	0.4203	0.0197	1.291	1.0099	0.271	1.003	A+	A+	A+
ELA	8	496328	6	B-C	3	51793	0.5014	0.0936	0.272	0.5014	0.1314	0.0015	0.0002	0.3532	-0.2302	-0.0635	0.3532	-0.2376	-0.0235	-0.0118	0.6838	0.0098	9.9011	1.0555	9.9011	1.0859	A-	A-	A-
ELA	8	496332	6	B-K	2	51793	0.871	0.871	0.0506	0.0403	0.0365	0.0008	0.0008	0.493	0.493	-0.2801	-0.2898	-0.2421	-0.0277	-0.0245	-1.5971	0.0139	-9.8992	0.812	-9.8994	0.5536	A-	A-	A+
ELA	8	496333	6	B-K	3	51793	0.7286	0.7286	0.1159	0.1267	0.0274	0.0008	0.0005	0.384	0.384	-0.275	-0.1306	-0.2305	-0.0322	-0.0329	-0.5222	0.0109	-1.069	0.9944	1.711	1.016	A+	A+	A-
ELA	8	496334	6	B-K	3	51793	0.6043	0.047	0.6043	0.1065	0.2406	0.0009	0.0007	0.4264	-0.2897	0.4264	-0.2206	-0.1816	-0.0234	-0.03	0.1665	0.01	-4.809	0.9803	-4.659	0.9709	A-	A+	A+
ELA	8	496329	6	B-V	2	51793	0.5585	0.0338	0.3858	0.0211	0.5585	0.0004	0.0004	0.1853	-0.2432	-0.0411	-0.1905	0.1853	-0.013	-0.0202	0.3993	0.0099	9.9013	1.2511	9.9013	1.343	B-	A+	A+
ELA	8	496336	6	B-V	2	51793	0.8094	0.0625	0.0915	0.8094	0.036	0.0003	0.0003	0.4434	-0.2176	-0.2905	0.4434	-0.199	-0.0196	-0.0189	-1.0657	0.0121	-9.8991	0.9109	-9.8992	0.7606	A-	A-	A-
ELA	8	503812	6	D	2	12947	0.5437	0.2402	0.093	0.1213	0.5437	0.001	0.0008	0.2744	-0.0663	-0.1998	-0.1492	0.2744	-0.0278	-0.0249	0.4772	0.0196	9.9011	1.1459	9.9012	1.2088	A+	A+	A+
ELA	8	584081	6	D	2	12947	0.7229	0.0596	0.038	0.7229	0.177	0.0022	0.0002	0.3397	-0.1819	-0.2394	0.3397	-0.1591	-0.0455	-0.0233	-0.4776	0.0215	3.451	1.0356	3.6311	1.0677	A+	A+	A-
ELA	8	584100	6	D	2	12947	0.4413	0.2357	0.4413	0.161	0.1601	0.0013	0.0006	0.3169	0.0287	0.3169	-0.1533	-0.3041	-0.0266	-0.0292	0.9842	0.0197	9.9011	1.0797	9.9011	1.1354	A+	A-	A-
ELA	8	578065	7	A-C	2	12969	0.3638	0.4145	0.1069	0.3638	0.113	0.0013	0.0004	0.0577	0.1317	-0.1342	0.0577	-0.1551	-0.0546	-0.0058	1.349	0.0201	9.9014	1.3508	9.9016	1.5723	A-	A-	A-
ELA	8	578080	7	A-C	3	12969	0.4802	0.1966	0.2406	0.0811	0.4802	0.0012	0.0003	0.2352	-0.1043	-0.0216	-0.2375	0.2352	-0.0427	-0.0292	0.7625	0.0195	9.9012	1.1875	9.9013	1.2674	A+	A+	A+
ELA	8	578066	7	A-K	2	12969	0.8249	0.8249	0.0573	0.0505	0.0659	0.001	0.0004	0.5328	0.5328	-0.266	-0.2816	-0.3115	-0.0436	-0.0157	-1.2042	0.0249	-9.8992	0.7976	-9.8994	0.6052	A+	A+	A+
ELA	8	578067	7	A-K	2	12969	0.4103	0.1475	0.341	0.1005	0.4103	0.0007	0.0001	0.2725	-0.2478	0.0988	-0.3056	0.2725	-0.0378	-0.0133	1.1102	0.0198	9.9011	1.1356	9.9012	1.2044	A-	A+	A+
ELA	8	578069	7	A-K	2	12969	0.7869	0.0648	0.0736	0.7869	0.0735	0.0012	0.0002	0.5285	-0.2554	-0.318	0.5285	-0.2639	-0.0453	-0.014	-0.9203	0.0233	-9.8992	0.8244	-9.8993	0.6798	A+	A+	A+
ELA	8	578086	7	A-V	2	12969	0.7945	0.1182	0.0426	0.7945	0.044	0.0005	0.0002	0.4131	-0.2593	-0.2236	0.4131	-0.1807	-0.0323	-0.0189	-0.9744	0.0236	-5.5091	0.9306	-5.5691	0.8739	A+	A+	A-
ELA	8	578087	7	A-V	3	12969	0.4029	0.0921	0.3881	0.4029	0.1122	0.0044	0.0003	0.2127	-0.3332	0.0614	0.2127	-0.1042	-0.0716	-0.0143	1.1477	0.0198	9.9012	1.1882	9.9013	1.2991	B-	A-	A-
ELA	8	578088	7	A-V	2	12969	0.721	0.721	0.1036	0.0505	0.1201	0.0045	0.0004	0.3643	0.3643	-0.1705	-0.2276	-0.1774	-0.056	-0.0104	-0.496	0.0215	0.751	1.0077	8.4512	1.1575	A+	A-	A+
ELA	8	503804	7	D	2	12969	0.5113	0.0982	0.2329	0.5113	0.1553	0.0012	0.0012	0.3403	-0.2375	-0.0831	0.3403	-0.171	-0.0341	-0.0345	0.6094	0.0195	8.8811	1.0677	9.9011	1.111	A+	A-	A-
ELA	8	584082	7	D	2	12969	0.4337	0.0747	0.4273	0.4337	0.0625	0.0016	0.0001	0.3031	-0.245	-0.0544	0.3031	-0.2389	-0.0223	-0.0193	0.9927	0.0196	9.9011	1.0894	9.9012	1.171	A-	A+	A-
ELA	8	584101	7	D	1	12969	0.4779	0.1722	0.2211	0.4779	0.1267	0.0014	0.0008	0.371	-0.2299	-0.1095	0.371	-0.1522	-0.0416	-0.0309	0.7738	0.0195	4.481	1.0335	5.5211	1.0599	A+	A-	B-
ELA	8	580550	8	A-C	2	12951	0.4192	0.4031	0.0819	0.4192	0.0947	0.0008	0.0002	0.2584	-0.0913	-0.2135	0.2584	-0.0792	-0.0238	-0.0203	1.108	0.0198	9.9012	1.1514	9.9012	1.2423	A-	A-	A-
ELA	8	580551	8	A-C	2	12951	0.8484	0.0421	0.0647	0.0427	0.8484	0.0014	0.0007	0.4976	-0.2699	-0.2774	-0.2641	0.4976	-0.0515	-0.0266	-1.3693	0.0262	-9.8992	0.8194	-9.8994	0.6421	A+	A-	A+
ELA	8	580552	8	A-C	3	12951	0.6122	0.6122	0.1039	0.1228	0.1576	0.0029	0.0006	0.3605	0.3605	-0.2642	-0.1746	-0.0968	-0.0389	-0.015	0.141	0.02	5.9711	1.0504	7.4211	1.0974	A+	A+	A+
ELA	8	580577	8	A-C	2	12951	0.6468	0.6468	0.0667	0.0571	0.2271	0.0019	0.0003	0.3001	0.3001	-0.2079	-0.1948	-0.1045	-0.0526	-0.0136	-0.0418	0.0204	9.9011	1.1078	9.9013	1.2675	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	8	580554	8	A-K	2	12951	0.5402	0.5402	0.0807	0.1164	0.2567	0.0043	0.0017	0.3526	0.3526	-0.2513	-0.2688	-0.04	-0.0405	-0.0225	0.5059	0.0196	6.5811	1.0514	5.9011	1.0667	A+	A+	A+
ELA	8	580556	8	A-K	3	12951	0.5068	0.134	0.2419	0.1154	0.5068	0.0015	0.0005	0.3603	-0.1556	-0.1467	-0.1937	0.3603	-0.049	-0.0253	0.6719	0.0196	6.8811	1.0527	9.0111	1.1006	A+	A-	A-
ELA	8	580557	8	A-V	2	12951	0.3353	0.1121	0.1225	0.4224	0.3353	0.0072	0.0005	0.1556	-0.1756	-0.2259	0.1291	0.1556	-0.0854	-0.025	1.546	0.0205	9.9012	1.2281	9.9014	1.4176	A+	A+	A-
ELA	8	580576	8	A-V	2	12951	0.6374	0.1156	0.6374	0.1575	0.0882	0.0011	0.0002	0.4221	-0.2112	0.4221	-0.2407	-0.1629	-0.0365	-0.0196	0.0086	0.0203	-2.079	0.9821	-0.259	0.9964	A+	A-	A-
ELA	8	503805	8	D	3	12951	0.6778	0.1001	0.6778	0.0991	0.1215	0.0008	0.0008	0.3896	-0.1796	0.3896	-0.2552	-0.1551	-0.0213	-0.0234	-0.2112	0.0208	0.651	1.0061	0.881	1.0136	A+	A+	A+
ELA	8	584083	8	D	2	12951	0.6084	0.1604	0.1103	0.1182	0.6084	0.0025	0.0002	0.4311	-0.2075	-0.2672	-0.151	0.4311	-0.0289	-0.0249	0.1607	0.02	-2.359	0.9806	-2.499	0.9687	A+	A-	A-
ELA	8	584105	8	D	2	12951	0.4522	0.1713	0.2892	0.4522	0.0862	0.001	0.0002	0.2549	-0.054	-0.1043	0.2549	-0.2078	-0.0231	-0.0126	0.9427	0.0196	9.9011	1.1481	9.9012	1.2285	A-	A+	A-
ELA	8	580561	9	A-C	3	12926	0.6857	0.6857	0.1618	0.0811	0.0658	0.0053	0.0003	0.5197	0.5197	-0.251	-0.2908	-0.2655	-0.0473	-0.0123	-0.2745	0.0211	-9.8991	0.8657	-9.8992	0.7815	A+	A+	A+
ELA	8	580562	9	A-C	2	12926	0.7691	0.1519	0.7691	0.0467	0.0315	0.0005	0.0002	0.4757	-0.2903	0.4757	-0.2578	-0.2344	-0.0275	-0.0207	-0.7898	0.0229	-9.1191	0.8952	-8.9492	0.8112	A-	A-	A+
ELA	8	580558	9	A-K	3	12926	0.478	0.288	0.1401	0.478	0.0919	0.0016	0.0004	0.3754	-0.1472	-0.197	0.3754	-0.1778	-0.0233	-0.0094	0.8105	0.0197	3.551	1.0277	5.4811	1.0635	A-	A-	A-
ELA	8	580559	9	A-K	2	12926	0.7261	0.1159	0.7261	0.0925	0.0583	0.004	0.0032	0.4535	-0.212	0.4535	-0.2464	-0.2609	-0.0393	0.0117	-0.5129	0.0218	-7.6891	0.9207	-4.2191	0.9211	B+	A+	A+
ELA	8	580563	9	A-K	3	12926	0.8448	0.0573	0.8448	0.0547	0.0424	0.0005	0.0003	0.4709	-0.2672	0.4709	-0.2687	-0.2313	-0.0216	-0.0136	-1.3685	0.0262	-9.8992	0.8462	-9.8993	0.6696	A+	A-	A-
ELA	8	580566	9	A-K	3	12926	0.7246	0.7246	0.0809	0.1325	0.0607	0.0009	0.0004	0.3413	0.3413	-0.1671	-0.1963	-0.1635	-0.0319	-0.0187	-0.5039	0.0218	3.531	1.0377	6.4011	1.127	B+	A+	A+
ELA	8	580560	9	A-V	2	12926	0.7243	0.1444	0.7243	0.0812	0.048	0.0019	0.0003	0.4828	-0.2404	0.4828	-0.2681	-0.2591	-0.0474	-0.0344	-0.502	0.0218	-9.7991	0.9001	-9.3092	0.8327	A-	A-	A-
ELA	8	580567	9	A-V	2	12926	0.3431	0.4689	0.0431	0.1441	0.3431	0.0005	0.0003	0.3069	-0.0457	-0.2468	-0.2046	0.3069	-0.0252	-0.0201	1.5086	0.0206	8.7011	1.0781	9.9012	1.2088	A+	A-	A-
ELA	8	503808	9	D	3	12926	0.771	0.0918	0.771	0.0768	0.0594	0.0006	0.0004	0.4674	-0.1783	0.4674	-0.321	-0.2478	-0.0202	-0.0187	-0.8024	0.023	-8.2791	0.904	-7.4592	0.8396	A-	A+	A+
ELA	8	584084	9	D	2	12926	0.7333	0.0614	0.7333	0.0919	0.111	0.0022	0.0002	0.458	-0.1967	0.458	-0.2734	-0.239	-0.0218	-0.0207	-0.5573	0.022	-5.6491	0.9402	-7.7091	0.8556	A+	A-	A-
ELA	8	584106	9	D	2	12926	0.6721	0.0749	0.1526	0.6721	0.0996	0.0007	0.0002	0.4907	-0.2146	-0.289	0.4907	-0.2305	-0.0337	-0.0017	-0.1973	0.0209	-8.6491	0.9207	-8.7791	0.8663	A+	B-	A-
MATH	3	394375	0	A-F	1	116892	0.3984	0.3984	0.0752	0.4424	0.0741	0.0089	0.001	0.4018	0.4018	-0.1009	-0.2116	-0.2221	-0.0662	-0.0191	1.1356	0.0067	9.9011	1.0761	9.9011	1.1204	A-	A+	A+
MATH	3	408678	0	A-F	2	116892	0.7259	0.0526	0.1045	0.1121	0.7259	0.0038	0.001	0.399	-0.2285	-0.0889	-0.3054	0.399	-0.0407	-0.0276	-0.6188	0.0072	7.761	1.0267	9.9012	1.218	A+	A+	A+
MATH	3	495180	0	A-F	2	116892	0.3965	0.3965	0.2187	0.2374	0.1365	0.0098	0.0011	0.3957	0.3957	-0.0685	-0.1857	-0.2328	-0.0597	-0.0139	1.1523	0.0067	9.9011	1.0958	9.9012	1.1552	A-	A-	A-
MATH	3	299547	0	A-T	1	116892	0.7307	0.0289	0.0715	0.7307	0.1614	0.0069	0.0007	0.5692	-0.1904	-0.2722	0.5692	-0.3941	-0.0591	-0.0235	-0.6057	0.0072	-9.8992	0.8248	-9.8993	0.7159	A-	A-	A-
MATH	3	313993	0	A-T	1	116892	0.7931	0.0333	0.7931	0.068	0.0947	0.0103	0.0007	0.5328	-0.2141	0.5328	-0.271	-0.3492	-0.061	-0.0311	-1.0454	0.0078	-9.8992	0.8372	-9.8993	0.6846	A-	A-	A-
MATH	3	314962	0	A-T	2	116892	0.5598	0.1408	0.5598	0.1402	0.1448	0.0133	0.0011	0.5758	-0.1869	0.5758	-0.2479	-0.3609	-0.0586	-0.0303	0.3198	0.0066	-9.8991	0.8757	-9.8992	0.8424	A-	A+	A+
MATH	3	408662	0	A-T	2	116892	0.3949	0.1552	0.3949	0.3073	0.1334	0.0085	0.0007	0.3693	-0.2636	0.3693	-0.1067	-0.0903	-0.0523	-0.0131	1.1944	0.0067	9.9011	1.1093	9.9012	1.2179	A+	A+	A+
MATH	3	408683	0	A-T	2	116892	0.4672	0.31	0.1158	0.0923	0.4672	0.0137	0.0009	0.511	-0.224	-0.2904	-0.1766	0.511	-0.0574	-0.0207	0.8534	0.0066	-9.899	0.956	-5.179	0.979	A-	A-	A-
MATH	3	408684	0	A-T	1	116892	0.5961	0.1924	0.0837	0.5961	0.1172	0.0094	0.0011	0.4803	-0.238	-0.2601	0.4803	-0.1955	-0.0633	-0.0238	0.156	0.0066	-5.619	0.9845	-1.919	0.991	A-	A-	A+
MATH	3	408847	0	A-T	2	116892	0.712	0.0666	0.1385	0.0735	0.712	0.0088	0.0007	0.4712	-0.2439	-0.2303	-0.2486	0.4712	-0.0825	-0.018	-0.4625	0.007	-9.899	0.9511	-9.8991	0.8824	A-	A-	A+
MATH	3	265191	0	B-O	2	116892	0.4615	0.4615	0.3548	0.1052	0.0679	0.0095	0.0012	0.2864	0.2864	-0.1305	-0.0982	-0.1696	-0.0697	-0.0224	0.8534	0.0066	9.9012	1.2299	9.9013	1.3333	A+	A+	A+
MATH	3	300096	0	B-O	1	116892	0.6837	0.1039	0.1274	0.6837	0.0738	0.0103	0.0009	0.5171	-0.268	-0.2715	0.5171	-0.2367	-0.0563	-0.02	-0.3493	0.0069	-9.8991	0.919	-9.8991	0.8543	A-	A+	A+
MATH	3	313277	0	B-O	2	116892	0.5489	0.5489	0.1495	0.1967	0.0896	0.0143	0.0009	0.4445	0.4445	-0.1923	-0.1904	-0.2257	-0.0991	-0.0228	0.4878	0.0065	9.901	1.0382	9.9011	1.0504	A+	A+	A+
MATH	3	313470	0	B-O	2	116892	0.5734	0.2569	0.5734	0.1217	0.0386	0.0083	0.0012	0.4813	-0.2665	0.4813	-0.2379	-0.1975	-0.0548	-0.0242	0.2869	0.0066	-4.379	0.9881	-3.179	0.986	A-	A-	A-
MATH	3	314720	0	B-O	2	116892	0.6189	0.0656	0.0927	0.6189	0.2079	0.0139	0.001	0.556	-0.2456	-0.069	0.556	-0.4454	-0.0662	-0.0229	0.0265	0.0067	-9.8991	0.8838	-9.8991	0.8589	A+	A+	A+
MATH	3	314725	0	B-O	2	116892	0.5502	0.5502	0.1458	0.1191	0.1775	0.0065	0.001	0.4416	0.4416	-0.2617	-0.2103	-0.1425	-0.0523	-0.0179	0.4041	0.0066	9.901	1.0427	8.871	1.0383	A-	A+	A+
MATH	3	314970	0	B-O	1	116892	0.5937	0.0745	0.026	0.5937	0.2966	0.0076	0.0015	0.3299	-0.2576	-0.1466	0.3299	-0.1416	-0.06	-0.0299	0.0581	0.0067	9.9012	1.1945	9.9012	1.2237	A-	A-	A-
MATH	3	394379	0	B-O	1	116892	0.6641	0.6641	0.0929	0.0894	0.1407	0.0118	0.0012	0.4944	0.4944	-0.2521	-0.2214	-0.2593	-0.0562	-0.0283	-0.2571	0.0069	-9.899	0.9543	-9.8991	0.9356	A+	A+	A+
MATH	3	408687	0	B-O	2	116892	0.6063	0.6063	0.1461	0.1717	0.0666	0.0085	0.0008	0.5158	0.5158	-0.2122	-0.2913	-0.243	-0.0661	-0.0195	0.1255	0.0066	-9.8991	0.9401	-9.8991	0.9074	A+	A+	A-
MATH	3	408707	0	B-O	2	116892	0.6196	0.1343	0.6196	0.1265	0.1074	0.0115	0.0007	0.5042	-0.1915	0.5042	-0.2537	-0.2813	-0.071	-0.0181	-0.0004	0.0067	-9.899	0.9574	-9.8991	0.9199	A+	A+	A+
MATH	3	408845	0	B-O	2	116892	0.3791	0.336	0.3791	0.1992	0.0793	0.0052	0.0012	0.4279	-0.164	0.4279	-0.1817	-0.1997	-0.0393	-0.0227	1.3471	0.0068	9.901	1.0429	9.9011	1.1463	A-	A+	A+
MATH	3	299414	0	C-G	1	116892	0.762	0.0843	0.0718	0.0737	0.762	0.0075	0.0007	0.5149	-0.2751	-0.2574	-0.2728	0.5149	-0.0515	-0.0251	-0.781	0.0074	-9.8991	0.8646	-9.8993	0.7435	A+	A-	A+
MATH	3	314132	0	C-G	1	116892	0.6791	0.6791	0.1845	0.0707	0.0577	0.0054	0.0027	0.4956	0.4956	-0.2963	-0.2465	-0.2001	-0.0515	-0.0551	-0.2562	0.0069	-9.8991	0.9306	-9.8991	0.8843	A-	A-	A-
MATH	3	314752	0	C-G	1	116892	0.5257	0.1025	0.1492	0.5257	0.2112	0.0093	0.002	0.3577	-0.0598	-0.1894	0.3577	-0.2117	-0.0582	-0.0226	0.5495	0.0065	9.9012	1.1549	9.9012	1.191	A+	A-	A+
MATH	3	408537	0	C-G	2	116892	0.4481	0.2436	0.4481	0.1042	0.1915	0.0086	0.0041	0.4279	-0.2455	0.4279	-0.1737	-0.1178	-0.0597	-0.0385	0.8783	0.0066	9.9011	1.0587	9.9011	1.0879	A-	A-	A-
MATH	3	408539	0	C-G	1	116892	0.4806	0.1373	0.1287	0.2402	0.4806	0.0117	0.0014	0.3068	-0.1374	-0.1752	-0.0933	0.3068	-0.0623	-0.021	0.7793	0.0066	9.9012	1.2173	9.9013	1.2905	A+	A+	A+
MATH	3	408542	0	C-G	1	116892	0.6911	0.1609	0.0799	0.0597	0.6911	0.0062	0.0022	0.4614	-0.2759	-0.2232	-0.1907	0.4614	-0.0498	-0.0474	-0.357	0.0069	-9.899	0.9675	-5.569	0.9659	A+	A+	A+
MATH	3	479183	0	C-G	1	116892	0.5447	0.1291	0.5447	0.0901	0.2242	0.0106	0.0012	0.4075	-0.1707	0.4075	-0.1732	-0.2092	-0.0789	-0.0216	0.3938	0.0066	9.9011	1.0917	9.9011	1.1122	A+	A-	A-
MATH	3	299422	0	D-M	1	116892	0.7298	0.0208	0.0895	0.7298	0.1546	0.0044	0.001	0.4035	-0.1668	-0.3302	0.4035	-0.1585	-0.0433	-0.0312	-0.5995	0.0072	3.891	1.0133	9.9011	1.1164	A-	A-	A+
MATH	3	302218	0	D-M	2	116892	0.5918	0.3443	0.0295	0.0265	0.5918	0.0043	0.0036	0.5809	-0.5182	-0.1004	-0.0936	0.5809	-0.055	-0.0612	0.1635	0.0066	-9.8991	0.8648	-9.8992	0.8282	A+	A-	A-
MATH	3	314246	0	D-M	2	116892	0.748	0.105	0.748	0.0504	0.0903	0.0052	0.0011	0.459	-0.2565	0.459	-0.2373	-0.2216	-0.0552	-0.0378	-0.7202	0.0073	-9.899	0.9583	-9.8991	0.8674	A+	A-	A-
MATH	3	314412	0	D-M	2	116892	0.808	0.0965	0.0507	0.808	0.0395	0.0047	0.0006	0.5234	-0.3128	-0.2854	0.5234	-0.2444	-0.0431	-0.0259	-1.1382	0.0079	-9.8992	0.8305	-9.8993	0.6858	A+	A+	A-
MATH	3	315858	0	D-M	2	116892	0.4614	0.1434	0.2554	0.4614	0.125	0.0094	0.0054	0.5312	-0.2154	-0.1712	0.5312	-0.3239	-0.0584	-0.0262	0.8213	0.0066	-9.8991	0.9294	-9.8991	0.902	A-	A-	A-
MATH	3	408717	0	D-M	1	116892	0.5227	0.1772	0.1909	0.095	0.5227	0.0069	0.0073	0.3781	-0.1797	-0.1894	-0.1294	0.3781	-0.0455	-0.0478	0.5322	0.0065	9.9011	1.1259	9.9012	1.1688	A+	A-	A+
MATH	3	408718	0	D-M	2	116892	0.4927	0.1302	0.1505	0.211	0.4927	0.0149	0.0008	0.4573	-0.1509	-0.1502	-0.285	0.4573	-0.0611	-0.0168	0.7226	0.0065	9.021	1.0246	9.901	1.0454	A-	A-	A-
MATH	3	408720	0	D-M	1	116892	0.4766	0.1891	0.1028	0.2151	0.4766	0.0145	0.002	0.5647	-0.2462	-0.2509	-0.249	0.5647	-0.0568	-0.0074	0.7202	0.0065	-9.8991	0.8874	-9.8991	0.8726	A-	A-	A-
MATH	3	408726	0	D-M	1	116892	0.5727	0.5727	0.0647	0.1761	0.1731	0.0126	0.0009	0.6195	0.6195	-0.1692	-0.2603	-0.4182	-0.0616	-0.0203	0.332	0.0066	-9.8992	0.8121	-9.8992	0.7544	A-	A-	A-
MATH	3	408731	0	D-M	2	116892	0.8049	0.063	0.0504	0.8049	0.0743	0.0063	0.001	0.3957	-0.2487	-0.158	0.3957	-0.2164	-0.0533	-0.0254	-1.0431	0.0078	-9.8991	0.9442	0.981	1.009	A+	A+	A+
MATH	3	408733	0	D-M	1	116892	0.4587	0.2177	0.4587	0.218	0.098	0.0062	0.0014	0.4231	-0.2247	0.4231	-0.1354	-0.1908	-0.0529	-0.0345	0.8006	0.0066	9.9011	1.058	9.9011	1.0825	A-	A-	A+
MATH	3	479189	0	D-M	1	116892	0.3925	0.3333	0.1023	0.3925	0.1622	0.0083	0.0013	0.3926	-0.2153	-0.2007	0.3926	-0.0625	-0.0631	-0.0177	1.2403	0.0067	9.9011	1.0946	9.9012	1.1816	A-	A-	A-
MATH	3	479164	1	A-F	1	13422	0.5018	0.5018	0.1812	0.1051	0.1623	0.008	0.0416	0.3081	0.3081	-0.2089	-0.2086	-0.0721	-0.0609	0.1124	0.5115	0.0184	9.9012	1.1832	9.9013	1.2497	A-	A-	A+
MATH	3	566158	1	A-F	2	13422	0.1144	0.1144	0.2225	0.214	0.4425	0.0051	0.0016	-0.126	-0.126	0.0669	-0.1038	0.1181	-0.0453	-0.0146	3.1115	0.0275	9.9013	1.3205	9.904	3.9655	A-	A-	A+
MATH	3	579688	1	A-T	2	13422	0.5838	0.1755	0.5838	0.1489	0.0709	0.02	0.001	0.4937	-0.1983	0.4937	-0.2819	-0.2371	-0.0425	-0.0248	0.1319	0.0185	-8.4091	0.9366	-8.8391	0.8896	A-	A-	A-
MATH	3	495209	1	B-O	2	13422	0.351	0.2665	0.1224	0.351	0.2273	0.0314	0.0014	0.3416	0.0179	-0.196	0.3416	-0.2444	-0.0223	-0.0101	1.3519	0.0192	9.4311	1.0854	9.9013	1.2694	A-	A-	A+
MATH	3	495213	1	B-O	2	13422	0.6573	0.6573	0.096	0.1591	0.0765	0.01	0.001	0.3727	0.3727	-0.1493	-0.2872	-0.0794	-0.0619	-0.0175	-0.2448	0.019	6.5811	1.0543	5.7711	1.0932	A+	A+	A+
MATH	3	579669	1	B-O	2	13422	0.577	0.2263	0.1168	0.577	0.0625	0.0156	0.0017	0.4412	-0.1945	-0.2338	0.4412	-0.2303	-0.0367	-0.0278	0.1835	0.0185	1.091	1.0084	-0.749	0.9904	A-	A+	A+
MATH	3	565996	1	C-G	2	13422	0.4386	0.3329	0.4386	0.144	0.0715	0.0124	0.0005	0.4095	-0.1886	0.4095	-0.1388	-0.2281	-0.0561	-0.0263	0.9143	0.0186	5.211	1.0423	5.2311	1.0631	A-	A-	A-
MATH	3	408730	1	D-M	1	13422	0.4413	0.2477	0.1864	0.4413	0.117	0.0069	0.0007	0.4948	-0.259	-0.1224	0.4948	-0.2498	-0.0649	-0.0195	0.8867	0.0186	-8.0391	0.9372	-2.989	0.9652	A-	A-	A-
MATH	3	579684	2	A-F	1	12909	0.3807	0.184	0.2931	0.3807	0.137	0.0042	0.0009	0.3906	-0.3128	-0.0466	0.3906	-0.1274	-0.0477	-0.0129	1.2911	0.0199	6.4211	1.0568	7.3511	1.1071	A-	A+	A-
MATH	3	493229	2	A-T	2	12909	0.6536	0.6536	0.2039	0.0671	0.0696	0.0047	0.0011	0.5183	0.5183	-0.2397	-0.2971	-0.2809	-0.0503	-0.0241	-0.1856	0.0202	-9.8991	0.8996	-8.8691	0.8541	A+	A-	A+
MATH	3	394378	2	B-O	2	12909	0.663	0.0361	0.0675	0.663	0.2195	0.0128	0.0011	0.5694	-0.1941	-0.1626	0.5694	-0.4458	-0.0595	-0.0277	-0.2527	0.0203	-9.8992	0.8328	-9.8993	0.7371	A-	A+	A+
MATH	3	497737	2	B-O	2	12909	0.4565	0.4565	0.2888	0.1446	0.086	0.0225	0.0015	0.3323	0.3323	-0.0163	-0.2444	-0.2184	-0.0677	-0.0235	0.8657	0.0194	9.9011	1.1445	9.9012	1.2092	A-	A+	A+
MATH	3	497739	2	B-O	2	12909	0.611	0.0824	0.1595	0.611	0.1384	0.0079	0.0008	0.5306	-0.2415	-0.2793	0.5306	-0.2474	-0.0419	-0.0312	0.0301	0.0198	-9.8991	0.894	-9.8992	0.8425	A-	A-	A-
MATH	3	479184	2	C-G	2	12909	0.5314	0.5314	0.164	0.1412	0.1569	0.0038	0.0027	0.4637	0.4637	-0.182	-0.1659	-0.2796	-0.0552	-0.0216	0.4755	0.0194	-1.219	0.9901	-1.169	0.9849	A-	A-	A+
MATH	3	497746	2	C-G	2	12909	0.3075	0.1251	0.4924	0.0659	0.3075	0.0076	0.0015	0.2637	-0.2109	0.0079	-0.2015	0.2637	-0.064	-0.0076	1.7047	0.0207	9.9012	1.1534	9.9015	1.5037	A-	A+	A-
MATH	3	579661	2	D-M	2	12909	0.7751	0.0577	0.7751	0.0532	0.1091	0.0041	0.0007	0.5845	-0.2318	0.5845	-0.2376	-0.4256	-0.0496	-0.0281	-0.9407	0.0226	-9.8992	0.7518	-9.8994	0.5849	A-	A-	A+
MATH	3	579683	3	A-F	2	12961	0.579	0.579	0.1589	0.1552	0.1001	0.006	0.0006	0.4257	0.4257	-0.2326	-0.1678	-0.1981	-0.0561	-0.0239	0.2362	0.0194	2.351	1.019	0.811	1.0106	A+	A-	A-
MATH	3	566160	3	A-T	1	12961	0.4929	0.1032	0.1805	0.1893	0.4929	0.0308	0.0035	0.4309	-0.248	-0.1408	-0.186	0.4309	-0.0796	0.0128	0.6579	0.0192	0.641	1.005	1.371	1.016	A+	A+	A+
MATH	3	579674	3	B-O	2	12961	0.4858	0.1812	0.4858	0.147	0.1789	0.0064	0.0008	0.3739	-0.1532	0.3739	-0.1797	-0.1586	-0.0379	-0.0147	0.717	0.0192	9.3011	1.0748	8.2911	1.0999	A+	A+	A+
MATH	3	579679	3	B-O	2	12961	0.2472	0.2514	0.2626	0.2472	0.2276	0.0105	0.0008	0.1808	-0.1144	0.0503	0.1808	-0.1085	-0.0443	-0.0168	2.0634	0.0218	9.9012	1.203	9.9017	1.6603	A-	A+	A+
MATH	3	497754	3	C-G	2	12961	0.2014	0.2823	0.1877	0.3149	0.2014	0.0123	0.0014	0.0819	-0.0893	-0.159	0.1636	0.0819	-0.0578	-0.0054	2.3847	0.0232	9.9013	1.2989	9.902	1.977	A+	A+	A-
MATH	3	497823	3	C-G	2	12961	0.6143	0.1141	0.0451	0.6143	0.2189	0.0061	0.0015	0.4416	-0.2878	-0.1603	0.4416	-0.2052	-0.054	-0.029	0.0742	0.0195	-0.839	0.9931	-2.809	0.9608	A+	A-	A-
MATH	3	493237	3	D-M	1	12961	0.4005	0.2461	0.4005	0.1477	0.2001	0.0033	0.0022	0.4854	-0.1818	0.4854	-0.1996	-0.2146	-0.0278	-0.0268	1.1379	0.0195	-7.9091	0.936	-4.1691	0.9482	A-	A-	A-
MATH	3	493241	3	D-M	1	12961	0.7763	0.0541	0.1048	0.7763	0.0508	0.0137	0.0004	0.3392	-0.2277	-0.1555	0.3392	-0.1739	-0.0347	-0.0015	-0.8826	0.0222	2.521	1.0289	3.7511	1.0941	A+	A-	A-
MATH	3	495184	4	A-F	2	12964	0.3594	0.3072	0.1863	0.139	0.3594	0.0074	0.0008	0.3325	-0.05	-0.1153	-0.2521	0.3325	-0.0488	-0.0076	1.3919	0.0207	9.1811	1.0866	9.9012	1.2125	A+	A+	A+
MATH	3	579687	4	A-T	2	12964	0.3766	0.1442	0.3478	0.3766	0.1222	0.0066	0.0026	0.1938	-0.1758	0.1219	0.1938	-0.258	-0.0632	-0.0114	1.2979	0.0205	9.9013	1.2618	9.9015	1.4524	A-	A+	A-
MATH	3	497744	4	B-O	2	12964	0.5907	0.1201	0.1081	0.1695	0.5907	0.0111	0.0004	0.5219	-0.2543	-0.2709	-0.2176	0.5219	-0.0777	-0.0012	0.1884	0.0201	-9.8991	0.8953	-9.8992	0.8473	A-	A-	A-
MATH	3	579666	4	B-O	2	12964	0.5494	0.2547	0.5494	0.0865	0.0983	0.0106	0.0006	0.4474	-0.2831	0.4474	-0.2155	-0.1016	-0.0762	-0.0256	0.4022	0.02	-1.309	0.9893	-2.229	0.972	A-	A-	A-
MATH	3	497756	4	C-G	2	12964	0.507	0.1335	0.507	0.1885	0.1581	0.0116	0.0013	0.4217	-0.1587	0.4217	-0.2199	-0.1757	-0.0569	-0.0175	0.6186	0.0199	2.781	1.0227	1.981	1.0241	A+	A-	A+
MATH	3	579646	4	C-G	2	12964	0.1874	0.283	0.2999	0.2157	0.1874	0.0136	0.0005	0.1066	-0.0887	0.0024	0.0123	0.1066	-0.0679	0.0021	2.497	0.0249	9.9012	1.2311	9.902	2.0029	A+	A-	A-
MATH	3	493252	4	D-M	1	12964	0.4999	0.1679	0.1031	0.4999	0.2239	0.0047	0.0004	0.3979	-0.2555	-0.1841	0.3979	-0.1066	-0.043	-0.0035	0.6548	0.0199	5.881	1.0487	5.4511	1.067	A-	A-	A-
MATH	3	579656	4	D-M	2	12964	0.4855	0.1004	0.2814	0.1165	0.4855	0.0147	0.0015	0.3614	-0.2864	-0.0573	-0.1909	0.3614	-0.0563	-0.0201	0.7285	0.0199	9.9011	1.0984	9.9012	1.1576	A+	A+	A+
MATH	3	495198	5	A-F	2	12950	0.4405	0.1281	0.3148	0.4405	0.109	0.0066	0.0009	0.201	-0.1045	0.0238	0.201	-0.2275	-0.06	-0.0047	0.9499	0.0201	9.9013	1.2665	9.9014	1.3698	A+	A-	A+
MATH	3	566159	5	A-F	2	12950	0.4552	0.233	0.1781	0.4552	0.1256	0.0062	0.0019	0.3343	-0.0129	-0.2664	0.3343	-0.1565	-0.0692	-0.0417	0.8743	0.02	9.9011	1.1129	9.9012	1.161	A+	A-	A-
MATH	3	479163	5	A-T	1	12950	0.7901	0.0669	0.088	0.0476	0.7901	0.0066	0.0007	0.4986	-0.259	-0.2818	-0.2601	0.4986	-0.0333	-0.0159	-0.9967	0.0236	-9.8992	0.8314	-9.8993	0.749	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	3	495210	5	B-O	1	12950	0.7974	0.7974	0.1016	0.0615	0.0308	0.0076	0.0012	0.4642	0.4642	-0.2588	-0.2706	-0.218	-0.0494	-0.0421	-1.049	0.0238	-9.8091	0.8798	-9.8993	0.7297	A+	A+	A-
MATH	3	495212	5	B-O	2	12950	0.3069	0.4555	0.3069	0.1412	0.0846	0.0106	0.0012	0.1736	0.1453	0.1736	-0.2539	-0.2133	-0.0486	0.0074	1.6785	0.0214	9.9013	1.2501	9.9015	1.5469	A-	A-	A-
MATH	3	497753	5	C-G	2	12950	0.5126	0.1587	0.5126	0.1324	0.1819	0.0131	0.0014	0.3561	-0.2069	0.3561	-0.2434	-0.0275	-0.0754	-0.0198	0.5811	0.0199	9.9011	1.0955	9.4511	1.1191	A+	A+	A+
MATH	3	394382	5	D-M	2	12950	0.5792	0.1802	0.5792	0.1467	0.0788	0.0138	0.0012	0.4008	-0.261	0.4008	-0.1536	-0.1322	-0.0577	-0.0233	0.2397	0.0201	4.561	1.0382	2.011	1.0271	B-	A-	A+
MATH	3	493246	5	D-M	2	12950	0.1805	0.4775	0.1883	0.1805	0.1471	0.0063	0.0005	0.0163	0.1417	-0.2195	0.0163	0.0384	-0.0594	-0.0072	2.5372	0.0252	9.9013	1.2962	9.9024	2.3858	A-	A-	A-
MATH	3	495193	6	A-F	1	12952	0.3832	0.3832	0.2039	0.1713	0.2354	0.0053	0.0009	0.3946	0.3946	-0.1937	-0.2018	-0.0781	-0.0543	-0.0217	1.2718	0.0206	2.991	1.0271	8.7611	1.1279	A-	A-	A-
MATH	3	493231	6	A-T	1	12952	0.4831	0.154	0.2752	0.4831	0.0771	0.0093	0.0012	0.5314	-0.1335	-0.4046	0.5314	-0.1175	-0.0476	-0.0213	0.746	0.02	-9.8991	0.8904	-9.8991	0.8629	A-	A-	A-
MATH	3	579686	6	A-T	2	12952	0.4519	0.2005	0.4519	0.112	0.2158	0.0187	0.0011	0.4256	-0.1709	0.4256	-0.1976	-0.166	-0.0901	-0.0175	0.9075	0.0201	1.771	1.015	2.941	1.0373	A-	A+	A-
MATH	3	579642	6	B-O	1	12952	0.5293	0.1555	0.5293	0.1119	0.1953	0.0073	0.0008	0.3022	-0.1936	0.3022	-0.1185	-0.097	-0.045	-0.0353	0.5083	0.02	9.9012	1.1705	9.9012	1.2166	A-	A-	A-
MATH	3	579671	6	B-O	2	12952	0.5705	0.1965	0.5705	0.1306	0.0941	0.0073	0.001	0.468	-0.2957	0.468	-0.1831	-0.1681	-0.0312	-0.0226	0.2951	0.0201	-4.749	0.961	-3.279	0.9556	A-	A+	A+
MATH	3	497745	6	C-G	1	12952	0.7915	0.0529	0.7915	0.0686	0.0724	0.0139	0.0006	0.3453	-0.1736	0.3453	-0.1752	-0.1908	-0.059	-0.0302	-1.0011	0.0236	0.551	1.0067	3.2611	1.0933	A+	A+	A+
MATH	3	493236	6	D-M	2	12952	0.5374	0.1858	0.1711	0.0977	0.5374	0.0038	0.0041	0.4548	-0.256	-0.2347	-0.113	0.4548	-0.0447	-0.0388	0.4662	0.02	-1.899	0.9844	-1.309	0.9831	A-	A-	A-
MATH	3	579654	6	D-M	2	12952	0.2593	0.2021	0.4663	0.0592	0.2593	0.0127	0.0004	0.3187	-0.3564	0.122	-0.205	0.3187	-0.0772	-0.0201	2.0015	0.0226	6.1111	1.0712	9.9013	1.3245	A+	A-	A+
MATH	3	408672	7	A-F	1	12921	0.7491	0.0918	0.7491	0.082	0.0713	0.005	0.0008	0.4882	-0.3032	0.4882	-0.1809	-0.2733	-0.0443	-0.0373	-0.7051	0.0224	-9.8991	0.8851	-9.8992	0.7814	A+	A-	A-
MATH	3	493228	7	A-T	2	12921	0.5356	0.1774	0.5356	0.1266	0.1538	0.0057	0.0009	0.5143	-0.2251	0.5143	-0.2178	-0.2585	-0.0563	-0.0193	0.4878	0.0201	-9.8991	0.9156	-8.1591	0.8995	A-	A-	A-
MATH	3	566036	7	A-T	2	12921	0.5122	0.2998	0.0946	0.5122	0.0698	0.023	0.0006	0.5479	-0.3096	-0.2866	0.5479	-0.1674	-0.0336	-0.0185	0.6083	0.02	-9.8991	0.8762	-9.8991	0.8539	A-	A-	A-
MATH	3	497732	7	B-O	2	12921	0.3846	0.402	0.3846	0.0934	0.1075	0.0111	0.0015	0.4068	-0.164	0.4068	-0.2016	-0.1661	-0.0639	-0.0188	1.2763	0.0206	2.391	1.0215	6.5311	1.0944	A-	A+	A-
MATH	3	579673	7	B-O	1	12921	0.5253	0.182	0.1398	0.5253	0.1399	0.0112	0.0016	0.4789	-0.2229	-0.1928	0.4789	-0.2296	-0.0532	-0.0251	0.5406	0.0201	-5.239	0.9573	-4.5491	0.9437	A+	A+	A+
MATH	3	579677	7	B-O	2	12921	0.7551	0.7551	0.0926	0.0656	0.0779	0.0083	0.0004	0.3148	0.3148	-0.1551	-0.2104	-0.1219	-0.0579	-0.0183	-0.7443	0.0226	5.9311	1.0675	7.5812	1.1917	A+	A+	A+
MATH	3	565995	7	C-G	2	12921	0.3439	0.1272	0.0901	0.4292	0.3439	0.0083	0.0013	0.1701	-0.2082	-0.1875	0.0962	0.1701	-0.05	-0.0211	1.5015	0.021	9.9013	1.3178	9.9015	1.5434	A+	A-	A+
MATH	3	579663	7	D-M	2	12921	0.5746	0.1018	0.5746	0.0705	0.2476	0.0041	0.0014	0.3396	-0.2522	0.3396	-0.1879	-0.0926	-0.0364	-0.0323	0.2854	0.0202	9.9011	1.1247	9.9012	1.1818	A-	A-	A+
MATH	3	495190	8	A-F	2	12943	0.4719	0.1631	0.1965	0.4719	0.1506	0.0164	0.0015	0.439	-0.2609	-0.1509	0.439	-0.1587	-0.0504	0.0099	0.8111	0.0202	2.501	1.0215	2.681	1.0354	A-	A-	A+
MATH	3	493220	8	A-T	1	12943	0.6328	0.1378	0.0572	0.6328	0.1653	0.0062	0.0008	0.5939	-0.2706	-0.1987	0.5939	-0.3784	-0.0753	-0.016	-0.0415	0.0207	-9.8992	0.8149	-9.8993	0.7266	A-	A-	A-
MATH	3	497738	8	B-O	2	12943	0.4627	0.3365	0.1	0.0925	0.4627	0.0076	0.0007	0.5117	-0.3178	-0.1295	-0.21	0.5117	-0.058	-0.011	0.8595	0.0203	-9.1291	0.9237	-3.9391	0.9493	A+	A-	A-
MATH	3	579675	8	B-O	1	12943	0.8133	0.1228	0.8133	0.0322	0.0233	0.0077	0.0006	0.4106	-0.2479	0.4106	-0.2261	-0.2176	-0.0615	-0.0205	-1.1855	0.0246	-5.6791	0.9254	-2.7391	0.915	A+	A+	A+
MATH	3	497750	8	C-G	2	12943	0.6848	0.6848	0.0617	0.1694	0.0785	0.0039	0.0016	0.4535	0.4535	-0.2149	-0.307	-0.146	-0.0491	-0.0364	-0.3361	0.0213	-3.559	0.966	-2.269	0.9556	A-	A-	A-
MATH	3	497751	8	C-G	2	12943	0.4826	0.066	0.4826	0.2227	0.2144	0.0132	0.0012	0.4003	-0.1401	0.4003	-0.1714	-0.2044	-0.0829	-0.018	0.7552	0.0202	8.2911	1.0722	6.7311	1.0903	A-	A-	A-
MATH	3	493218	8	D-M	1	12943	0.5984	0.1846	0.5984	0.1446	0.0505	0.0212	0.0008	0.4629	-0.2071	0.4629	-0.2358	-0.2427	-0.0722	-0.0046	0.1453	0.0205	-1.529	0.9867	-1.739	0.9735	A+	A-	A-
MATH	3	493239	8	D-M	1	12943	0.6543	0.1261	0.0903	0.6543	0.1231	0.0053	0.0009	0.5819	-0.2674	-0.3011	0.5819	-0.2941	-0.0573	-0.0308	-0.161	0.0209	-9.8992	0.8212	-9.8992	0.7612	A-	A-	A-
MATH	3	579685	9	A-F	2	12870	0.4148	0.2032	0.4148	0.2676	0.1068	0.0059	0.0017	0.246	-0.1422	0.246	-0.0743	-0.0878	-0.0407	-0.0213	1.1058	0.0202	9.9012	1.1891	9.9013	1.295	A-	A+	A-
MATH	3	479162	9	A-T	2	12870	0.2648	0.2648	0.2409	0.2685	0.2159	0.008	0.0019	0.1568	0.1568	-0.2013	0.128	-0.0834	-0.0575	-0.0083	1.9489	0.0222	9.9012	1.2189	9.9016	1.6238	A-	A-	A-
MATH	3	495217	9	B-O	2	12870	0.3814	0.2418	0.181	0.3814	0.1812	0.0141	0.0005	0.2603	-0.0597	-0.2321	0.2603	-0.0122	-0.058	0.0027	1.2816	0.0204	9.9012	1.16	9.9013	1.3027	A-	A+	A-
MATH	3	579676	9	B-O	2	12870	0.3521	0.2022	0.2373	0.1761	0.3521	0.0089	0.0234	0.3919	-0.1844	-0.1425	-0.144	0.3919	-0.0555	0.0498	1.4391	0.0207	0.061	1.0006	5.7411	1.086	A+	A-	A-
MATH	3	497752	9	C-G	1	12870	0.7448	0.0579	0.7448	0.145	0.0454	0.0064	0.0006	0.4752	-0.242	0.4752	-0.2802	-0.2242	-0.0651	-0.0076	-0.6521	0.0222	-9.8991	0.8939	-9.0192	0.8158	A-	A-	A-
MATH	3	493253	9	D-M	2	12870	0.6671	0.0492	0.056	0.2099	0.6671	0.0067	0.011	0.4742	-0.2096	-0.2137	-0.2776	0.4742	-0.0774	-0.092	-0.1959	0.0208	-7.9991	0.9288	-7.3291	0.8827	A-	A-	A-
MATH	3	579650	9	D-M	2	12870	0.3865	0.3865	0.1795	0.3473	0.075	0.0106	0.0011	-0.0465	-0.0465	-0.1597	0.2408	-0.0892	-0.0675	-0.009	1.2544	0.0204	9.9015	1.5362	9.9018	1.8055	A+	A-	A+
MATH	3	579652	9	D-M	1	12870	0.2925	0.1134	0.2925	0.3979	0.1545	0.0372	0.0044	0.1944	-0.1441	0.1944	0.0801	-0.187	-0.0671	-0.0249	1.779	0.0216	9.9012	1.213	9.9015	1.4606	A-	A-	A-
MATH	4	299445	0	A-F	2	119066	0.429	0.429	0.1556	0.1991	0.2123	0.0012	0.0028	0.5014	0.5014	-0.1122	-0.374	-0.1353	-0.0273	-0.0348	0.4163	0.0065	-9.639	0.9734	-5.339	0.9784	A-	A+	A+
MATH	4	303498	0	A-F	2	119066	0.4858	0.2217	0.4858	0.1608	0.1224	0.0022	0.0069	0.2949	-0.0582	0.2949	-0.1333	-0.2285	-0.0429	0.0324	0.1885	0.0065	9.9012	1.2284	9.9013	1.2908	A+	A+	A+
MATH	4	313017	0	A-F	2	119066	0.5229	0.1369	0.5229	0.1402	0.1946	0.0027	0.0026	0.5892	-0.3105	0.5892	-0.1841	-0.3011	-0.049	-0.0374	0	0.0064	-9.8991	0.8574	-9.8992	0.8126	A+	A+	A+
MATH	4	313756	0	A-F	1	119066	0.7733	0.1401	0.0479	0.7733	0.0359	0.0016	0.0012	0.4456	-0.2783	-0.2545	0.4456	-0.1785	-0.0333	-0.032	-1.4834	0.0074	-9.8991	0.9348	-9.8991	0.8972	A-	A-	A-
MATH	4	314532	0	A-F	1	119066	0.7098	0.0664	0.0975	0.1218	0.7098	0.0021	0.0025	0.5026	-0.2499	-0.227	-0.2888	0.5026	-0.0471	-0.0395	-1.1338	0.007	-9.8991	0.9226	-9.8991	0.86	A+	A+	A+
MATH	4	315528	0	A-F	1	119066	0.5356	0.2685	0.0868	0.1044	0.5356	0.0019	0.0028	0.4488	-0.2354	-0.2257	-0.1724	0.4488	-0.0357	-0.0313	-0.1543	0.0065	9.901	1.0303	3.541	1.0151	A+	A+	A+
MATH	4	394384	0	A-F	2	119066	0.5186	0.5186	0.1642	0.2097	0.1019	0.0032	0.0024	0.2888	0.2888	-0.1134	-0.134	-0.1418	-0.0516	-0.0395	-0.0076	0.0064	9.9012	1.2292	9.9013	1.2845	A+	A+	A+
MATH	4	408559	0	A-F	2	119066	0.2869	0.1297	0.359	0.2203	0.2869	0.0023	0.0019	0.1805	-0.2067	0.0603	-0.0909	0.1805	-0.0433	-0.033	1.1944	0.0071	9.9013	1.3347	9.9016	1.5726	A-	A-	A+
MATH	4	408561	0	A-F	2	119066	0.3741	0.3144	0.2024	0.3741	0.1051	0.0016	0.0024	0.5976	-0.3876	-0.2172	0.5976	-0.0604	-0.0399	-0.0382	0.7127	0.0067	-9.8992	0.8306	-9.8992	0.8256	A-	A-	A-
MATH	4	408636	0	A-F	2	119066	0.5162	0.5162	0.2049	0.0479	0.2269	0.0018	0.0024	0.5792	0.5792	-0.1953	-0.2239	-0.3806	-0.0422	-0.0337	-0.0244	0.0064	-9.8991	0.8668	-9.8992	0.8332	A-	A-	A-
MATH	4	497770	0	A-F	1	119066	0.89	0.0449	0.89	0.0346	0.0279	0.0018	0.0009	0.3511	-0.2329	0.3511	-0.1795	-0.1607	-0.0342	-0.0315	-2.514	0.0098	-3.939	0.9735	-7.0191	0.9013	A+	A-	A+
MATH	4	299449	0	A-T	2	119066	0.3263	0.2423	0.2372	0.3263	0.1899	0.0016	0.0026	0.3611	-0.1451	-0.1051	0.3611	-0.1511	-0.034	-0.0353	1.0008	0.0069	9.9011	1.1124	9.9013	1.2687	A+	A+	A+
MATH	4	314214	0	A-T	2	119066	0.3909	0.1734	0.1142	0.3909	0.3178	0.0015	0.0023	0.3627	0.0132	-0.0888	0.3627	-0.3245	-0.0245	-0.0353	0.6135	0.0066	9.9011	1.1251	9.9012	1.2181	A-	A+	A+
MATH	4	314643	0	A-T	2	119066	0.6103	0.1113	0.6103	0.1833	0.0899	0.0025	0.0027	0.4061	-0.1778	0.4061	-0.1856	-0.2306	-0.0481	-0.0371	-0.4114	0.0065	9.901	1.0463	9.9011	1.0578	A+	A+	A+
MATH	4	408571	0	A-T	2	119066	0.6542	0.6542	0.0951	0.1528	0.0934	0.0021	0.0024	0.5262	0.5262	-0.2668	-0.2685	-0.2463	-0.0431	-0.0363	-0.7365	0.0067	-9.8991	0.8997	-9.8992	0.8437	A+	A-	A-
MATH	4	495203	0	A-T	1	119066	0.5317	0.3385	0.0504	0.0751	0.5317	0.0015	0.0028	0.4654	-0.2713	-0.1778	-0.2332	0.4654	-0.0348	-0.0409	-0.0458	0.0064	2.731	1.0071	5.451	1.0225	A-	A-	A+
MATH	4	495206	0	A-T	1	119066	0.5971	0.0827	0.163	0.1536	0.5971	0.002	0.0016	0.4223	-0.1939	-0.1928	-0.2208	0.4223	-0.0385	-0.0295	-0.4642	0.0065	9.901	1.0465	9.9011	1.0812	A+	A+	A+
MATH	4	299446	0	B-O	2	119066	0.5955	0.1083	0.5955	0.2007	0.09	0.003	0.0025	0.4738	-0.2822	0.4738	-0.2288	-0.1703	-0.0463	-0.038	-0.5101	0.0065	-2.489	0.9934	-6.479	0.9683	A-	A+	A+
MATH	4	300091	0	B-O	2	119066	0.5969	0.0598	0.5969	0.1871	0.1504	0.0037	0.0021	0.5341	-0.1804	0.5341	-0.2292	-0.3502	-0.0476	-0.0382	-0.4326	0.0065	-9.8991	0.9064	-9.8991	0.859	A+	A+	A+
MATH	4	302978	0	B-O	2	119066	0.7264	0.7264	0.0844	0.0548	0.1297	0.0022	0.0024	0.5338	0.5338	-0.2167	-0.2167	-0.3702	-0.0429	-0.041	-1.1954	0.0071	-9.8991	0.8662	-9.8992	0.755	A-	A+	A+
MATH	4	313458	0	B-O	1	119066	0.3538	0.1981	0.2333	0.3538	0.2105	0.0013	0.0031	0.5265	-0.3546	-0.1217	0.5265	-0.1368	-0.0278	-0.0393	0.8179	0.0067	-9.8991	0.9138	-9.8991	0.9247	A-	A+	A-
MATH	4	313460	0	B-O	2	119066	0.4681	0.1393	0.4681	0.1699	0.2189	0.0015	0.0023	0.4455	-0.1998	0.4455	-0.1129	-0.2597	-0.0394	-0.0366	0.2091	0.0065	9.901	1.0339	9.9011	1.0521	A-	A+	A-
MATH	4	313732	0	B-O	2	119066	0.4432	0.0579	0.4432	0.218	0.2748	0.003	0.0029	0.5735	-0.1639	0.5735	-0.2131	-0.3441	-0.0506	-0.0407	0.352	0.0065	-9.8991	0.8783	-9.8991	0.8523	A+	A+	A+
MATH	4	314144	0	B-O	2	119066	0.3611	0.0714	0.3638	0.1985	0.3611	0.0026	0.0026	0.4635	-0.2833	-0.3131	0.0128	0.4635	-0.0486	-0.0335	0.8376	0.0068	4.841	1.0151	9.9011	1.0549	A+	A+	A-
MATH	4	314218	0	B-O	2	119066	0.3413	0.2785	0.2143	0.1614	0.3413	0.0022	0.0023	0.4955	-0.2329	-0.1663	-0.1599	0.4955	-0.0408	-0.0321	0.9268	0.0068	-9.899	0.9513	2.091	1.0104	A+	A-	A-
MATH	4	408758	0	B-O	1	119066	0.5996	0.5996	0.2286	0.1025	0.0652	0.0017	0.0025	0.5196	0.5196	-0.3621	-0.1574	-0.2084	-0.0394	-0.0356	-0.3931	0.0065	-9.8991	0.9223	-9.8991	0.8773	A-	A+	A+
MATH	4	313075	0	C-G	2	119066	0.7941	0.7941	0.1257	0.0319	0.0442	0.0014	0.0027	0.3835	0.3835	-0.2345	-0.1894	-0.1972	-0.0438	-0.0361	-1.7024	0.0078	6.441	1.0273	7.2911	1.0717	A+	A-	A-
MATH	4	314148	0	C-G	2	119066	0.4429	0.1216	0.2104	0.2205	0.4429	0.0019	0.0026	0.3691	-0.1461	-0.1778	-0.1436	0.3691	-0.0375	-0.038	0.4059	0.0065	9.9011	1.1341	9.9012	1.1853	A+	A-	A+
MATH	4	315522	0	C-G	1	119066	0.6666	0.6666	0.0828	0.1123	0.133	0.0024	0.003	0.5137	0.5137	-0.2623	-0.2881	-0.2192	-0.0483	-0.0397	-0.8573	0.0067	-9.8991	0.9171	-9.8991	0.8607	A+	A-	A-
MATH	4	497759	0	C-G	1	119066	0.7633	0.0957	0.0457	0.7633	0.0911	0.0012	0.0028	0.42	-0.2711	-0.2227	0.42	-0.1702	-0.0328	-0.0393	-1.3221	0.0072	-9.8991	0.9285	-2.539	0.9803	A+	A-	A-
MATH	4	302972	0	D-M	1	119066	0.5558	0.5558	0.2422	0.125	0.0721	0.0018	0.0031	0.4667	0.4667	-0.2172	-0.2383	-0.2171	-0.039	-0.0396	-0.1978	0.0065	-0.049	0.9999	2.641	1.0114	A+	A-	A-
MATH	4	313463	0	D-M	1	119066	0.6499	0.2115	0.6499	0.0772	0.0573	0.0013	0.0029	0.5214	-0.3694	0.5214	-0.1881	-0.1904	-0.0358	-0.0398	-0.711	0.0066	-9.8991	0.8995	-9.8991	0.8663	A-	A-	A-
MATH	4	313736	0	D-M	2	119066	0.5942	0.1223	0.1105	0.1693	0.5942	0.0017	0.0021	0.598	-0.3181	-0.2273	-0.3073	0.598	-0.04	-0.0282	-0.3954	0.0065	-9.8992	0.8306	-9.8992	0.7654	A+	A-	A+
MATH	4	314151	0	D-M	1	119066	0.5471	0.1487	0.1337	0.1638	0.5471	0.0032	0.0035	0.4923	-0.2613	-0.2285	-0.1868	0.4923	-0.0529	-0.0372	-0.1339	0.0065	-9.899	0.9709	-9.499	0.9605	A-	A-	A-
MATH	4	314173	0	D-M	2	119066	0.5598	0.0957	0.1034	0.5598	0.2375	0.0013	0.0023	0.4295	-0.2096	-0.129	0.4295	-0.2571	-0.0327	-0.0353	-0.3095	0.0065	9.9011	1.0541	4.261	1.0192	A-	A+	A+
MATH	4	314536	0	D-M	2	119066	0.8428	0.0597	0.0541	0.8428	0.0381	0.0027	0.0026	0.4451	-0.2644	-0.2458	0.4451	-0.2048	-0.0505	-0.038	-2.0121	0.0084	-9.8991	0.8897	-9.8993	0.717	A+	A-	A-
MATH	4	408564	0	D-M	2	119066	0.7294	0.1349	0.0781	0.7294	0.0538	0.0017	0.0021	0.3779	-0.2768	-0.1212	0.3779	-0.166	-0.0405	-0.0372	-1.1337	0.007	8.171	1.0261	0.591	1.0041	A-	A+	A+
MATH	4	408784	0	D-M	1	119066	0.6267	0.2277	0.0786	0.0625	0.6267	0.0018	0.0028	0.5875	-0.3912	-0.2443	-0.2117	0.5875	-0.0389	-0.028	-0.6227	0.0066	-9.8992	0.8374	-9.8992	0.7826	A+	A-	A-
MATH	4	408786	0	D-M	1	119066	0.4008	0.4008	0.1953	0.2148	0.1824	0.0038	0.0028	0.3982	0.3982	-0.1423	-0.1491	-0.1882	-0.0449	-0.0387	0.5715	0.0066	9.9011	1.0814	9.9012	1.1516	A-	A-	A-
MATH	4	495236	0	D-M	2	119066	0.4646	0.0779	0.1895	0.4646	0.2642	0.0019	0.0019	0.443	-0.1978	-0.3089	0.443	-0.098	-0.0454	-0.0385	0.2936	0.0065	9.901	1.0416	9.9011	1.0495	A-	A-	A-
MATH	4	493273	1	A-F	2	13772	0.4851	0.156	0.144	0.2091	0.4851	0.0038	0.002	0.4685	-0.1836	-0.1977	-0.2296	0.4685	-0.0582	-0.0261	0.0897	0.0179	-4.479	0.9669	-4.269	0.9533	A-	A+	A-
MATH	4	493262	1	A-T	2	13772	0.3668	0.1109	0.347	0.3668	0.169	0.0046	0.0017	0.2232	-0.2051	-0.0119	0.2232	-0.0868	-0.0492	-0.0393	0.6809	0.0187	9.9013	1.2613	9.9014	1.3874	A-	A+	A-
MATH	4	314170	1	B-O	2	13772	0.4308	0.2923	0.1383	0.1252	0.4308	0.0125	0.0009	0.3949	-0.1647	-0.1576	-0.1802	0.3949	-0.0525	-0.0254	0.3503	0.0181	6.8511	1.0549	7.3811	1.0866	A+	A+	A+
MATH	4	566156	1	B-O	2	13772	0.4508	0.1265	0.4508	0.3066	0.107	0.0074	0.0017	0.3956	-0.209	0.3956	-0.1537	-0.1684	-0.0396	-0.0259	0.2154	0.018	7.7911	1.0606	8.6911	1.1001	A-	A-	A-
MATH	4	479178	1	C-G	2	13772	0.522	0.2456	0.522	0.0399	0.1733	0.017	0.0022	0.4511	-0.3632	0.4511	-0.1761	-0.0718	-0.0459	-0.0303	-0.1405	0.0178	-1.709	0.9876	-0.599	0.9931	A+	A-	A-
MATH	4	497765	1	C-G	1	13772	0.1993	0.4818	0.1507	0.1993	0.1608	0.0041	0.0032	0.026	0.1489	-0.1085	0.026	-0.1149	-0.0411	-0.0196	1.7217	0.022	9.9014	1.4017	9.9022	2.2215	A-	A+	A+
MATH	4	497740	1	D-M	1	13772	0.646	0.1597	0.646	0.0974	0.0899	0.0043	0.0028	0.4107	-0.1929	0.4107	-0.247	-0.1635	-0.0499	-0.0472	-0.7796	0.0183	0.551	1.0041	-0.909	0.9863	A-	A-	A-
MATH	4	574175	1	D-M	2	13772	0.4144	0.4144	0.1577	0.2692	0.1526	0.0044	0.0017	0.2001	0.2001	-0.1611	-0.0521	-0.0331	-0.0493	-0.0391	0.3851	0.0182	9.9013	1.312	9.9014	1.427	A+	A-	A+
MATH	4	493256	2	A-F	2	13190	0.4436	0.2064	0.4436	0.2218	0.1214	0.0042	0.0027	0.4302	-0.262	0.4302	-0.1276	-0.1476	-0.0698	-0.0379	0.3563	0.019	0.711	1.0056	2.071	1.0238	A-	A+	A+
MATH	4	493267	2	A-T	2	13190	0.1731	0.2406	0.4549	0.1731	0.1238	0.0061	0.0014	0.0293	-0.0622	0.178	0.0293	-0.2035	-0.068	-0.0204	2.0313	0.0242	9.9013	1.3289	9.9021	2.1454	A-	A+	A+
MATH	4	575715	2	A-T	1	13190	0.6897	0.1005	0.0842	0.1042	0.6897	0.0209	0.0005	0.498	-0.2596	-0.2375	-0.2552	0.498	-0.0565	-0.0158	-0.9487	0.0201	-9.8991	0.8753	-9.8992	0.7933	A-	A+	A+
MATH	4	493290	2	B-O	2	13190	0.3654	0.2786	0.3654	0.1232	0.2242	0.0057	0.003	0.2951	-0.2238	0.2951	-0.1902	0.066	-0.0654	-0.0343	0.7718	0.0196	9.9011	1.1374	9.9013	1.2903	A-	A+	A+
MATH	4	495233	2	B-O	2	13190	0.2989	0.2989	0.131	0.1801	0.3825	0.0042	0.0033	-0.07	-0.07	-0.1797	-0.1857	0.3497	-0.0562	-0.0393	1.1746	0.0205	9.9016	1.5956	9.902	1.9562	A+	A+	A+
MATH	4	565997	2	C-G	2	13190	0.3068	0.1772	0.2346	0.3068	0.2663	0.0144	0.0007	0.1624	-0.2082	-0.0357	0.1624	0.0577	-0.0449	-0.016	1.1157	0.0204	9.9013	1.3039	9.9015	1.5249	A+	A-	A-
MATH	4	495229	2	D-M	2	13190	0.4131	0.1913	0.1682	0.2184	0.4131	0.0067	0.0023	0.3958	-0.2148	-0.1845	-0.0843	0.3958	-0.0607	-0.0334	0.5167	0.0192	4.201	1.0349	4.9511	1.0597	A+	A-	A+
MATH	4	575726	2	D-M	2	13190	0.4646	0.1892	0.1181	0.4646	0.2211	0.0042	0.0027	0.4293	-0.2322	-0.2206	0.4293	-0.1133	-0.0477	-0.0351	0.2496	0.019	1.391	1.011	1.811	1.0204	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	4	575742	3	A-F	2	13144	0.4906	0.1824	0.1952	0.1248	0.4906	0.0056	0.0015	0.3221	-0.1335	-0.0858	-0.2108	0.3221	-0.0641	-0.026	0.1251	0.019	9.9012	1.1506	9.9012	1.2004	A+	A-	A-
MATH	4	493261	3	A-T	1	13144	0.8045	0.0573	0.8045	0.0592	0.0716	0.0057	0.0017	0.4616	-0.2287	0.4616	-0.2414	-0.2578	-0.0697	-0.0299	-1.7152	0.0231	-9.8991	0.8537	-9.8993	0.6923	A-	A-	A-
MATH	4	495200	3	A-T	1	13144	0.6118	0.1573	0.6118	0.1382	0.0861	0.0039	0.0027	0.4534	-0.1822	0.4534	-0.2745	-0.1937	-0.0593	-0.0362	-0.5221	0.0193	-5.339	0.9583	-4.0991	0.9398	A-	A+	A+
MATH	4	408750	3	B-O	1	13144	0.2614	0.3198	0.1971	0.2614	0.2149	0.0042	0.0026	0.1891	-0.1577	-0.1861	0.1891	0.1674	-0.0413	-0.0322	1.394	0.0214	9.9013	1.2557	9.9016	1.6219	A+	A+	A+
MATH	4	493288	3	B-O	2	13144	0.6859	0.6859	0.096	0.1115	0.0993	0.0035	0.0037	0.3627	0.3627	-0.1704	-0.157	-0.2052	-0.0644	-0.0587	-0.9286	0.0201	4.261	1.0378	2.231	1.0422	A+	A+	A+
MATH	4	408775	3	C-G	1	13144	0.4058	0.4058	0.1086	0.2733	0.2038	0.0045	0.004	0.2906	0.2906	-0.2163	-0.0511	-0.1119	-0.064	-0.0517	0.5602	0.0194	9.9012	1.1699	9.9013	1.2761	A-	A-	A-
MATH	4	495227	3	D-M	2	13144	0.662	0.0981	0.0844	0.1309	0.662	0.0237	0.001	0.3967	-0.2141	-0.1849	-0.1963	0.3967	-0.0359	-0.0282	-0.8011	0.0198	0.181	1.0015	0.681	1.0119	A+	A-	A-
MATH	4	566042	3	D-M	2	13144	0.2347	0.1311	0.4489	0.2347	0.1671	0.0174	0.0008	0.2333	-0.1398	0.055	0.2333	-0.1951	-0.0457	-0.0097	1.6103	0.0222	9.9012	1.1527	9.9016	1.6399	A+	A+	A-
MATH	4	493264	4	A-F	1	13127	0.4242	0.3526	0.1064	0.4242	0.1097	0.0037	0.0035	0.417	-0.1353	-0.2352	0.417	-0.2115	-0.0376	-0.0088	0.4836	0.0201	1.881	1.0163	3.9611	1.0499	A-	A+	A-
MATH	4	566038	4	A-F	1	13127	0.538	0.2369	0.1387	0.538	0.0809	0.0037	0.0018	0.4566	-0.267	-0.2872	0.4566	-0.0366	-0.0525	-0.0395	-0.1016	0.0198	-3.329	0.9736	-3.799	0.9528	A+	A-	A-
MATH	4	493259	4	A-T	2	13127	0.345	0.11	0.115	0.345	0.4055	0.0232	0.0012	0.2697	-0.1412	-0.0397	0.2697	-0.1335	-0.0328	-0.0258	0.9134	0.0208	9.9012	1.1669	9.9014	1.3686	A-	A-	A-
MATH	4	495235	4	B-O	2	13127	0.7347	0.0932	0.7347	0.09	0.0753	0.0046	0.0021	0.4419	-0.219	0.4419	-0.2563	-0.2016	-0.055	-0.0244	-1.1722	0.0217	-8.0591	0.9212	-6.8191	0.8573	A+	A+	A-
MATH	4	495238	4	B-O	2	13127	0.2676	0.1426	0.43	0.1418	0.2676	0.0171	0.001	0.2502	-0.1016	-0.0955	-0.0561	0.2502	-0.0595	-0.0216	1.3778	0.0222	9.9012	1.1731	9.9014	1.3974	A+	A+	A-
MATH	4	575718	4	B-O	2	13127	0.3575	0.3575	0.1422	0.1786	0.3155	0.0035	0.0027	0.2898	0.2898	-0.1871	-0.2095	0.0247	-0.0441	-0.0416	0.8433	0.0207	9.9012	1.1752	9.9013	1.2785	A+	A-	A-
MATH	4	497826	4	C-G	1	13127	0.3737	0.1118	0.0827	0.3737	0.4261	0.0033	0.0025	0.359	-0.0872	-0.2426	0.359	-0.1522	-0.0464	-0.0293	0.7536	0.0205	8.3711	1.0791	9.9012	1.1672	A+	A-	A+
MATH	4	408779	4	D-M	2	13127	0.1832	0.1832	0.2155	0.2419	0.3507	0.0062	0.0024	-0.1327	-0.1327	-0.0557	0.0928	0.0847	-0.0561	-0.0298	1.9835	0.025	9.9015	1.5238	9.9028	2.7712	A+	A+	A+
MATH	4	493263	5	A-F	2	13130	0.4068	0.1408	0.1937	0.4068	0.2522	0.0039	0.0027	0.4065	-0.1889	-0.1948	0.4065	-0.1192	-0.0509	-0.0401	0.5622	0.0204	4.681	1.0429	8.6611	1.1208	A-	A-	A-
MATH	4	575740	5	A-F	1	13130	0.456	0.1021	0.2248	0.2101	0.456	0.0046	0.0026	0.4916	-0.2303	-0.0781	-0.3363	0.4916	-0.052	-0.0399	0.3006	0.0201	-5.8991	0.9504	-5.3291	0.9331	A+	A-	A-
MATH	4	566044	5	A-T	1	13130	0.4374	0.1614	0.4374	0.1738	0.2079	0.0185	0.001	0.4017	-0.1305	0.4017	-0.169	-0.1946	-0.0563	-0.0211	0.3985	0.0202	7.3311	1.0652	8.1511	1.1094	A+	A+	A+
MATH	4	493291	5	B-O	2	13130	0.427	0.0958	0.427	0.2692	0.2005	0.0056	0.002	0.2067	-0.1069	0.2067	-0.1257	-0.0222	-0.059	-0.0391	0.4535	0.0202	9.9013	1.302	9.9014	1.3974	A-	A-	A-
MATH	4	495226	5	B-O	2	13130	0.5002	0.1308	0.1936	0.5002	0.1673	0.0059	0.0022	0.3836	-0.1148	-0.2298	0.3836	-0.149	-0.0609	-0.0428	0.0709	0.0199	9.1911	1.0777	7.5311	1.1012	A-	A-	A-
MATH	4	574162	5	B-O	2	13130	0.5095	0.5095	0.1305	0.2171	0.1352	0.0047	0.0029	0.4016	0.4016	-0.2106	-0.1348	-0.1986	-0.0591	-0.0422	0.0224	0.0199	6.9711	1.0582	3.9811	1.0532	A+	A+	A+
MATH	4	574169	5	C-G	1	13130	0.6104	0.2181	0.0738	0.6104	0.0922	0.0044	0.0011	0.4346	-0.165	-0.2569	0.4346	-0.2487	-0.0571	-0.0269	-0.5017	0.0202	-1.309	0.9893	-1.069	0.9827	A+	A-	A+
MATH	4	497832	5	D-M	2	13130	0.383	0.3258	0.1442	0.1287	0.383	0.0177	0.0005	0.3646	-0.1065	-0.1817	-0.1788	0.3646	-0.0222	-0.0305	0.6921	0.0206	9.9011	1.1014	9.9012	1.1693	A+	A+	A+
MATH	4	575737	6	A-F	2	13171	0.4267	0.2332	0.4267	0.1402	0.1899	0.0049	0.0051	0.2259	0.0178	0.2259	-0.2054	-0.105	-0.062	-0.0343	0.4565	0.02	9.9013	1.255	9.9013	1.3399	A-	A+	A-
MATH	4	493270	6	A-T	2	13171	0.4466	0.1207	0.2897	0.1267	0.4466	0.0152	0.0011	0.2959	-0.1689	-0.1043	-0.1138	0.2959	-0.048	-0.032	0.3525	0.0199	9.9012	1.1704	9.9012	1.2347	A-	A+	A+
MATH	4	575743	6	A-T	2	13171	0.4268	0.1878	0.2433	0.4268	0.133	0.0065	0.0027	0.3781	-0.148	-0.1296	0.3781	-0.1959	-0.0542	-0.0535	0.4556	0.02	7.6011	1.0664	8.7311	1.1134	A-	A-	A+
MATH	4	495208	6	B-O	2	13171	0.4832	0.1447	0.2603	0.4832	0.1038	0.0046	0.0033	0.4121	-0.2759	-0.1008	0.4121	-0.1952	-0.0567	-0.0216	0.1639	0.0198	3.971	1.0327	2.911	1.0358	A+	A+	A+
MATH	4	575720	6	B-O	2	13171	0.4551	0.1307	0.4551	0.1703	0.2357	0.0058	0.0024	0.4392	-0.1371	0.4392	-0.1497	-0.2596	-0.0557	-0.0371	0.3085	0.0199	-0.249	0.9979	0.541	1.0065	A-	A-	A-
MATH	4	574167	6	C-G	2	13171	0.2189	0.4041	0.2009	0.1681	0.2189	0.0054	0.0026	0	0.1876	-0.1501	-0.0701	0	-0.0558	-0.0322	1.6986	0.0236	9.9015	1.4722	9.902	2.0479	A+	A+	A-
MATH	4	408781	6	D-M	2	13171	0.4436	0.2256	0.1995	0.4436	0.1224	0.0058	0.003	0.4281	-0.2023	-0.1748	0.4281	-0.158	-0.0618	-0.0319	0.368	0.02	1.221	1.0102	2.351	1.0291	A+	A+	A+
MATH	4	574171	6	D-M	2	13171	0.4005	0.4005	0.2144	0.1341	0.2284	0.0219	0.0008	0.4177	0.4177	-0.0948	-0.1703	-0.2405	-0.0417	-0.0256	0.5952	0.0202	2.331	1.0207	4.1311	1.0549	A+	A-	A-
MATH	4	574182	7	A-F	2	13127	0.2883	0.3354	0.2883	0.1642	0.1918	0.0192	0.001	0.1929	0.1248	0.1929	-0.1393	-0.2183	-0.0582	-0.0245	1.216	0.0218	9.9013	1.2563	9.9015	1.509	A-	A-	A-
MATH	4	574186	7	A-F	2	13127	0.333	0.1602	0.2627	0.232	0.333	0.0104	0.0018	0.2891	-0.1693	-0.0035	-0.1595	0.2891	-0.0537	0.003	0.9489	0.0211	9.9012	1.1579	9.9013	1.3188	A-	A-	A-
MATH	4	574159	7	A-T	1	13127	0.5382	0.1019	0.179	0.1713	0.5382	0.0057	0.0039	0.4639	-0.2218	-0.1686	-0.2446	0.4639	-0.0625	-0.0427	-0.1389	0.0198	-4.489	0.9646	-3.379	0.9565	A-	A-	A-
MATH	4	479194	7	B-O	2	13127	0.4504	0.0938	0.2027	0.2469	0.4504	0.0034	0.0028	0.4354	-0.2323	-0.191	-0.1552	0.4354	-0.0467	-0.0472	0.3111	0.02	0.841	1.0071	0.881	1.0109	A+	A+	A+
MATH	4	493280	7	B-O	1	13127	0.429	0.2515	0.1786	0.429	0.128	0.0072	0.0058	0.3262	-0.1652	-0.1313	0.3262	-0.0906	-0.069	-0.0448	0.4229	0.0201	9.9011	1.1349	9.9012	1.1952	A+	A+	A+
MATH	4	497761	7	C-G	1	13127	0.5992	0.1421	0.0958	0.5992	0.1564	0.0039	0.0027	0.3898	-0.2033	-0.2399	0.3898	-0.1213	-0.0514	-0.0421	-0.4533	0.02	4.011	1.0326	4.9511	1.0755	A+	A+	A-
MATH	4	497830	7	C-G	2	13127	0.1874	0.4009	0.12	0.1874	0.2848	0.0042	0.0027	0.0129	0.367	-0.119	0.0129	-0.3108	-0.0629	-0.0363	1.9249	0.025	9.9014	1.4037	9.9022	2.2092	A-	A+	A+
MATH	4	575723	7	D-M	2	13127	0.4236	0.3867	0.0654	0.4236	0.1187	0.0036	0.0021	0.5169	-0.2481	-0.2159	0.5169	-0.239	-0.0435	-0.0296	0.4513	0.0201	-8.8991	0.9063	-8.7291	0.8933	A-	A-	A-
MATH	4	479188	8	A-F	1	13180	0.4578	0.1021	0.2598	0.4578	0.1741	0.0039	0.0022	0.488	-0.2168	-0.2382	0.488	-0.1779	-0.057	-0.0418	0.2783	0.0199	-7.1991	0.9411	-4.9991	0.939	A-	A-	A+
MATH	4	575738	8	A-F	1	13180	0.8046	0.0507	0.8046	0.0718	0.064	0.0065	0.0024	0.4652	-0.2224	0.4652	-0.2775	-0.2306	-0.0731	-0.0353	-1.675	0.0237	-9.8992	0.8449	-9.8993	0.73	A+	A-	A+
MATH	4	493271	8	A-T	1	13180	0.5466	0.1888	0.1449	0.1131	0.5466	0.0033	0.0033	0.4895	-0.2969	-0.1901	-0.1722	0.4895	-0.0599	-0.0459	-0.1779	0.0198	-7.6091	0.9404	-6.7191	0.913	A+	A+	A-
MATH	4	495201	8	A-T	2	13180	0.4338	0.1261	0.2558	0.4338	0.1727	0.0089	0.0027	0.2681	-0.0466	-0.1453	0.2681	-0.1223	-0.0706	-0.0228	0.4033	0.02	9.9012	1.2145	9.9013	1.3042	A-	A+	A-
MATH	4	493275	8	B-O	2	13180	0.4028	0.4028	0.3546	0.1319	0.1034	0.0047	0.0026	0.3549	0.3549	-0.1345	-0.1402	-0.1847	-0.0611	-0.0371	0.5679	0.0203	9.9011	1.0985	9.9012	1.1717	A-	A-	A-
MATH	4	574166	8	B-O	2	13180	0.4973	0.4973	0.1333	0.1965	0.1568	0.0149	0.0011	0.3725	0.3725	-0.2148	-0.1454	-0.1375	-0.039	-0.023	0.0745	0.0198	8.8611	1.082	9.9011	1.1441	A-	A-	A+
MATH	4	574168	8	C-G	2	13180	0.4093	0.2857	0.1238	0.1736	0.4093	0.0049	0.0027	0.1862	0.017	-0.0933	-0.1692	0.1862	-0.0463	-0.0232	0.533	0.0202	9.9013	1.3237	9.9015	1.4598	A+	A-	A+
MATH	4	574173	8	D-M	1	13180	0.4881	0.1769	0.0893	0.4881	0.2231	0.0217	0.0009	0.4146	-0.1943	-0.2286	0.4146	-0.1432	-0.0518	-0.024	0.122	0.0198	4.441	1.0366	4.5111	1.0572	A-	A-	A-
MATH	4	566154	9	A-F	2	13225	0.3597	0.2633	0.1867	0.3597	0.1775	0.0039	0.0089	0.3747	-0.1662	-0.1707	0.3747	-0.0907	-0.058	-0.0192	0.8125	0.0204	2.951	1.0272	9.5611	1.1373	A-	A-	A-
MATH	4	408555	9	A-T	2	13225	0.3288	0.3288	0.2397	0.2826	0.1415	0.0048	0.0026	0.2329	0.2329	-0.141	0.0034	-0.128	-0.0588	-0.04	0.9852	0.0208	9.9012	1.2007	9.9014	1.364	A-	A+	A-
MATH	4	575714	9	A-T	2	13225	0.2114	0.2985	0.2114	0.1997	0.2832	0.0035	0.0037	0.096	-0.0549	0.096	-0.0406	0.0167	-0.0493	-0.0405	1.7349	0.0237	9.9013	1.2567	9.9019	1.869	A-	A+	A-
MATH	4	313459	9	B-O	2	13225	0.6448	0.1156	0.0929	0.6448	0.1298	0.0155	0.0014	0.5154	-0.282	-0.285	0.5154	-0.1987	-0.046	-0.0338	-0.655	0.0202	-9.8991	0.8747	-9.8992	0.8107	A+	A+	A-
MATH	4	574160	9	B-O	2	13225	0.2634	0.3935	0.2118	0.1242	0.2634	0.0042	0.0029	0.1255	0.0032	-0.0191	-0.1325	0.1255	-0.0561	-0.0321	1.3793	0.0221	9.9013	1.3046	9.9016	1.6108	A-	A+	A+
MATH	4	497828	9	C-G	2	13225	0.4916	0.076	0.2393	0.4916	0.1843	0.0047	0.0041	0.1198	-0.2003	0.1443	0.1198	-0.1612	-0.0532	-0.0354	0.1269	0.0196	9.9014	1.3569	9.9015	1.5219	A+	A+	A+
MATH	4	495219	9	D-M	2	13225	0.3178	0.2712	0.3178	0.2646	0.1393	0.0051	0.002	0.0903	-0.0995	0.0903	0.0675	-0.0644	-0.0564	-0.0281	1.0482	0.021	9.9014	1.3539	9.9017	1.6527	A-	A-	A-
MATH	4	497834	9	D-M	2	13225	0.3493	0.3493	0.2226	0.1752	0.2346	0.0175	0.0008	0.3921	0.3921	-0.1328	-0.1159	-0.1919	-0.0435	-0.0218	0.8696	0.0206	1.831	1.0171	6.3211	1.0921	A-	A-	A-
MATH	5	300531	0	A-F	2	121126	0.6998	0.6998	0.096	0.1416	0.0603	0.0006	0.0017	0.5654	0.5654	-0.2315	-0.3814	-0.2371	-0.0233	-0.0232	-0.751	0.0066	-9.8992	0.8024	-9.8993	0.6934	A+	A-	A-
MATH	5	301855	0	A-F	2	121126	0.5684	0.1653	0.5684	0.1199	0.1425	0.002	0.0018	0.5137	-0.2665	0.5137	-0.2549	-0.1987	-0.0354	-0.0378	-0.0398	0.0062	-9.8991	0.9109	-9.8991	0.8719	A+	A+	A+
MATH	5	301856	0	A-F	1	121126	0.6857	0.0482	0.1484	0.6857	0.1144	0.0014	0.0019	0.52	-0.1875	-0.3313	0.52	-0.2549	-0.0291	-0.029	-0.6668	0.0065	-9.8991	0.8564	-9.8992	0.7694	A+	A+	A+
MATH	5	303006	0	A-F	1	121126	0.5671	0.1843	0.1642	0.5671	0.0805	0.0021	0.0018	0.4465	-0.2246	-0.2748	0.4465	-0.1075	-0.04	-0.0304	-0.0628	0.0063	-8.059	0.9811	-8.709	0.9651	A+	A+	A+
MATH	5	313775	0	A-F	1	121126	0.4691	0.1177	0.3312	0.0797	0.4691	0.0014	0.0009	0.4961	-0.1884	-0.2837	-0.1912	0.4961	-0.025	-0.0215	0.4097	0.0063	-9.8991	0.9462	-9.8991	0.9275	A+	A+	A+
MATH	5	313918	0	A-F	2	121126	0.5543	0.2289	0.5543	0.1428	0.0693	0.0017	0.0029	0.4206	-0.1513	0.4206	-0.2491	-0.2172	-0.0312	-0.0347	-0.024	0.0062	7.991	1.019	3.241	1.0129	A-	A+	A+
MATH	5	314764	0	A-F	1	121126	0.7087	0.1232	0.084	0.7087	0.08	0.0024	0.0017	0.4754	-0.243	-0.2431	0.4754	-0.2405	-0.0399	-0.0369	-0.7865	0.0067	-9.8991	0.8939	-9.8992	0.8109	A+	A+	A+
MATH	5	408577	0	A-F	1	121126	0.7392	0.0689	0.0912	0.0982	0.7392	0.0008	0.0017	0.489	-0.2572	-0.2552	-0.2494	0.489	-0.0195	-0.0318	-0.9781	0.0069	-9.8991	0.8601	-9.8992	0.766	A+	A+	A-
MATH	5	408584	0	A-F	2	121126	0.3342	0.3622	0.3342	0.1404	0.1595	0.0021	0.0016	0.4331	-0.2329	0.4331	-0.1166	-0.1352	-0.0249	-0.0302	1.101	0.0066	-0.259	0.9992	9.901	1.0491	A-	A-	A-
MATH	5	408592	0	A-F	1	121126	0.3777	0.3777	0.1517	0.3817	0.0847	0.0018	0.0023	0.3742	0.3742	-0.2012	-0.176	-0.0747	-0.0348	-0.0298	0.841	0.0064	9.9011	1.0783	9.9011	1.0967	A-	A-	A-
MATH	5	300469	0	A-T	2	121126	0.3909	0.3125	0.3909	0.1771	0.1163	0.0012	0.0019	0.3726	-0.0893	0.3726	-0.2259	-0.1621	-0.0329	-0.0249	0.8082	0.0064	9.9011	1.0814	9.9011	1.1351	A+	A+	A+
MATH	5	301854	0	A-T	2	121126	0.5849	0.1298	0.1227	0.1591	0.5849	0.0016	0.0019	0.5499	-0.2083	-0.2743	-0.2958	0.5499	-0.0366	-0.0304	-0.0198	0.0062	-9.8991	0.8589	-9.8992	0.8051	A+	A+	A+
MATH	5	313896	0	A-T	1	121126	0.6393	0.2079	0.1065	0.6393	0.0437	0.0016	0.001	0.4689	-0.2881	-0.2281	0.4689	-0.176	-0.0256	-0.0284	-0.4178	0.0064	-9.8991	0.9371	-9.8991	0.9035	A+	A+	A-
MATH	5	408601	0	A-T	2	121126	0.4323	0.4323	0.1174	0.1239	0.3234	0.001	0.002	0.4526	0.4526	-0.2634	-0.1925	-0.1584	-0.0237	-0.026	0.6307	0.0063	-0.039	0.9999	2.101	1.0078	A-	A+	A+
MATH	5	408607	0	A-T	1	121126	0.4573	0.1975	0.4573	0.1978	0.143	0.0019	0.0025	0.4709	-0.1959	0.4709	-0.2332	-0.1731	-0.0378	-0.0298	0.4318	0.0063	-9.899	0.9726	-6.969	0.975	A+	A+	A-
MATH	5	408633	0	A-T	2	121126	0.3947	0.2279	0.1701	0.2031	0.3947	0.0011	0.0032	0.453	-0.2004	-0.1568	-0.1874	0.453	-0.0271	-0.039	0.9149	0.0065	6.211	1.0178	9.901	1.0491	A+	A+	A+
MATH	5	408646	0	A-T	1	121126	0.4689	0.4689	0.2616	0.171	0.0956	0.0012	0.0018	0.5326	0.5326	-0.2342	-0.3108	-0.1483	-0.0334	-0.0257	0.3771	0.0063	-9.8991	0.9041	-9.8991	0.8843	A-	A+	A-
MATH	5	493287	0	A-T	1	121126	0.6516	0.6516	0.0631	0.2349	0.0481	0.0013	0.001	0.4655	0.4655	-0.2023	-0.2866	-0.2311	-0.0247	-0.0239	-0.5541	0.0065	-9.8991	0.9471	-9.8991	0.927	A+	A-	A+
MATH	5	497776	0	A-T	2	121126	0.3196	0.1831	0.1662	0.3196	0.3278	0.0018	0.0015	0.2216	-0.1047	-0.1535	0.2216	-0.0074	-0.0331	-0.0212	1.1688	0.0067	9.9012	1.2394	9.9014	1.3982	A-	A+	A+
MATH	5	275681	0	B-O	1	121126	0.5396	0.0744	0.0769	0.5396	0.3063	0.001	0.0018	0.3955	-0.2828	-0.2507	0.3955	-0.1174	-0.026	-0.0288	0.1071	0.0062	9.9011	1.0498	9.9011	1.0674	A+	A+	A+
MATH	5	301912	0	B-O	2	121126	0.5131	0.1621	0.5131	0.2243	0.0949	0.0015	0.0042	0.3719	-0.1804	0.3719	-0.1267	-0.2181	-0.0382	-0.0184	0.1601	0.0062	9.9011	1.0775	9.9011	1.1139	A-	A+	A+
MATH	5	301927	0	B-O	2	121126	0.3967	0.1833	0.3967	0.2286	0.187	0.0023	0.0022	0.3264	-0.0672	0.3264	-0.1634	-0.1591	-0.0348	-0.029	0.8259	0.0064	9.9011	1.1459	9.9012	1.2203	A+	A+	A+
MATH	5	314030	0	B-O	1	121126	0.6849	0.0738	0.6849	0.1286	0.1099	0.0015	0.0014	0.426	-0.2088	0.426	-0.1992	-0.2374	-0.0372	-0.0259	-0.6762	0.0066	-9.899	0.9515	-3.359	0.9811	A+	A+	A+
MATH	5	408791	0	B-O	2	121126	0.538	0.1762	0.1873	0.0953	0.538	0.0011	0.0021	0.5294	-0.2959	-0.2549	-0.1691	0.5294	-0.0278	-0.0261	0.0244	0.0062	-9.8991	0.9034	-9.8991	0.859	A+	A+	A-
MATH	5	408796	0	B-O	2	121126	0.6046	0.1845	0.0771	0.6046	0.1314	0.0007	0.0018	0.3917	-0.2414	-0.1289	0.3917	-0.1827	-0.0203	-0.0292	-0.265	0.0063	9.901	1.0243	9.9011	1.0746	A-	A-	A+
MATH	5	408802	0	B-O	2	121126	0.3375	0.1624	0.1443	0.3375	0.351	0.0019	0.003	0.3026	-0.1314	-0.2499	0.3026	-0.008	-0.0343	-0.0279	1.0681	0.0066	9.9011	1.1397	9.9013	1.25	A+	A+	A+
MATH	5	497779	0	B-O	1	121126	0.6084	0.0916	0.6084	0.2724	0.0248	0.0014	0.0014	0.2708	-0.3176	0.2708	-0.028	-0.1662	-0.0272	-0.0318	-0.2971	0.0063	9.9012	1.1571	9.9013	1.2849	A-	A-	A-
MATH	5	303066	0	C-G	1	121126	0.4029	0.4029	0.0938	0.2277	0.2716	0.0014	0.0026	0.3043	0.3043	-0.212	-0.1085	-0.0885	-0.0321	-0.0268	0.7272	0.0064	9.9012	1.1654	9.9012	1.2424	A-	A+	A-
MATH	5	314909	0	C-G	1	121126	0.6495	0.6495	0.1778	0.1112	0.0576	0.0021	0.0018	0.4439	0.4439	-0.2459	-0.2073	-0.2113	-0.0423	-0.0337	-0.5123	0.0064	-9.899	0.9683	-9.8991	0.9366	A+	A-	A-
MATH	5	408806	0	C-G	2	121126	0.4685	0.2416	0.164	0.1234	0.4685	0.0007	0.0018	0.3886	-0.1217	-0.1793	-0.2235	0.3886	-0.0211	-0.0315	0.3986	0.0063	9.9011	1.0679	9.9011	1.0943	A-	A-	A-
MATH	5	408812	0	C-G	1	121126	0.6811	0.0845	0.1006	0.1295	0.6811	0.002	0.0023	0.3865	-0.2267	-0.1482	-0.2052	0.3865	-0.0387	-0.0381	-0.6793	0.0066	0.261	1.0007	9.9011	1.0645	A+	A-	A-
MATH	5	313763	0	D-M	2	121126	0.6332	0.0984	0.1104	0.6332	0.1546	0.0018	0.0015	0.4682	-0.1515	-0.2916	0.4682	-0.2386	-0.0347	-0.0347	-0.4512	0.0064	-9.8991	0.9501	-9.8991	0.921	A+	A+	A+
MATH	5	314037	0	D-M	2	121126	0.4618	0.2833	0.0753	0.1758	0.4618	0.0012	0.0025	0.5855	-0.4412	-0.1623	-0.1254	0.5855	-0.0338	-0.0257	0.3974	0.0063	-9.8992	0.8462	-9.8992	0.8061	A-	A-	A-
MATH	5	314038	0	D-M	2	121126	0.3617	0.2915	0.3617	0.2199	0.1234	0.0014	0.0021	0.5347	-0.398	0.5347	-0.0632	-0.1436	-0.0312	-0.0316	0.9356	0.0065	-9.8991	0.8897	-9.8991	0.8911	A-	A-	A-
MATH	5	314401	0	D-M	2	121126	0.4018	0.3381	0.1934	0.0627	0.4018	0.0022	0.0018	0.6206	-0.3437	-0.2417	-0.1782	0.6206	-0.0393	-0.0284	0.7471	0.0064	-9.8992	0.8035	-9.8992	0.7703	A-	A-	A-
MATH	5	408814	0	D-M	2	121126	0.3635	0.06	0.3635	0.2216	0.3517	0.0011	0.0021	0.358	-0.1447	0.358	-0.1036	-0.1939	-0.0259	-0.0285	0.9709	0.0065	9.9011	1.092	9.9012	1.2017	A-	A-	A+
MATH	5	408815	0	D-M	2	121126	0.3443	0.2444	0.1779	0.3443	0.2292	0.0021	0.002	0.3082	-0.1496	-0.0141	0.3082	-0.1741	-0.0445	-0.0348	1.0345	0.0066	9.9011	1.1411	9.9012	1.2208	A-	A+	A+

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	5	408816	0	D-M	2	121126	0.484	0.484	0.1104	0.1254	0.2774	0.0013	0.0015	0.3766	0.3766	-0.1795	-0.2606	-0.097	-0.0337	-0.0271	0.3282	0.0062	9.9011	1.0826	9.9011	1.0875	A-	A-	A+
MATH	5	408821	0	D-M	2	121126	0.4791	0.1505	0.1641	0.2025	0.4791	0.0016	0.0022	0.4456	-0.1959	-0.194	-0.1939	0.4456	-0.0359	-0.0288	0.3622	0.0062	1.421	1.0035	2.681	1.0097	A+	A-	A-
MATH	5	497852	0	D-M	1	121126	0.3373	0.3373	0.0753	0.2911	0.2927	0.0016	0.002	0.457	0.457	-0.1993	-0.0349	-0.3186	-0.0306	-0.0323	1.0389	0.0066	-9.899	0.9684	-1.959	0.9915	A-	A-	A-
MATH	5	408590	1	A-F	1	13980	0.3437	0.1219	0.3437	0.1798	0.3412	0.0125	0.0009	0.1248	-0.2262	0.1248	-0.2316	0.226	-0.0284	-0.0111	0.9423	0.018	9.9013	1.3369	9.9015	1.4624	A-	A-	A-
MATH	5	495253	1	A-F	2	13980	0.6261	0.1021	0.1348	0.124	0.6261	0.0127	0.0004	0.4994	-0.2148	-0.256	-0.2557	0.4994	-0.0393	-0.0259	-0.3942	0.0172	-9.8991	0.8713	-9.8992	0.8002	A+	A+	A-
MATH	5	566344	1	A-F	1	13980	0.3645	0.2241	0.3645	0.2371	0.1697	0.0026	0.0019	0.2175	0.0264	0.2175	-0.1751	-0.1004	-0.0485	-0.0239	0.8777	0.0178	9.9012	1.2463	9.9014	1.3731	A+	A+	A+
MATH	5	497844	1	A-T	1	13980	0.5574	0.0706	0.2074	0.5574	0.1591	0.0039	0.0016	0.5099	-0.206	-0.3027	0.5099	-0.1996	-0.0558	-0.0329	-0.0758	0.017	-9.8991	0.8882	-9.8991	0.8583	A-	A-	A-
MATH	5	566348	1	A-T	1	13980	0.325	0.2128	0.3011	0.1567	0.325	0.0026	0.0019	0.3331	-0.1162	-0.1666	-0.0789	0.3331	-0.0428	-0.0286	1.1279	0.0184	8.9811	1.0818	9.9012	1.1979	A-	A+	A+
MATH	5	574141	1	B-O	2	13980	0.22	0.1549	0.0776	0.22	0.5413	0.0042	0.0019	0.0721	-0.2356	-0.2268	0.0721	0.2418	-0.0479	-0.0304	1.7211	0.0204	9.9013	1.3288	9.9019	1.8917	A+	A+	A+
MATH	5	408809	1	C-G	1	13980	0.6213	0.0683	0.6213	0.1294	0.1765	0.0025	0.0019	0.471	-0.2207	0.471	-0.3171	-0.1642	-0.0527	-0.0245	-0.4172	0.0172	-9.8991	0.9006	-9.8991	0.8781	A+	A-	A-
MATH	5	497787	1	D-M	2	13980	0.524	0.1283	0.1389	0.524	0.2023	0.0052	0.0013	0.47	-0.2133	-0.2457	0.47	-0.1841	-0.0541	-0.017	0.0638	0.017	-9.4791	0.9392	-8.5191	0.914	A-	A-	A-
MATH	5	574135	2	A-F	1	13371	0.7182	0.0692	0.7182	0.1275	0.0805	0.002	0.0026	0.4167	-0.1937	0.4167	-0.2025	-0.2476	-0.0393	-0.0324	-0.8626	0.0196	-8.8591	0.9247	-7.9591	0.8602	A+	A+	A+
MATH	5	575692	2	A-F	2	13371	0.3599	0.3599	0.322	0.1395	0.1724	0.0039	0.0024	0.3072	0.3072	-0.1843	-0.1145	-0.0441	-0.0501	-0.039	0.9821	0.0189	9.9011	1.1034	9.9012	1.1804	A-	A+	A-
MATH	5	497841	2	A-T	2	13371	0.5957	0.1967	0.082	0.1203	0.5957	0.0026	0.0027	0.4568	-0.2374	-0.2309	-0.1938	0.4568	-0.039	-0.0282	-0.2161	0.0183	-9.8991	0.9252	-8.9191	0.8915	A-	A-	A-
MATH	5	575698	2	A-T	2	13371	0.2594	0.2713	0.2594	0.3067	0.1557	0.0049	0.0021	0.1429	-0.0109	0.1429	0.039	-0.1957	-0.053	-0.0243	1.5864	0.0206	9.9013	1.257	9.9015	1.525	A+	A+	A-
MATH	5	574139	2	B-O	2	13371	0.2029	0.3699	0.2562	0.1592	0.2029	0.0112	0.0005	0.2086	-0.1195	0.0155	-0.0802	0.2086	-0.0335	-0.0041	1.9862	0.0224	8.2211	1.1088	9.9015	1.4987	A+	A+	A-
MATH	5	479170	2	C-G	2	13371	0.4179	0.2774	0.1484	0.4179	0.1513	0.0037	0.0013	0.3605	-0.0598	-0.191	0.3605	-0.2212	-0.0483	-0.0252	0.6494	0.0184	7.0911	1.0543	7.2911	1.0793	A-	A-	A-
MATH	5	495267	2	C-G	2	13371	0.4283	0.2398	0.1702	0.4283	0.1497	0.0114	0.0006	0.2282	-0.0118	-0.0928	0.2282	-0.199	-0.0181	-0.0039	0.6034	0.0183	9.9012	1.2022	9.9013	1.2551	A+	A-	A+
MATH	5	497789	2	D-M	2	13371	0.4116	0.1265	0.323	0.4116	0.1352	0.0028	0.0009	0.3305	-0.1043	-0.1651	0.3305	-0.1406	-0.044	-0.0116	0.7183	0.0184	9.9011	1.0926	9.9012	1.1499	A+	A+	A-
MATH	5	495239	3	A-F	2	13408	0.2099	0.4334	0.2306	0.2099	0.1215	0.0019	0.0027	0.1508	0.0385	-0.0097	0.1508	-0.2255	-0.0252	-0.0318	1.9352	0.0221	9.9012	1.2213	9.9016	1.5785	A-	A-	A-
MATH	5	575697	3	A-F	1	13408	0.364	0.4447	0.1049	0.364	0.0649	0.021	0.0004	0.3073	-0.0422	-0.2767	0.3073	-0.1442	-0.0426	-0.0218	0.9292	0.0188	9.9011	1.0938	9.9012	1.1583	A-	A-	A-
MATH	5	497836	3	A-T	2	13408	0.4418	0.2301	0.4418	0.1023	0.2211	0.0025	0.0021	0.3724	-0.1912	0.3724	-0.2468	-0.0663	-0.0266	-0.0184	0.551	0.0182	4.541	1.0336	4.571	1.0488	A-	A-	A-
MATH	5	566349	3	A-T	1	13408	0.5333	0.1526	0.173	0.1357	0.5333	0.0033	0.0021	0.4482	-0.2497	-0.1803	-0.179	0.4482	-0.0487	-0.0339	0.0836	0.0181	-7.4391	0.9502	-2.379	0.9735	A+	A-	A+
MATH	5	493297	3	B-O	2	13408	0.3136	0.2205	0.2449	0.214	0.3136	0.0063	0.0007	0.3405	-0.0756	-0.1674	-0.127	0.3405	-0.0216	-0.0306	1.2445	0.0195	3.871	1.0363	9.4511	1.1362	A+	A-	A-
MATH	5	495261	3	C-G	2	13408	0.3791	0.1974	0.1893	0.3791	0.2289	0.0027	0.0026	0.3011	-0.1311	-0.1945	0.3011	-0.0358	-0.0366	-0.016	0.8597	0.0187	9.9011	1.1021	9.9012	1.1604	A-	A-	A-
MATH	5	479171	3	D-M	2	13408	0.1906	0.3054	0.1342	0.366	0.1906	0.0024	0.0014	0.2273	-0.1669	-0.1454	0.0847	0.2273	-0.0492	-0.0333	2.0748	0.0228	7.7611	1.107	9.9015	1.4701	A-	A-	A-
MATH	5	497853	3	D-M	2	13408	0.4133	0.102	0.1753	0.3027	0.4133	0.0053	0.0015	0.4845	-0.2693	-0.2379	-0.1372	0.4845	-0.038	-0.0212	0.6833	0.0184	-9.8991	0.9186	-9.1391	0.9047	A-	A-	A-
MATH	5	495256	4	A-F	2	13365	0.2803	0.1797	0.3193	0.2158	0.2803	0.003	0.0019	0.2463	-0.134	-0.0516	-0.0781	0.2463	-0.0326	-0.0271	1.4309	0.0215	9.9012	1.151	9.9013	1.3277	A+	A+	A+
MATH	5	495258	4	A-F	2	13365	0.4715	0.2494	0.172	0.4715	0.0935	0.0129	0.0007	0.5303	-0.2809	-0.2287	0.5303	-0.1833	-0.0261	-0.0222	0.4019	0.0194	-9.8991	0.8687	-9.8992	0.8435	A-	A-	A+
MATH	5	574138	4	A-T	1	13365	0.6126	0.0848	0.6126	0.1931	0.1034	0.0033	0.0028	0.5236	-0.2385	0.5236	-0.2618	-0.2666	-0.0308	-0.0442	-0.2989	0.0196	-9.8992	0.8499	-9.8992	0.7997	A-	A-	A-
MATH	5	575703	4	A-T	1	13365	0.2328	0.2328	0.175	0.3966	0.1893	0.0039	0.0025	0.19	0.19	-0.1567	0.0453	-0.0991	-0.0412	-0.0304	1.7375	0.0227	9.9012	1.1737	9.9015	1.517	A+	A+	A-
MATH	5	566347	4	B-O	2	13365	0.1218	0.1404	0.6414	0.0839	0.1218	0.0121	0.0004	-0.0561	-0.227	0.3367	-0.2117	-0.0561	-0.0479	-0.0186	2.6742	0.0287	9.9013	1.3068	9.9027	2.6525	A-	A-	A+
MATH	5	495265	4	C-G	2	13365	0.5089	0.1894	0.164	0.5089	0.133	0.0029	0.0018	0.4913	-0.2447	-0.2549	0.4913	-0.1536	-0.0391	-0.0251	0.2172	0.0193	-9.8991	0.907	-9.8991	0.8734	A-	A-	A-
MATH	5	497783	4	C-G	1	13365	0.3887	0.1313	0.1306	0.3443	0.3887	0.0029	0.0022	0.3102	-0.1748	-0.1658	-0.0696	0.3102	-0.0388	-0.0236	0.8227	0.0199	9.9011	1.1149	9.9012	1.1502	A+	A-	A-
MATH	5	575709	4	D-M	2	13365	0.4064	0.0632	0.185	0.4064	0.3389	0.0042	0.0022	0.3554	-0.1183	-0.2004	0.3554	-0.1339	-0.0422	-0.0387	0.731	0.0197	7.3311	1.062	7.7711	1.0934	A-	A-	A-
MATH	5	495247	5	A-F	2	13375	0.217	0.3647	0.2359	0.1719	0.217	0.0091	0.0013	0.3589	-0.2369	-0.0952	0.0291	0.3589	-0.0399	-0.0203	1.8458	0.0233	-0.529	0.9931	7.7312	1.1737	A-	A+	A+
MATH	5	495248	5	A-F	2	13375	0.369	0.369	0.2926	0.2262	0.1077	0.0027	0.0017	0.2739	0.2739	-0.149	-0.0053	-0.1901	-0.0413	-0.0274	0.9214	0.0201	9.9011	1.1405	9.9012	1.2212	A-	A-	A-
MATH	5	575695	5	A-F	2	13375	0.2899	0.1896	0.2511	0.2899	0.2646	0.0025	0.0022	0.1805	-0.0666	-0.1112	0.1805	-0.0075	-0.0457	-0.041	1.3682	0.0213	9.9012	1.2169	9.9014	1.4259	A-	A-	A-
MATH	5	497837	5	A-T	2	13375	0.3607	0.3607	0.3359	0.2087	0.0895	0.0034	0.0016	0.3103	0.3103	-0.0328	-0.1844	-0.1929	-0.0452	-0.0212	0.966	0.0202	9.9011	1.0976	9.9012	1.1879	A-	A+	A+
MATH	5	497838	5	A-T	1	13375	0.5501	0.1349	0.5501	0.1447	0.1654	0.0031	0.0019	0.4179	-0.2161	0.4179	-0.2572	-0.1076	-0.0472	-0.0223	0.01	0.0193	-3.519	0.9749	-2.189	0.9734	A-	A-	A-
MATH	5	574146	5	B-O	2	13375	0.3529	0.1484	0.3529	0.2501	0.243	0.0033	0.0023	0.2265	-0.1485	0.2265	-0.144	0.0253	-0.0476	-0.0241	1.0085	0.0203	9.9012	1.2013	9.9013	1.2952	A+	A+	A-
MATH	5	495262	5	C-G	1	13375	0.4754	0.1646	0.1494	0.2049	0.4754	0.0039	0.0018	0.4395	-0.201	-0.147	-0.2208	0.4395	-0.0362	-0.0272	0.3781	0.0193	-4.229	0.9684	-4.4991	0.9504	A-	A-	A-
MATH	5	575710	5	D-M	2	13375	0.2274	0.4013	0.2182	0.14	0.2274	0.0127	0.0003	0.1709	0.0077	-0.1014	-0.0833	0.1709	-0.0372	-0.0249	1.7726	0.023	9.9012	1.1809	9.9016	1.6079	A-	A+	A+
MATH	5	495255	6	A-F	2	13351	0.4944	0.1377	0.4944	0.2126	0.1502	0.0037	0.0013	0.3774	-0.1344	0.3774	-0.2726	-0.0764	-0.0417	-0.0269	0.2998	0.0193	4.051	1.0305	2.951	1.0324	A+	A+	A+
MATH	5	575688	6	A-F	2	13351	0.2956	0.1765	0.307	0.2956	0.2103	0.0095	0.001	0.0721	-0.1047	0.1203	0.0721	-0.1058	-0.0494	-0.0163	1.3439	0.0211	9.9014	1.3503	9.9016	1.5652	A+	A+	A-
MATH	5	574136	6	A-T	1	13351	0.527	0.1633	0.527	0.0819	0.2232	0.0025	0.0022	0.4485	-0.2573	0.4485	-0.2373	-0.1445	-0.0343	-0.041	0.1396	0.0193	-7.4991	0.9459	-4.309	0.9522	A+	A-	A-
MATH	5	575705	6	A-T	1	13351	0.4427	0.2321	0.4427	0.2055	0.1142	0.0032	0.0022	0.4618	-0.1803	0.4618	-0.2031	-0.2122	-0.0295	-0.0429	0.556	0.0194	-7.8191	0.9403	-6.4791	0.9305	A+	A+	A-
MATH	5	497778	6	B-O	2	13351	0.4166	0.2207	0.2337	0.1249	0.4166	0.0023	0.0018	0.282	0.0602	-0.2011	-0.2272	0.282	-0.0451	-0.0375	0.6879	0.0196	9.9011	1.1387	9.9012	1.1803	A+	A+	A-
MATH	5	495260	6	C-G	2	13351	0.3892	0.3892	0.1801	0.1703	0.2565	0.0021	0.0019	0.4081	0.4081	-0.0952	-0.1753	-0.2134	-0.0377	-0.0362	0.8289	0.0198	-0.059	0.9995	1.921	1.023	A-	A-	A-
MATH	5	495268	6	C-G	2	13351	0.2666	0.3243	0.1883	0.2107	0.2666	0.0096	0.0005	0.0764	0.0864	-0.073	-0.1019	0.0764	-0.0399	-0.0102	1.5196	0.0217	9.9013	1.3252	9.9016	1.6194	A+	A-	A+
MATH	5	574155	6	D-M	2	13351	0.3341	0.1905	0.2828	0.3341	0.1878	0.0034	0.0014	0.2354	-0.0917	-0.1973	0.2354	0.0421	-0.029	-0.0239	1.1242	0.0205	9.9012	1.1769	9.9013	1.2779	A-	A-	A-
MATH	5	495254	7	A-F	2	13444	0.2963	0.4071	0.1936	0.0987	0.2963	0.0027	0.0016	0.4401	-0.2029	-0.1545	-0.1251	0.4401	-0.0349	-0.0265	1.3618	0.021	-5.7391	0.9425	-2.299	0.9645	A+	A+	A+
MATH	5	575689	7	A-F	1	13444	0.2176	0.2176	0.3206	0.2394	0.2122	0.0092	0.001	0.0905	0.0905	-0.0572	0.0171	-0.0319	-0.0473	-0.0124	1.8691	0.0231	9.9013	1.2791	9.9017	1.6968	A+	A+	A+
MATH	5	493281	7	A-T	1	13444	0.6796	0.0832	0.6796	0.1539	0.0788	0.002	0.0024	0.3844	-0.2104	0.3844	-0.1212	-0.2746	-0.0438	-0.0315	-0.6146	0.0202	-4.609	0.9621	-1.319	0.9777	A-	A-	A-
MATH	5	575700	7	A-T	2	13444	0.3375	0.2017	0.2699	0.3375	0.1828	0.0068	0.0012	0.1819	-0.0267	-0.1394	0.1819	-0.0296	-0.0155	-0.0195	1.1263	0.0204	9.9012	1.229	9.9014	1.3676	A-	A-	A-
MATH	5	497839	7	B-O	1	13444	0.4952	0.2074	0.1259	0.4952	0.1671	0.0028	0.0016	0.2999	-0.0567	-0.1632	0.2999	-0.1865	-0.0422	-0.0266	0.3167	0.0192	9.9011	1.1079	9.9012	1.1585	A+	A+	A+
MATH	5	574147	7	C-G	1	13444	0.4081	0.2147	0.4081	0.1471	0.225	0.0026	0.0025	0.2753	-0.0065	0.2753	-0.2053	-0.1365	-0.0286	-0.0292	0.7523	0.0196	9.9011	1.1415	9.9012	1.1893	A+	A-	A-
MATH	5	497774	7	D-M	2	13444	0.3271	0.2668	0.2796	0.3271	0.1214	0.0026	0.0025	0.344	-0.0825	-0.1713	0.344	-0.137	-0.0373	-0.0271	1.1843	0.0205	4.161	1.0401	9.9012	1.1583	A-	A-	A-
MATH	5	574151	7	D-M	2	13444	0.4398	0.1354	0.1331	0.2867	0.4398	0.0027	0.0022	0.419	-0.1868	-0.2238	-0.1429	0.419	-0.052	-0.015	0.5915	0.0194	-1.679	0.9869	-1.539	0.983	A-	A-	A-
MATH	5	495242	8	A-F	2	13427	0.465	0.465	0.2091	0.102	0.2187	0.0035	0.0017	0.2099	0.2099	-0.1263	-0.0926	-0.0545	-0.0313	-0.022	0.4284	0.0194	9.9012	1.2339	9.9013	1.3127	A-	A-	A-
MATH	5	575690	8	A-F	2	13427	0.2734	0.1983	0.284	0.2734	0.2324	0.0113	0.0006	0.2094	-0.1082	-0.0836	0.2094	-0.0193	-0.0344	-0.0277	1.4782	0.0217	9.9012	1.1985	9.9014	1.4336	A-	A-	A-
MATH	5	497840	8	A-T	1	13427	0.412	0.1951	0.1475	0.2383	0.412	0.004	0.003	0.4554	-0.2325	-0.2324	-0.1052	0.4554	-0.0419	-0.0387	0.6981	0.0197	-4.669	0.9616	-4.039	0.952	A+	A+	A+
MATH	5	575704	8	A-T	1	13427	0.4406	0.2231	0.1225	0.2082	0.4406	0.0028	0.0028	0.4648	-0.1512	-0.238	-0.2143	0.4648	-0.0256	-0.028	0.5514	0.0195	-6.3391	0.9502	-4.9491	0.9429	A-	A-	A-
MATH	5	495243	8	B-O	2	13427	0.3754	0.2285	0.3754	0.2525	0.1385	0.0032	0.0019	0.3883	-0.0485	0.3883	-0.2572	-0.1521	-0.0413	-0.0241	0.8906	0.0201	2.881	1.0257	6.1911	1.0819	A+	A+	A+
MATH	5	566346	8	C-G	1	13427	0.619	0.1484	0.1067	0.619	0.1218	0.0021	0.0021	0.4847	-0.2332	-0.24	0.4847	-0.2303	-0.04	-0.0282	-0.3428	0.0196	-9.8991	0.8941	-9.8991	0.8506	A-	A-	A-
MATH	5	408632	8	D-M	1	13427	0.7405	0.0826	0.0907	0.7405	0.0711	0.0146	0.0005	0.3625	-0.2023	-0.1728	0.3625	-0.1986	-0.0208	-0.0046	-1.0119	0.0213	-3.509	0.9659	-1.159	0.9745	A+	A+	A+
MATH	5	566040	8	D-M	2	13427	0.2849	0.2184	0.2377	0.2526	0.2849	0.0047	0.0017	0.2989	-0.0268	-0.0947	-0.1843	0.2989	-0.0391	-0.0186	1.4069	0.0215	8.4611	1.0939	9.9013	1.2752	A+	A-	A+
MATH	5	574177	9	A-F	1	13405	0.3649	0.1029	0.1182	0.4084	0.3649	0.0034	0.0022	0.4806	-0.2601	-0.2844	-0.1155	0.4806	-0.0525	-0.0155	0.9318	0.0201	-8.9291	0.923	-7.6191	0.9063	A-	A+	A+
MATH	5	575693	9	A-F	1	13405	0.2883	0.2883	0.2857	0.2041	0.2167	0.0028	0.0023	0.2501	0.2501	-0.0211	-0.1682	-0.0786	-0.0388	-0.0317	1.3642	0.0213	9.9012	1.1524	9.9013	1.2857	A-	A-	A+
MATH	5	497835	9	A-T	3	13405	0.1888	0.4558	0.2081	0.1888	0.1391	0.0075	0.0007	0.0103	0.161	-0.1036	0.0103	-0.1073	-0.05	-0.0269	2.0402	0.0243	9.9013	1.3363	9.9019	1.9218	A+	A-	A+
MATH	5	574137	9	A-T	2	13405	0.3557	0.3557	0.2001	0.2086	0.2239	0.0112	0.0006	0.3186	0.3186	-0.0668	-0.1332	-0.1652	-0.0283	0.0061	0.9816	0.0202	9.9011	1.0931	9.9011	1.1424	A+	A+	A+
MATH	5	408790	9	B-O	2	13405	0.3594	0.3594	0.3296	0.1896	0.1162	0.0037	0.0016	0.3388	0.3388	-0.0667	-0.1679	-0.1919	-0.0379	-0.0399	0.9615	0.0201	8.2011	1.0751	9.9011	1.1391	A+	A-	A-
MATH	5	574150	9	C-G	2	13405	0.2246	0.3807	0.2246	0.1643	0.2265	0.0028	0.0012	-0.0122	0.0472	-0.0122	-0.1304	0.0792	-0.0362	-0.0227	1.7753	0.0229	9.9014	1.4003	9.9019	1.8717	A+	A+	A+
MATH	5	493306	9	D-M	2	13405	0.3523	0.1987	0.3523	0.3182	0.1258	0.0031	0.0019	0.3474	-0.0853	0.3474	-0.1756	-0.1405	-0.0462	-0.0214	1.0002	0.0202	6.1311	1.0566	8.6211	1.1174	A-	A+	A-
MATH	5	575712	9	D-M	2	13405	0.4106	0.1794	0.4106	0.131	0.2747	0.0028	0.0015	0.5277	-0.2643	0.5277	-0.1909	-0.2019	-0.0433	-0.0352	0.6932	0.0196	-9.8991	0.8695	-9.8991	0.8562	A-	A-	A-
MATH	6	314895	0	A-N	1	120984	0.484	0.2449	0.143	0.1263	0.484	0.0011	0.0007	0.5272	-0.2315	-0.2665	-0.2086	0.5272	-0.0253	-0.0174	0.4674	0.0063	-9.8991	0.9239	-9.8991	0.8998	A+	A+	A+
MATH	6	319274	0	A-N	1	120984	0.5665	0.0826	0.1396	0.5665	0.2096	0.001	0.0007	0.4282	-0.2256	-0.1986	0.4282	-0.1961	-0.0243	-0.0252	0.0272	0.0063	9.901	1.0304	2.141	1.0096	A-	A+	A-
MATH	6	319302	0	A-N	1	120984	0.4867	0.0652	0.4867	0.2908	0.1555	0.0011	0.0007	0.4903	-0.1618	0.4903	-0.3279	-0.1507	-0.0276	-0.0264	0.467	0.0063	-9.899	0.9676	-8.829	0.966	A+	A-	A-
MATH	6	398627	0	A-N	2	120984	0.5915	0.1489	0.1487	0.5915	0.1078	0.0016	0.0015	0.4578	-0.1779	-0.2731	0.4578	-0.2002	-0.0327	-0.0308	-0.1069	0.0063	-8.099	0.9804	-2.849	0.9865	A+	A+	A+
MATH	6	401961	0	A-N	2	120984	0.6957	0.0794	0.1035	0.6957	0.1195	0.0011	0.0008	0.2747	-0.1514	-0.1353	0.2747	-0.1316	-0.0305	-0.0183	-0.5328	0.0066	9.9011	1.1142	9.9012	1.2125	A+	A+	A+
MATH	6	401963	0	A-N	1	120984	0.7909	0.0792	0.0644	0.0626	0.7909	0.0015	0.0013	0.4865	-0.2682	-0.2667	-0.2369	0.4865	-0.0406	-0.0272	-1.225	0.0074	-9.8992	0.8496	-9.8993	0.7118	A+	A-	A-
MATH	6	417165	0	A-N	1	120984	0.7921	0.7921	0.1595	0.0237	0.0226	0.0006	0.0014	0.4356	0.4356	-0.3367	-0.178	-0.1661	-0.0282	-0.0269	-1.1694	0.0073	-9.8991	0.88	-9.8992	0.7765	A-	A-	A-
MATH	6	335192	0	A-R	2	120984	0.7098	0.1217	0.0855	0.7098	0.0806	0.0015	0.0009	0.4906	-0.2835	-0.2532	0.4906	-0.2096	-0.0346	-0.0258	-0.7518	0.0068	-9.8991	0.9109	-9.8992	0.8219	A-	A+	A+
MATH	6	399241	0	A-R	2	120984	0.4918	0.2316	0.113	0.1613	0.4918	0.0011	0.0013	0.3914	-0.0742	-0.2354	-0.2398	0.3914	-0.0228	-0.0259	0.3763	0.0063	9.9011	1.0779	9.9011	1.0873	A-	A+	A+
MATH	6	401965	0	A-R	2	120984	0.5537	0.2282	0.067	0.5537	0.1486	0.0011	0.0013	0.3767	-0.1098	-0.2327	0.3767	-0.2276	-0.0326	-0.0261	0.1738	0.0063	9.9011	1.0845	9.9011	1.1344	A-	A+	A+
MATH	6	411363	0	A-R	2	120984	0.5403	0.1668	0.5403	0.1855	0.1057	0.0009	0.0009	0.4361	-0.1469	0.4361	-0.3168	-0.1231	-0.0276	-0.0262	0.1664	0.0063	8.821	1.0215	3.511	1.0148	B-	A-	A-
MATH	6	412064	0	A-R	2	120984	0.6136	0.0946	0.6136	0.0544	0.2352	0.001	0.0011	0.5683	-0.2793	0.5683	-0.2213	-0.3369	-0.0319	-0.0256	-0.1449	0.0064	-9.8992	0.8406	-9.8992	0.7677	A-	A-	A-
MATH	6	412552	0	A-R	2	120984	0.5761	0.1044	0.5761	0.2215	0.095	0.0015	0.0014	0.4383	-0.2495	0.4383	-0.1841	-0.2092	-0.0383	-0.027	0.0709	0.0063	0.781	1.0019	-3.329	0.9855	A-	A+	A-
MATH	6	413103	0	A-R	2	120984	0.3601	0.1645	0.1353	0.3378	0.3601	0.001	0.0013	0.3711	-0.1627	-0.2138	-0.0912	0.3711	-0.0277	-0.0196	1.0747	0.0066	9.9011	1.0932	9.9011	1.1477	A+	A+	A+
MATH	6	492758	0	A-R	2	120984	0.6251	0.6251	0.0562	0.0561	0.26	0.001	0.0017	0.5299	0.5299	-0.2027	-0.2289	-0.3537	-0.0283	-0.0289	-0.2065	0.0064	-9.8991	0.8807	-9.8992	0.8083	A+	A+	A+
MATH	6	496604	0	A-R	2	120984	0.3484	0.1302	0.2881	0.3484	0.2309	0.0014	0.0011	0.5443	-0.0962	-0.246	0.5443	-0.2697	-0.0273	-0.0263	1.2239	0.0067	-9.8991	0.9024	-9.8991	0.9206	A-	A-	A+
MATH	6	301819	0	B-E	2	120984	0.5398	0.5398	0.2938	0.107	0.056	0.002	0.0015	0.5176	0.5176	-0.2974	-0.226	-0.2162	-0.041	-0.0285	0.2262	0.0063	-9.8991	0.9212	-9.8991	0.8915	A+	A+	A+
MATH	6	312501	0	B-E	2	120984	0.5305	0.1767	0.1713	0.5305	0.1184	0.002	0.0012	0.4417	-0.1595	-0.27	0.4417	-0.1708	-0.0369	-0.0305	0.139	0.0063	9.721	1.0237	2.171	1.0092	A+	A+	A+

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	6	314873	0	B-E	2	120984	0.4666	0.4666	0.2371	0.1516	0.1423	0.0012	0.0013	0.3786	0.3786	-0.184	-0.1667	-0.1396	-0.0347	-0.0247	0.547	0.0063	9.9011	1.0994	9.9011	1.1272	A+	A+	A+
MATH	6	319256	0	B-E	2	120984	0.3293	0.1785	0.3293	0.2608	0.2284	0.0016	0.0015	0.2526	-0.0466	0.2526	-0.0987	-0.1313	-0.0336	-0.0265	1.2738	0.0067	9.9012	1.2391	9.9014	1.3747	A-	A+	A+
MATH	6	319286	0	B-E	2	120984	0.312	0.312	0.0593	0.502	0.1248	0.0008	0.0012	0.4181	0.4181	-0.128	-0.2563	-0.1028	-0.025	-0.0203	1.3935	0.0068	8.221	1.0277	9.9011	1.1242	A+	A+	A+
MATH	6	401319	0	B-E	1	120984	0.8861	0.0567	0.8861	0.0316	0.0241	0.0006	0.001	0.2987	-0.156	0.2987	-0.1738	-0.1759	-0.0222	-0.0289	-1.8713	0.0088	-9.8991	0.8653	-4.6391	0.9436	A+	A+	A+
MATH	6	411362	0	B-E	2	120984	0.3949	0.3949	0.1855	0.1118	0.3056	0.0011	0.0011	0.3066	0.3066	-0.213	-0.189	-0.0126	-0.028	-0.0239	0.8928	0.0065	9.9012	1.1791	9.9012	1.2454	A-	A+	A+
MATH	6	412558	0	B-E	2	120984	0.4474	0.2763	0.4474	0.1962	0.0783	0.0009	0.0009	0.3927	-0.2219	0.3927	-0.1514	-0.1277	-0.0291	-0.0249	0.5987	0.0063	9.9011	1.0814	9.9011	1.1337	A+	A+	A+
MATH	6	412559	0	B-E	2	120984	0.4189	0.1049	0.1233	0.3499	0.4189	0.0018	0.0012	0.4099	-0.1859	-0.2288	-0.1412	0.4099	-0.0429	-0.0246	0.8865	0.0065	9.9011	1.0787	9.9011	1.1213	A+	A+	A+
MATH	6	413714	0	B-E	1	120984	0.5266	0.5266	0.1003	0.2043	0.1658	0.0016	0.0013	0.4601	0.4601	-0.2407	-0.2469	-0.1488	-0.0383	-0.0278	0.255	0.0063	-4.009	0.9903	2.391	1.0098	A+	A-	A-
MATH	6	416037	0	B-E	2	120984	0.6697	0.0765	0.6697	0.1086	0.1422	0.0015	0.0015	0.3846	-0.1811	0.3846	-0.2346	-0.1641	-0.0378	-0.0261	-0.5061	0.0066	7.051	1.019	9.9011	1.1167	A+	A-	A+
MATH	6	411369	0	C-G	2	120984	0.4069	0.2862	0.1674	0.1371	0.4069	0.0013	0.001	0.46	-0.2398	-0.1814	-0.1395	0.46	-0.0319	-0.0221	0.8397	0.0064	-0.219	0.9994	3.811	1.0153	A-	A-	A+
MATH	6	412560	0	C-G	2	120984	0.309	0.3034	0.309	0.1271	0.2579	0.001	0.0017	0.5515	-0.4508	0.5515	0.0146	-0.1143	-0.0361	-0.0328	1.4829	0.0069	-9.8991	0.891	-9.8991	0.936	A-	A-	A-
MATH	6	416042	0	C-G	2	120984	0.5457	0.5457	0.1856	0.1785	0.0885	0.0005	0.0012	0.4006	0.4006	-0.2083	-0.1459	-0.2163	-0.0176	-0.0225	0.2705	0.0063	9.9011	1.0598	9.9011	1.0904	A-	A-	A-
MATH	6	497312	0	C-G	2	120984	0.4543	0.2557	0.1815	0.1061	0.4543	0.0011	0.0013	0.5376	-0.2288	-0.2907	-0.1756	0.5376	-0.0245	-0.0255	0.6799	0.0064	-9.8991	0.9175	-9.8991	0.8853	A+	A+	A+
MATH	6	303087	0	D-S	2	120984	0.3435	0.2342	0.1964	0.2221	0.3435	0.0015	0.0023	0.3542	-0.1386	-0.1874	-0.0786	0.3542	-0.0295	-0.0252	1.1763	0.0066	9.9011	1.1148	9.9012	1.2198	A+	A+	A+
MATH	6	314821	0	D-S	1	120984	0.6177	0.6177	0.084	0.1759	0.1197	0.0012	0.0014	0.5667	0.5667	-0.2099	-0.351	-0.2506	-0.0367	-0.0236	-0.2345	0.0064	-9.8992	0.8475	-9.8992	0.7701	A+	A-	A-
MATH	6	314827	0	D-S	2	120984	0.5327	0.2108	0.5327	0.1353	0.1187	0.0016	0.001	0.4854	-0.3269	0.4854	-0.1879	-0.1303	-0.0409	-0.0261	0.2167	0.0063	-9.899	0.9667	-9.8991	0.9483	A+	A-	A+
MATH	6	314830	0	D-S	2	120984	0.76	0.0538	0.1209	0.0635	0.76	0.0009	0.001	0.4071	-0.1594	-0.2588	-0.213	0.4071	-0.0263	-0.0255	-0.9682	0.007	-9.8991	0.9351	-8.1491	0.9379	A+	A-	A-
MATH	6	411366	0	D-S	2	120984	0.4236	0.1619	0.1447	0.2677	0.4236	0.0009	0.0013	0.4399	-0.2057	-0.1923	-0.1633	0.4399	-0.0225	-0.0261	0.7276	0.0064	9.471	1.0255	9.9011	1.0565	A+	A-	A+
MATH	6	412561	0	D-S	2	120984	0.4171	0.1279	0.4171	0.1724	0.2799	0.0013	0.0015	0.4035	-0.1963	0.4035	-0.2206	-0.1064	-0.0352	-0.0271	0.8359	0.0064	9.9011	1.0738	9.9011	1.1147	A+	A-	A-
MATH	6	413111	0	D-S	2	120984	0.7782	0.081	0.0782	0.06	0.7782	0.0011	0.0016	0.4144	-0.1375	-0.2747	-0.2467	0.4144	-0.0361	-0.0293	-1.0871	0.0072	-9.8991	0.892	-4.909	0.9597	A+	A-	A+
MATH	6	496611	0	D-S	2	120984	0.7301	0.1469	0.0518	0.7301	0.0691	0.0008	0.0013	0.4602	-0.2849	-0.2324	0.4602	-0.1967	-0.0292	-0.0325	-0.8824	0.0069	-9.8991	0.9315	-9.8991	0.8694	A+	A-	A-
MATH	6	497315	0	D-S	1	120984	0.3642	0.3642	0.1116	0.1034	0.4183	0.0015	0.0009	0.411	0.411	-0.1685	-0.1042	-0.2255	-0.0251	-0.026	1.0732	0.0066	9.9011	1.0508	9.9011	1.13	A+	A+	A+
MATH	6	491797	1	A-N	2	14118	0.4062	0.1439	0.1898	0.25	0.4062	0.0093	0.0007	0.37	-0.2501	-0.1012	-0.1136	0.37	-0.0466	-0.0214	0.817	0.0175	8.2311	1.0646	9.6111	1.1091	A-	A-	A-
MATH	6	492759	1	A-N	2	14118	0.3615	0.2777	0.1837	0.1737	0.3615	0.0016	0.0018	0.2219	0.1627	-0.2501	-0.2112	0.2219	-0.0367	-0.026	1.0277	0.0179	9.9012	1.2391	9.9013	1.3254	A+	A+	A-
MATH	6	574783	1	A-R	2	14118	0.7355	0.7355	0.07	0.0703	0.1203	0.0024	0.0016	0.5208	0.5208	-0.2283	-0.2762	-0.2997	-0.042	-0.0333	-0.8693	0.0183	-9.8992	0.7922	-9.8993	0.6727	A-	A-	B-
MATH	6	478720	1	B-E	2	14118	0.4887	0.2295	0.4887	0.1609	0.1152	0.0033	0.0023	0.3936	-0.0886	0.3936	-0.2557	-0.1929	-0.0566	-0.0144	0.3785	0.017	4.621	1.0318	2.481	1.0259	A-	A-	A-
MATH	6	560216	1	B-E	2	14118	0.5245	0.2425	0.1167	0.5245	0.1092	0.0067	0.0004	0.4791	-0.2155	-0.2026	0.4791	-0.2569	-0.021	-0.0025	0.1711	0.017	-9.8991	0.9356	-9.8991	0.896	A+	A-	A-
MATH	6	500418	1	C-G	2	14118	0.2352	0.3172	0.3393	0.2352	0.1047	0.0018	0.0018	0.153	-0.1141	-0.0415	0.153	0.0355	-0.0422	-0.0294	1.7557	0.02	9.9013	1.2734	9.9017	1.7298	A+	A-	A-
MATH	6	500419	1	D-S	2	14118	0.6271	0.6271	0.0966	0.1172	0.1566	0.002	0.0005	0.4647	0.4647	-0.2593	-0.2602	-0.1738	-0.0314	0.0071	-0.288	0.0172	-9.8991	0.9121	-9.8991	0.8657	A+	A-	A-
MATH	6	582439	1	D-S	2	14118	0.3505	0.3505	0.1237	0.2893	0.2319	0.003	0.0016	0.3051	0.3051	-0.2432	-0.0684	-0.0743	-0.0444	-0.0187	1.084	0.018	9.9011	1.1486	9.9012	1.2438	A-	A-	A-
MATH	6	413712	2	A-N	2	13338	0.3524	0.2646	0.3021	0.3524	0.0769	0.0028	0.0012	0.1547	-0.005	-0.1032	0.1547	-0.0816	-0.0401	-0.0139	1.1887	0.0192	9.9013	1.3154	9.9015	1.4724	A+	A+	A+
MATH	6	579578	2	A-N	2	13338	0.4106	0.4106	0.1305	0.1429	0.3062	0.0029	0.0069	0.1963	0.1963	-0.0971	-0.1239	-0.0298	-0.0448	-0.0523	0.8686	0.0186	9.9013	1.2745	9.9014	1.3777	A+	A-	A+
MATH	6	497307	2	A-R	2	13338	0.747	0.0892	0.1024	0.747	0.0513	0.0099	0.0002	0.4677	-0.2609	-0.2613	0.4677	-0.2098	-0.032	-0.0183	-0.9436	0.0205	-9.8991	0.8614	-9.8993	0.7478	A+	A+	A+
MATH	6	582619	2	A-R	2	13338	0.436	0.1194	0.1265	0.3146	0.436	0.002	0.0015	0.4918	-0.2429	-0.1452	-0.2461	0.4918	-0.0401	-0.0197	0.7189	0.0185	-9.8991	0.9264	-6.7091	0.9262	A-	A-	A-
MATH	6	478721	2	B-E	2	13338	0.3276	0.2383	0.2078	0.2203	0.3276	0.0052	0.0007	0.3427	-0.1996	-0.1537	-0.0251	0.3427	-0.0379	-0.0093	1.3347	0.0196	7.2811	1.0689	9.9012	1.1996	A+	A+	A+
MATH	6	581393	2	B-E	1	13338	0.4384	0.2253	0.1899	0.4384	0.1427	0.0019	0.0017	0.3767	-0.1357	-0.239	0.3767	-0.0969	-0.0314	-0.0289	0.7079	0.0185	6.281	1.0483	6.3911	1.0736	A+	A-	A-
MATH	6	496951	2	C-G	1	13338	0.7361	0.1173	0.7361	0.1011	0.042	0.0016	0.0018	0.4388	-0.2948	0.4388	-0.1929	-0.186	-0.039	-0.0351	-0.8572	0.0202	-9.8991	0.8955	-9.7592	0.8036	A+	A-	A+
MATH	6	492764	2	D-S	1	13338	0.6537	0.0562	0.6537	0.174	0.1119	0.0027	0.0014	0.4737	-0.1953	0.4737	-0.2561	-0.2534	-0.0481	-0.0239	-0.3883	0.0189	-9.8991	0.9024	-8.8391	0.8617	A+	A-	A+
MATH	6	501390	3	A-N	2	13392	0.2942	0.2529	0.2478	0.2942	0.2021	0.0016	0.0013	0.2643	-0.1237	-0.1705	0.2643	0.0241	-0.042	-0.028	1.5052	0.0201	9.9012	1.1805	9.9014	1.3796	A-	A+	A-
MATH	6	566982	3	A-N	2	13392	0.4943	0.1998	0.1278	0.1735	0.4943	0.0032	0.0013	0.4298	-0.2452	-0.2016	-0.1204	0.4298	-0.0553	-0.0231	0.4293	0.0183	-1.569	0.9888	-1.679	0.9807	A+	A+	A+
MATH	6	496955	3	A-R	2	13392	0.3466	0.3466	0.2204	0.2752	0.1503	0.0069	0.0007	0.3472	0.3472	-0.0551	-0.1605	-0.1823	-0.0569	-0.0316	1.1968	0.0193	8.4911	1.078	9.9012	1.1724	A-	A-	A+
MATH	6	496958	3	B-E	2	13392	0.5823	0.1447	0.5823	0.1757	0.089	0.0076	0.0007	0.4692	-0.2328	0.4692	-0.2247	-0.2086	-0.0489	-0.0125	-0.0289	0.0184	-9.8991	0.9274	-7.1291	0.9055	A+	A+	A-
MATH	6	501396	3	B-E	2	13392	0.5618	0.124	0.5618	0.17	0.1407	0.0025	0.001	0.4574	-0.2395	0.4574	-0.2601	-0.135	-0.0499	-0.0271	0.066	0.0183	-7.6791	0.9477	-8.3991	0.8941	A+	A-	A-
MATH	6	500169	3	C-G	2	13392	0.3658	0.2743	0.3658	0.2934	0.0618	0.003	0.0018	0.2536	-0.2613	0.2536	0.0851	-0.1679	-0.0504	-0.0265	1.1165	0.0191	9.9012	1.2029	9.9013	1.3252	A-	A-	A-
MATH	6	492765	3	D-S	2	13392	0.5755	0.1141	0.1207	0.1857	0.5755	0.0023	0.0017	0.4066	-0.1875	-0.1823	-0.2019	0.4066	-0.0417	-0.0343	0.0334	0.0183	-0.759	0.9947	1.751	1.0233	A+	A-	A-
MATH	6	574853	3	D-S	1	13392	0.4142	0.0517	0.2207	0.4142	0.3097	0.0026	0.001	0.4638	-0.2056	-0.235	0.4638	-0.1768	-0.0522	-0.0332	0.8441	0.0186	-3.879	0.9695	-0.349	0.9959	A+	A-	A-
MATH	6	478718	4	A-N	1	13405	0.5623	0.5623	0.197	0.1377	0.0966	0.0054	0.001	0.4738	0.4738	-0.1897	-0.2459	-0.242	-0.0336	-0.0279	0.0804	0.0195	-9.5891	0.9296	-8.6191	0.89	A+	A-	A-
MATH	6	416038	4	A-R	2	13405	0.4104	0.4104	0.1517	0.2022	0.2312	0.004	0.0006	0.3269	0.3269	-0.2019	-0.1442	-0.0674	-0.0264	-0.0152	0.8511	0.0199	9.9011	1.1208	9.9012	1.1694	A+	A+	A-
MATH	6	491795	4	A-R	1	13405	0.7262	0.0794	0.7262	0.0949	0.0964	0.0022	0.001	0.4646	-0.2304	0.4646	-0.2559	-0.2285	-0.0335	-0.0282	-0.7981	0.0211	-9.8991	0.8793	-9.8992	0.7909	A+	A+	A+
MATH	6	574814	4	B-E	1	13405	0.4827	0.2445	0.199	0.4827	0.0695	0.003	0.0013	0.429	-0.2215	-0.1756	0.429	-0.1822	-0.029	-0.0319	0.4804	0.0195	-0.139	0.9989	-1.089	0.987	A+	A+	A+
MATH	6	581340	4	B-E	1	13405	0.5132	0.5132	0.1579	0.2236	0.1024	0.0015	0.0014	0.4487	0.4487	-0.1918	-0.2294	-0.185	-0.0419	-0.0275	0.327	0.0194	-3.619	0.9726	-3.959	0.9524	A+	A-	A-
MATH	6	575156	4	C-G	2	13405	0.3737	0.1481	0.3737	0.2427	0.2327	0.002	0.0009	0.0878	-0.1247	0.0878	-0.1452	0.1573	-0.0401	-0.0193	1.0468	0.0202	9.9014	1.4162	9.9016	1.6029	A+	A-	A-
MATH	6	492468	4	D-S	2	13405	0.5565	0.1276	0.1215	0.191	0.5565	0.0023	0.001	0.4877	-0.2429	-0.2025	-0.2365	0.4877	-0.0347	-0.0132	0.1093	0.0195	-9.8991	0.916	-9.8591	0.8763	A+	A-	A-
MATH	6	560221	4	D-S	2	13405	0.7231	0.1163	0.7231	0.0862	0.0706	0.0025	0.0014	0.4532	-0.2151	0.4532	-0.2478	-0.2393	-0.0447	-0.0222	-0.7796	0.0211	-9.8991	0.8862	-8.5392	0.8293	A+	A-	A-
MATH	6	496952	5	A-N	1	13374	0.7153	0.7153	0.1361	0.0702	0.0677	0.0104	0.0004	0.502	0.502	-0.2859	-0.2698	-0.2175	-0.0456	-0.0175	-0.725	0.0209	-9.8992	0.8399	-9.8993	0.7427	A+	A+	A+
MATH	6	496607	5	A-R	2	13374	0.4247	0.0704	0.4247	0.4126	0.0847	0.0069	0.0007	0.426	-0.156	0.426	-0.2199	-0.213	-0.0301	-0.0216	0.7848	0.0198	1.271	1.0106	1.301	1.0161	A-	A-	A-
MATH	6	567155	5	A-R	2	13374	0.393	0.127	0.3265	0.393	0.1498	0.0025	0.0011	0.4257	-0.1515	-0.235	0.4257	-0.1237	-0.0385	-0.0342	0.9517	0.0201	0.221	1.0019	2.221	1.0288	A-	A-	A-
MATH	6	478717	5	B-E	1	13374	0.4661	0.4661	0.1697	0.2906	0.068	0.004	0.0016	0.2809	0.2809	-0.286	0.0302	-0.1695	-0.0425	-0.0282	0.5723	0.0196	9.9012	1.172	9.9012	1.2428	A+	A-	A-
MATH	6	501394	5	B-E	2	13374	0.562	0.562	0.1129	0.1404	0.1803	0.0022	0.0021	0.4452	0.4452	-0.2403	-0.2363	-0.1549	-0.0414	-0.0264	0.0898	0.0195	-5.189	0.9616	-4.6791	0.937	A-	A-	A-
MATH	6	501398	5	C-G	2	13374	0.5253	0.1718	0.1655	0.5253	0.1343	0.0018	0.0013	0.396	-0.2463	-0.1777	0.396	-0.1085	-0.0354	-0.0095	0.2743	0.0194	3.581	1.0272	2.951	1.0382	A-	B-	A-
MATH	6	401331	5	D-S	2	13374	0.3836	0.4676	0.0624	0.3836	0.082	0.0033	0.0012	0.4907	-0.3239	-0.211	0.4907	-0.0823	-0.0446	-0.0246	1.0022	0.0201	-8.1791	0.9289	-5.1691	0.9337	A-	A-	B-
MATH	6	574391	5	D-S	2	13374	0.3665	0.3737	0.1198	0.1371	0.3665	0.0016	0.0013	0.246	0.0484	-0.2327	-0.1861	0.246	-0.0418	-0.0182	1.0953	0.0203	9.9012	1.223	9.9013	1.2861	A+	A-	A-
MATH	6	496606	6	A-N	2	13359	0.4846	0.1658	0.1676	0.1736	0.4846	0.0079	0.0004	0.4443	-0.2194	-0.2277	-0.1395	0.4443	-0.023	-0.0249	0.4827	0.0194	-3.399	0.9742	-1.519	0.9817	A-	A-	A-
MATH	6	560213	6	A-N	2	13359	0.2343	0.2246	0.2343	0.1948	0.3428	0.0015	0.002	0.2207	0.0864	0.2207	-0.0793	-0.2006	-0.0489	-0.0221	1.9014	0.023	9.9012	1.1787	9.9015	1.5275	A-	A+	A-
MATH	6	497306	6	A-R	2	13359	0.2809	0.0804	0.2492	0.3858	0.2809	0.0017	0.0019	0.3561	-0.1787	-0.2073	-0.0398	0.3561	-0.031	-0.0257	1.5928	0.0217	3.511	1.0396	9.7812	1.1776	A-	A+	A+
MATH	6	496613	6	B-E	2	13359	0.5663	0.1021	0.5663	0.1065	0.2217	0.0017	0.0016	0.3851	-0.2516	0.3851	-0.2689	-0.0697	-0.034	-0.0328	0.0752	0.0194	2.601	1.0191	2.431	1.0336	A-	A+	A-
MATH	6	575153	6	B-E	1	13359	0.3227	0.3301	0.3227	0.2128	0.1275	0.0064	0.0004	0.1992	0.1017	0.1992	-0.1925	-0.175	-0.0446	-0.0103	1.3413	0.0209	9.9012	1.2483	9.9014	1.4212	A+	A+	A-
MATH	6	497313	6	C-G	2	13359	0.4786	0.1069	0.2908	0.1201	0.4786	0.0023	0.0012	0.5092	-0.2763	-0.1774	-0.2636	0.5092	-0.0374	-0.027	0.5126	0.0195	-9.8991	0.8985	-9.8991	0.8685	A+	A+	A+
MATH	6	567240	6	C-G	2	13359	0.3839	0.1541	0.3839	0.2477	0.2102	0.0025	0.0016	0.3541	-0.1607	0.3541	-0.1593	-0.1031	-0.0435	-0.0312	1.0013	0.0201	7.9511	1.0723	8.7211	1.1163	A-	A-	A+
MATH	6	500420	6	D-S	2	13359	0.4661	0.23	0.4661	0.1304	0.1698	0.0024	0.0013	0.5642	-0.2766	0.5642	-0.2253	-0.2303	-0.0422	-0.0178	0.576	0.0195	-9.8992	0.8447	-9.8992	0.8136	A+	A-	A-
MATH	6	575148	7	A-N	2	13316	0.615	0.1362	0.0722	0.615	0.1725	0.0024	0.0017	0.4646	-0.3363	-0.2431	0.4646	-0.117	-0.0473	-0.0314	-0.169	0.0196	-9.8991	0.9166	-9.2391	0.8736	A+	A-	A+
MATH	6	478716	7	A-R	2	13316	0.5189	0.0728	0.1004	0.5189	0.2964	0.0106	0.0008	0.4297	-0.2262	-0.2207	0.4297	-0.1899	-0.0221	-0.0206	0.3094	0.0193	-2.639	0.9808	-3.339	0.9618	A+	A-	A+
MATH	6	574779	7	A-R	2	13316	0.5493	0.2974	0.074	0.0752	0.5493	0.0022	0.0019	0.4533	-0.2342	-0.2283	-0.2096	0.4533	-0.0376	-0.0383	0.1594	0.0193	-8.1591	0.942	-3.489	0.9581	A-	A+	A+
MATH	6	496956	7	B-E	1	13316	0.5383	0.5383	0.1755	0.1956	0.0867	0.0017	0.0023	0.2444	0.2444	-0.2298	0.0488	-0.1833	-0.0246	-0.0257	0.2139	0.0193	9.9012	1.1626	9.9013	1.2894	A+	A+	A+
MATH	6	500238	7	B-E	2	13316	0.4068	0.2605	0.1948	0.4068	0.134	0.0029	0.0011	0.2941	-0.0018	-0.2422	0.2941	-0.1302	-0.0545	-0.0164	0.8709	0.0198	9.9011	1.1322	9.9012	1.1854	A+	A+	A+
MATH	6	490025	7	C-G	2	13316	0.1595	0.1393	0.1208	0.5739	0.1595	0.0062	0.0004	0.0459	-0.1155	-0.1085	0.1244	0.0459	-0.039	0.0035	2.4581	0.0261	9.9013	1.2821	9.9021	2.1433	A-	A+	A+
MATH	6	478725	7	D-S	2	13316	0.3969	0.1405	0.2251	0.3969	0.2342	0.0014	0.002	0.2248	-0.1587	-0.0648	0.2248	-0.0599	-0.0242	-0.033	0.9224	0.0199	9.9012	1.2037	9.9013	1.2924	A+	A-	A-
MATH	6	582443	7	D-S	2	13316	0.3876	0.3701	0.3876	0.0985	0.141	0.0014	0.0015	0.1516	0.1018	0.1516	-0.1897	-0.1835	-0.0446	-0.0259	0.9712	0.02	9.9013	1.2936	9.9014	1.4035	A-	A-	A-
MATH	6	567153	8	A-N	1	13352	0.7537	0.0546	0.7537	0.037	0.145	0.0091	0.0007	0.3315	-0.1783	0.3315	-0.1897	-0.1772	-0.039	-0.0165	-0.9799	0.0218	-0.989	0.9899	8.7512	1.2327	B+	A-	A-
MATH	6	492755	8	A-R	2	13352	0.5419	0.131	0.166	0.1574	0.5419	0.0023	0.0013	0.5535	-0.2998	-0.25	-0.216	0.5535	-0.0422	-0.0257	0.1788	0.0196	-9.8991	0.8542	-9.8992	0.8114	A-	A-	A+
MATH	6	496957	8	B-E	2	13352	0.6657	0.6657	0.1578	0.1055	0.0666	0.0028	0.0016	0.4827	0.4827	-0.2309	-0.2699	-0.2279	-0.0503	-0.0289	-0.4675	0.0203	-9.8991	0.8884	-8.8092	0.8461	A+	A+	A-
MATH	6	574297	8	B-E	2	13352	0.5351	0.122	0.5351	0.1329	0.2047	0.0033	0.0021	0.5183	-0.2535	0.5183	-0.3055	-0.17	-0.0409	-0.0193	0.2139	0.0196	-9.8991	0.8989	-9.8991	0.8621	A+	A-	A-
MATH	6	478722	8	C-G	2	13352	0.4921	0.4921	0.1787	0.1777	0.1457	0.004	0.0018	0.4003	0.4003	-0.2288	-0.1462	-0.1504	-0.0383	-0.0261	0.4328	0.0196	5.871	1.0476	4.5711	1.0581	A+	A-	A-
MATH	6	478723	8	C-G	2	13352	0.459	0.459	0.2254	0.1748	0.1322	0.0084	0.0002	0.5252	0.5252	-0.2781	-0.2465	-0.1468	-0.0208	-0.0194	0.6028	0.0198	-9.8991	0.8991	-8.0291	0.904	A-	B-	A-
MATH	6	500237	8	D-S	2	13352	0.5579	0.2721	0.0995	0.5579	0.0664	0.0027	0.0014	0.4571	-0.1971	-0.2776	0.4571	-0.2149	-0.0453	-0.0098	0.0975	0.0196	-4.989	0.962	-4.1991	0.9431	A+	A-	A-
MATH	6	500239	8	D-S	2	13352	0.3266	0.1747	0.3828	0.3266	0.1121	0.0022	0.0015	0.4243	-0.2186	-0.1434	0.4243	-0.1348	-0.0448	-0.0428	1.3246	0.0211	0.751	1.0076	5.7911	1.0923	A+	A-	A-
MATH	6	582440	9	A-N	1	13330	0.7947	0.131	0.7947	0.0475	0.0236	0.0017	0.0015	0.4032	-0.2681	0.4032	-0.2008	-0.176	-0.0433	-0.0305	-1.2351	0.0231	-8.7691	0.8984	-5.3591	0.854	A-	A-	A-
MATH	6	560214	9	A-R	2	13330	0.5716	0.1234	0.188	0.5716	0.1147	0.0017	0.0006	0.497	-0.2147	-0.2451	0.497	-0.243	-0.0377	-0.0231	0.0415	0.0196	-9.8991	0.9137	-8.5291	0.8837	A-	A-	A-
MATH	6	575150	9	A-R	2	13330	0.3101	0.3101	0.2467	0.2818	0.1558	0.0049	0.0008	0.2783	0.2783	-0.2342	0.108	-0.2062	-0.0161	-0.0156	1.4274	0.0213	9.9012	1.1794	9.9013	1.3314	A-	A-	A-
MATH	6	491798	9	B-E	2	13330	0.6647	0.1368	0.6647	0.1211	0.0745	0.0021	0.0009	0.4667	-0.2055	0.4667	-0.2816	-0.2123	-0.0323	-0.0219	-0.4455	0.0203	-9.8991	0.9068	-9.3592	0.8378	A-	A+	A-
MATH	6	501162	9	B-E	1	13330	0.6752	0.1263	0.1006	0.0939	0.6752	0.0019	0.0022	0.5238	-0.2782	-0.2617	-0.2424	0.5238	-0.0447	-0.0334	-0.503	0.0204	-9.8992	0.8365	-9.8992	0.7543	A+	A-	A+
MATH	6	492763	9	C-G	2	13330	0.3374	0.1752	0.3395	0.1406	0.3374	0.0065	0.0008	0.3367	-0.2216	-0.0046	-0.2008	0.3367	-0.0283	-0.0278	1.2668	0.0208	9.9011	1.1082	9.9012	1.2223	A+	A+	A+
MATH	6	574849	9	C-G	1	13330	0.4717	0.4717	0.2869	0.1498	0.0882	0.002	0.0014	0.4489	0.4489	-0.2343	-0.1781	-0.1849	-0.0301	-0.0218	0.5477	0.0197	-1.599	0.9873	-1.859	0.9771	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	6	497314	9	D-S	1	13330	0.4858	0.0722	0.1509	0.4858	0.2874	0.0025	0.0013	0.3972	-0.1411	-0.2093	0.3972	-0.1844	-0.0452	-0.0385	0.4758	0.0196	5.711	1.0456	4.3911	1.0555	A+	A-	A-
MATH	7	300508	0	A-N	1	119003	0.7023	0.0862	0.1272	0.7023	0.0812	0.0016	0.0014	0.5301	-0.2583	-0.3109	0.5301	-0.2336	-0.0352	-0.029	-1.0439	0.0067	-9.8991	0.8502	-9.8993	0.7265	A-	A+	A+
MATH	7	335229	0	A-N	1	119003	0.462	0.462	0.1377	0.1263	0.2718	0.0011	0.001	0.283	0.283	-0.2451	-0.2108	0.0334	-0.0231	-0.0215	0.101	0.0064	9.9012	1.2237	9.9013	1.283	A-	A+	A+
MATH	7	335231	0	A-N	2	119003	0.4621	0.141	0.4621	0.3167	0.0787	0.0006	0.0009	0.5251	-0.2225	0.5251	-0.3326	-0.106	-0.0192	-0.0196	0.0683	0.0064	-9.8991	0.9293	-9.8991	0.9131	B-	A+	A+
MATH	7	398630	0	A-N	2	119003	0.5783	0.1303	0.5783	0.1363	0.1524	0.0015	0.0012	0.5868	-0.2782	0.5868	-0.2665	-0.2848	-0.0376	-0.0254	-0.4426	0.0064	-9.8992	0.845	-9.8992	0.7757	A+	A-	A-
MATH	7	489967	0	A-N	1	119003	0.4872	0.0681	0.3494	0.4872	0.0935	0.0011	0.0006	0.6004	-0.1301	-0.5183	0.6004	-0.0655	-0.0224	-0.0169	0.0695	0.0064	-9.8992	0.8431	-9.8992	0.8044	A-	A-	A-
MATH	7	266580	0	A-R	2	119003	0.534	0.1656	0.534	0.1701	0.1281	0.0011	0.0011	0.4632	-0.2078	0.4632	-0.206	-0.2238	-0.0292	-0.0185	-0.2605	0.0063	0.601	1.0015	-6.969	0.9723	A+	A+	A+
MATH	7	312488	0	A-R	2	119003	0.3205	0.3653	0.3205	0.153	0.1584	0.0015	0.0014	0.2784	-0.0843	0.2784	-0.1629	-0.0793	-0.0268	-0.0187	0.9801	0.0069	9.9012	1.2132	9.9015	1.457	A+	A+	A+
MATH	7	335200	0	A-R	2	119003	0.4325	0.4325	0.2138	0.2395	0.112	0.0012	0.001	0.3789	0.3789	-0.1563	-0.1468	-0.1887	-0.021	-0.0223	0.3094	0.0064	9.9011	1.1088	9.9011	1.1257	A+	A+	A+
MATH	7	401318	0	A-R	2	119003	0.5931	0.5931	0.2225	0.0938	0.0877	0.0015	0.0014	0.6009	0.6009	-0.3776	-0.2415	-0.2304	-0.0388	-0.0281	-0.5007	0.0064	-9.8992	0.8161	-9.8993	0.7441	A-	A+	A-
MATH	7	412771	0	A-R	2	119003	0.8509	0.0516	0.0483	0.047	0.8509	0.0009	0.0013	0.4089	-0.2117	-0.225	-0.2304	0.4089	-0.0332	-0.0228	-2.1123	0.0084	-9.8991	0.8976	-9.8993	0.6874	A+	A+	A+
MATH	7	412779	0	A-R	2	119003	0.5556	0.1656	0.1065	0.5556	0.1695	0.0014	0.0014	0.4911	-0.1886	-0.3046	0.4911	-0.2067	-0.0371	-0.0276	-0.3531	0.0064	-9.899	0.9598	-9.8991	0.9386	A+	A+	A+
MATH	7	415626	0	A-R	2	119003	0.5701	0.0776	0.2692	0.0815	0.5701	0.0007	0.0008	0.6412	-0.2516	-0.4154	-0.2362	0.6412	-0.0238	-0.0209	-0.3698	0.0064	-9.8992	0.7793	-9.8993	0.7031	C-	A-	A-
MATH	7	415640	0	A-R	2	119003	0.4772	0.2618	0.1068	0.1521	0.4772	0.0012	0.001	0.6315	-0.2613	-0.3004	-0.2954	0.6315	-0.031	-0.0205	0.1053	0.0064	-9.8992	0.8028	-9.8992	0.7563	B-	A-	A-
MATH	7	416190	0	A-R	2	119003	0.5627	0.1998	0.5627	0.1202	0.1148	0.0012	0.0014	0.4737	-0.2325	0.4737	-0.1539	-0.2823	-0.0286	-0.0269	-0.3537	0.0064	-9.359	0.9767	-9.8991	0.9456	A-	A-	A-
MATH	7	417800	0	A-R	2	119003	0.5324	0.1163	0.5324	0.1032	0.2451	0.0018	0.0013	0.3916	-0.2364	0.3916	-0.2744	-0.0777	-0.0393	-0.0298	-0.0946	0.0063	9.9011	1.0844	9.9011	1.1048	A+	A+	A+
MATH	7	478167	0	A-R	2	119003	0.7007	0.0942	0.7007	0.0916	0.1111	0.0015	0.0009	0.463	-0.2335	0.463	-0.2343	-0.2354	-0.039	-0.026	-1.0203	0.0067	-9.8991	0.9182	-9.8991	0.8669	A+	A-	A+
MATH	7	480344	0	A-R	2	119003	0.442	0.2096	0.442	0.1981	0.1475	0.0018	0.001	0.3107	-0.2419	0.3107	-0.1818	0.0528	-0.034	-0.0207	0.2649	0.0064	9.9012	1.1984	9.9013	1.2537	A-	A+	A+
MATH	7	401981	0	B-E	2	119003	0.6084	0.1353	0.1538	0.6084	0.1002	0.0013	0.001	0.479	-0.1827	-0.286	0.479	-0.2214	-0.0263	-0.0227	-0.574	0.0064	-9.899	0.9621	-9.8991	0.8978	A+	A+	A+
MATH	7	404812	0	B-E	1	119003	0.5498	0.1799	0.0612	0.5498	0.2074	0.0008	0.001	0.5258	-0.3766	-0.2006	0.5258	-0.1663	-0.0225	-0.026	-0.2801	0.0064	-9.8991	0.9249	-9.8991	0.8829	A+	A-	A+
MATH	7	412663	0	B-E	2	119003	0.721	0.1068	0.721	0.0818	0.0882	0.0012	0.001	0.5175	-0.2908	0.5175	-0.2571	-0.2465	-0.0322	-0.025	-1.221	0.0069	-9.8991	0.8709	-9.8993	0.7417	A+	A+	A+
MATH	7	412773	0	B-E	1	119003	0.7113	0.0808	0.1284	0.7113	0.0773	0.0011	0.001	0.455	-0.2245	-0.2497	0.455	-0.224	-0.0282	-0.0221	-1.0702	0.0067	-9.8991	0.9158	-9.8992	0.8482	A+	A+	A+
MATH	7	412780	0	B-E	2	119003	0.5028	0.2159	0.0986	0.1798	0.5028	0.0017	0.0012	0.4529	-0.173	-0.1823	-0.2575	0.4529	-0.0312	-0.0203	-0.0487	0.0064	8.071	1.021	5.241	1.0199	A+	A+	A+
MATH	7	413352	0	B-E	1	119003	0.8319	0.0345	0.0879	0.0443	0.8319	0.0004	0.0009	0.3635	-0.1971	-0.2108	-0.1902	0.3635	-0.0187	-0.025	-2.0231	0.0082	0.611	1.0029	-9.8991	0.8879	B+	A+	A+
MATH	7	415642	0	B-E	2	119003	0.4536	0.4536	0.2327	0.1474	0.1635	0.0017	0.0011	0.4263	0.4263	-0.1871	-0.2603	-0.1041	-0.036	-0.0265	0.3359	0.0064	9.9011	1.0683	9.9011	1.0886	A+	A+	A-
MATH	7	415661	0	B-E	2	119003	0.5835	0.5835	0.2419	0.0978	0.0737	0.0016	0.0015	0.4524	0.4524	-0.1715	-0.2856	-0.2387	-0.0347	-0.026	-0.3929	0.0064	-3.079	0.9923	-8.519	0.9644	A+	A+	A+
MATH	7	416186	0	B-E	2	119003	0.474	0.1071	0.2253	0.474	0.1908	0.0015	0.0012	0.3465	-0.2041	-0.127	0.3465	-0.139	-0.035	-0.0246	0.0674	0.0064	9.9012	1.153	9.9012	1.173	A-	A+	A+
MATH	7	490973	0	B-E	1	119003	0.3701	0.3614	0.3701	0.1562	0.1103	0.0011	0.0009	0.4043	-0.1232	0.4043	-0.1941	-0.2049	-0.0222	-0.0205	0.5955	0.0066	9.9011	1.0742	9.9011	1.0985	A-	A+	A+
MATH	7	314836	0	C-G	2	119003	0.4435	0.4023	0.4435	0.0921	0.0604	0.0009	0.0008	0.5198	-0.394	0.5198	-0.1347	-0.1035	-0.0292	-0.0192	0.2437	0.0064	-9.8991	0.9414	-9.8991	0.9386	A-	A-	A-
MATH	7	398632	0	C-G	2	119003	0.3823	0.3823	0.1359	0.1392	0.3411	0.0006	0.0009	0.5595	0.5595	-0.1009	-0.1524	-0.3873	-0.0177	-0.0183	0.6279	0.0066	-9.8991	0.8902	-9.8991	0.9049	A+	A-	A-
MATH	7	404814	0	C-G	2	119003	0.3487	0.2145	0.2345	0.2001	0.3487	0.0011	0.001	0.3668	-0.164	-0.1366	-0.1203	0.3668	-0.0267	-0.0181	0.7189	0.0067	9.9011	1.1167	9.9012	1.1661	A+	A+	A+
MATH	7	412667	0	C-G	1	119003	0.4017	0.1728	0.2323	0.4017	0.1906	0.0014	0.0012	0.3068	-0.0826	-0.0562	0.3068	-0.238	-0.0334	-0.0219	0.5856	0.0066	9.9012	1.2307	9.9013	1.3096	A-	A-	A+
MATH	7	417807	0	C-G	2	119003	0.4268	0.4268	0.1523	0.2635	0.1539	0.002	0.0015	0.2657	0.2657	-0.1564	-0.1187	-0.0567	-0.0345	-0.0249	0.3256	0.0064	9.9013	1.251	9.9013	1.3136	A-	A+	A+
MATH	7	278660	0	D-S	2	119003	0.6439	0.0839	0.2078	0.6439	0.062	0.0014	0.0009	0.5203	-0.2315	-0.3081	0.5203	-0.2395	-0.0388	-0.0233	-0.7697	0.0065	-9.8991	0.8936	-9.8992	0.8292	A+	A+	A+
MATH	7	296710	0	D-S	1	119003	0.6029	0.1385	0.0862	0.17	0.6029	0.001	0.0013	0.4962	-0.2738	-0.2351	-0.2141	0.4962	-0.0301	-0.0235	-0.5528	0.0064	-9.8991	0.934	-9.8991	0.9126	A+	A-	A-
MATH	7	399242	0	D-S	2	119003	0.3551	0.1773	0.3551	0.2443	0.2207	0.0015	0.0011	0.2995	-0.1743	0.2995	-0.116	-0.0614	-0.0249	-0.0145	0.7585	0.0067	9.9012	1.2068	9.9013	1.3057	A-	A+	A+
MATH	7	404819	0	D-S	2	119003	0.3981	0.1459	0.1603	0.2937	0.3981	0.0007	0.0012	0.2943	-0.1376	-0.1614	-0.0769	0.2943	-0.0188	-0.0213	0.5379	0.0065	9.9012	1.2191	9.9013	1.304	A+	A+	A+
MATH	7	415647	0	D-S	2	119003	0.4936	0.1608	0.2094	0.4936	0.1343	0.0007	0.0011	0.5421	-0.3447	-0.1795	0.5421	-0.2049	-0.0233	-0.0258	-0.0084	0.0064	-9.8991	0.9099	-9.8991	0.8828	A-	A-	A-
MATH	7	415665	0	D-S	2	119003	0.7005	0.1179	0.0639	0.7005	0.115	0.0013	0.0015	0.5523	-0.2767	-0.2606	0.5523	-0.3054	-0.0366	-0.0339	-1.0394	0.0067	-9.8992	0.8206	-9.8993	0.7018	A-	A-	A-
MATH	7	416195	0	D-S	2	119003	0.4446	0.4446	0.2553	0.1176	0.1806	0.001	0.001	0.3915	0.3915	-0.1155	-0.2683	-0.1459	-0.0301	-0.0215	0.2034	0.0064	9.9011	1.0919	9.9011	1.1202	A-	A-	A-
MATH	7	493188	0	D-S	2	119003	0.3296	0.2604	0.205	0.3296	0.2025	0.0013	0.0011	0.3239	-0.1151	-0.2846	0.3239	0.0372	-0.0254	-0.0264	0.8411	0.0068	9.9011	1.1472	9.9013	1.2776	A+	A+	A-
MATH	7	565301	1	A-N	1	13914	0.5233	0.1652	0.5233	0.1797	0.1281	0.0024	0.0014	0.4969	-0.2214	0.4969	-0.2055	-0.252	-0.0382	-0.027	-0.2236	0.0172	-9.8991	0.9204	-9.8991	0.8888	A-	A-	A-
MATH	7	502804	1	A-R	2	13914	0.3168	0.1564	0.3879	0.132	0.3168	0.0065	0.0004	0.2425	-0.2428	0.1057	-0.2167	0.2425	-0.032	-0.0103	0.8868	0.0188	9.9012	1.2137	9.9014	1.3838	A+	A+	A-
MATH	7	581341	1	A-R	2	13914	0.5614	0.2437	0.1022	0.5614	0.0867	0.0054	0.0006	0.3757	-0.1058	-0.2113	0.3757	-0.2626	-0.035	-0.0223	-0.3915	0.0172	6.621	1.0449	5.5911	1.0637	A+	A+	A+
MATH	7	493993	1	B-E	1	13914	0.3933	0.1285	0.3933	0.38	0.0947	0.0023	0.0011	0.379	-0.1829	0.379	-0.1461	-0.172	-0.0389	-0.023	0.4089	0.0178	9.9011	1.0878	9.9011	1.1281	A+	A+	A+
MATH	7	565886	1	B-E	2	13914	0.5437	0.1396	0.1477	0.1653	0.5437	0.0022	0.0015	0.5302	-0.2277	-0.2526	-0.2486	0.5302	-0.0421	-0.032	-0.3028	0.0172	-9.8991	0.8893	-9.8992	0.8343	A+	A-	A-
MATH	7	500372	1	C-G	2	13914	0.4753	0.4753	0.2067	0.2107	0.1032	0.0027	0.0014	0.4654	0.4654	-0.2044	-0.185	-0.2321	-0.049	-0.0277	0.0355	0.0173	-4.419	0.9682	-5.2491	0.9472	A-	A-	A+
MATH	7	567235	1	C-G	1	13914	0.4572	0.1112	0.1462	0.2814	0.4572	0.0027	0.0014	0.4043	-0.2662	-0.2345	-0.0721	0.4043	-0.0355	-0.0165	0.1235	0.0174	5.971	1.045	5.1211	1.0535	A+	A-	A-
MATH	7	567238	1	D-S	2	13914	0.2863	0.2863	0.4498	0.1474	0.1131	0.0027	0.0008	0.2931	0.2931	-0.0358	-0.2471	-0.0776	-0.0392	-0.0161	1.0388	0.0192	9.9011	1.1443	9.9014	1.3734	A-	A-	A-
MATH	7	477761	2	A-N	1	13141	0.7481	0.7481	0.0673	0.0925	0.0881	0.0021	0.0018	0.5029	0.5029	-0.2282	-0.2744	-0.2756	-0.0402	-0.0398	-1.3178	0.0202	-9.8992	0.8247	-9.8993	0.6674	A+	A-	A-
MATH	7	493184	2	A-R	2	13141	0.3198	0.3474	0.3198	0.2014	0.127	0.0029	0.0014	0.0884	0.2349	0.0884	-0.2027	-0.2078	-0.0397	-0.0112	0.9056	0.0195	9.9014	1.3557	9.9015	1.5295	A+	A-	A+
MATH	7	575221	2	A-R	2	13141	0.2445	0.1955	0.2445	0.1679	0.3895	0.0019	0.0006	0.0044	-0.1488	0.0044	-0.1546	0.2384	-0.0203	-0.0194	1.388	0.021	9.9014	1.4124	9.9019	1.8605	A-	A-	A-
MATH	7	478169	2	B-E	2	13141	0.5247	0.1226	0.1239	0.2235	0.5247	0.0049	0.0004	0.5391	-0.3014	-0.2251	-0.2244	0.5391	-0.0353	-0.0146	-0.1252	0.0182	-9.8991	0.8544	-9.8992	0.8153	A-	A-	A+
MATH	7	575223	2	B-E	2	13141	0.3408	0.1186	0.305	0.3408	0.2316	0.0026	0.0014	0.2248	-0.2223	-0.0023	0.2248	-0.0734	-0.0296	-0.0309	0.7976	0.0192	9.9012	1.2091	9.9013	1.3382	A+	A-	A-
MATH	7	477770	2	C-G	2	13141	0.3863	0.1769	0.2706	0.3863	0.1622	0.002	0.0021	0.3701	-0.2373	-0.1333	0.3701	-0.077	-0.0265	-0.0187	0.5612	0.0188	7.0711	1.0592	8.1311	1.095	A+	A-	A-
MATH	7	503044	2	C-G	2	13141	0.3556	0.3382	0.3556	0.1123	0.1885	0.0046	0.0008	0.2596	0.0586	0.2596	-0.246	-0.1858	-0.0205	-0.0095	0.7045	0.019	9.9012	1.1901	9.9013	1.2662	A+	A-	A+
MATH	7	565889	2	D-S	2	13141	0.5636	0.1078	0.224	0.5636	0.1016	0.0018	0.0011	0.2612	-0.1811	-0.0818	0.2612	-0.1218	-0.0419	-0.0203	-0.341	0.0183	9.9012	1.1507	9.9012	1.1831	A+	A+	A+
MATH	7	565849	3	A-N	2	13158	0.3935	0.2908	0.1573	0.3935	0.1548	0.0021	0.0014	0.3339	-0.0708	-0.1826	0.3339	-0.1696	-0.0435	-0.0306	0.5076	0.0188	9.9011	1.1253	9.9012	1.1831	A-	A-	A-
MATH	7	496114	3	A-R	2	13158	0.5724	0.1085	0.5724	0.2523	0.0638	0.0023	0.0006	0.4027	-0.1976	0.4027	-0.1777	-0.2366	-0.0508	-0.0132	-0.4346	0.0184	2.531	1.0185	2.271	1.0288	A-	A-	A-
MATH	7	560205	3	A-R	1	13158	0.3694	0.3694	0.1001	0.1943	0.332	0.0028	0.0014	0.3535	0.3535	-0.1654	-0.3457	0.0392	-0.0394	-0.015	0.6368	0.019	9.9011	1.1005	9.9012	1.1669	A-	A-	A-
MATH	7	581347	3	A-R	2	13158	0.525	0.525	0.2159	0.1295	0.1265	0.002	0.0011	0.5105	0.5105	-0.2515	-0.2481	-0.1972	-0.039	-0.0258	-0.1341	0.0183	-9.8991	0.9045	-9.8991	0.8682	A-	A-	A-
MATH	7	502402	3	B-E	2	13158	0.3649	0.1424	0.2478	0.2405	0.3649	0.0029	0.0014	0.3117	-0.2428	-0.1354	-0.009	0.3117	-0.0408	-0.0195	0.7022	0.0191	9.9011	1.1403	9.9012	1.196	A-	A-	A-
MATH	7	503046	3	B-E	1	13158	0.579	0.0948	0.1878	0.1349	0.579	0.0021	0.0014	0.5501	-0.2889	-0.3214	-0.1721	0.5501	-0.0411	-0.0199	-0.3996	0.0184	-9.8991	0.8521	-9.8992	0.8083	A+	A-	A-
MATH	7	574900	3	C-G	1	13158	0.5497	0.2383	0.117	0.5497	0.0895	0.0045	0.0011	0.3575	-0.1864	-0.2096	0.3575	-0.0984	-0.035	-0.02	-0.2727	0.0183	9.9011	1.0783	8.9711	1.1088	A+	A-	A-
MATH	7	574904	3	D-S	2	13158	0.3776	0.0988	0.3623	0.1553	0.3776	0.0055	0.0005	0.4132	-0.1919	-0.1188	-0.2293	0.4132	-0.034	-0.0175	0.6274	0.019	2.381	1.0206	4.3611	1.0538	A-	A-	A-
MATH	7	574879	4	A-N	1	13116	0.4	0.4	0.2585	0.1377	0.1977	0.0059	0.0003	0.4339	0.4339	-0.1583	-0.1789	-0.1948	-0.0494	-0.0146	0.5027	0.0203	0.001	1	2.111	1.0269	A-	A+	A+
MATH	7	477765	4	A-R	2	13116	0.5063	0.15	0.1231	0.5063	0.2165	0.0022	0.0018	0.528	-0.2399	-0.2342	0.528	-0.2393	-0.0422	-0.0199	-0.0482	0.0198	-9.8991	0.8911	-9.8992	0.8458	A-	A+	A-
MATH	7	493182	4	A-R	2	13116	0.3724	0.2977	0.3724	0.2128	0.1128	0.0028	0.0014	0.3261	0.1101	0.3261	-0.3336	-0.2152	-0.0506	-0.0165	0.6522	0.0205	9.9011	1.1291	9.9012	1.198	A+	A-	A+
MATH	7	496118	4	A-R	2	13116	0.3348	0.1622	0.3448	0.3348	0.1543	0.0027	0.0011	0.0666	-0.1077	0.1338	0.0666	-0.1476	-0.0317	-0.0106	0.863	0.021	9.9014	1.4464	9.9016	1.6147	A-	A+	A+
MATH	7	502842	4	B-E	2	13116	0.5823	0.2298	0.5823	0.0948	0.0895	0.0021	0.0016	0.426	-0.1596	0.426	-0.2733	-0.2089	-0.0406	-0.0358	-0.4346	0.0199	-0.709	0.9944	-3.119	0.9573	A+	A+	A+
MATH	7	581346	4	B-E	1	13116	0.4158	0.4158	0.1906	0.22	0.1701	0.0024	0.001	0.3567	0.3567	-0.1238	-0.1861	-0.126	-0.0464	-0.0136	0.4185	0.0201	9.9011	1.1023	9.7411	1.1249	A-	A-	A-
MATH	7	478170	4	C-G	2	13116	0.5416	0.1011	0.2146	0.1391	0.5416	0.0022	0.0014	0.5586	-0.2867	-0.2128	-0.2942	0.5586	-0.0345	-0.0296	-0.227	0.0198	-9.8992	0.8476	-9.8992	0.799	A-	A-	A-
MATH	7	581350	4	D-S	1	13116	0.6006	0.1382	0.6006	0.1394	0.1164	0.0047	0.0008	0.5075	-0.2238	0.5075	-0.2475	-0.2556	-0.0432	-0.0244	-0.5293	0.0199	-9.8991	0.8921	-9.8991	0.8539	A+	A-	A-
MATH	7	477763	5	A-N	2	13149	0.4025	0.1474	0.138	0.4025	0.3083	0.0027	0.0011	0.2451	-0.2903	-0.2639	0.2451	0.1671	-0.0485	-0.0258	0.4571	0.0201	9.9012	1.2114	9.9013	1.2725	A-	A+	A+
MATH	7	477764	5	A-R	2	13149	0.3792	0.3152	0.3792	0.1816	0.1178	0.0058	0.0004	0.2662	-0.2335	0.2662	-0.0253	-0.026	-0.0275	-0.0218	0.5806	0.0203	9.9012	1.1775	9.9013	1.255	A-	A-	A-
MATH	7	502806	5	A-R	2	13149	0.1888	0.1569	0.4822	0.1888	0.1677	0.0038	0.0005	0.0581	-0.1473	0.2255	0.0581	-0.2141	-0.0242	-0.0156	1.7809	0.0246	9.9013	1.2896	9.9019	1.9405	A-	A-	A+
MATH	7	493994	5	B-E	2	13149	0.3328	0.1847	0.3328	0.2235	0.2551	0.002	0.002	0.2066	-0.1622	0.2066	-0.1156	0.0348	-0.0227	-0.0089	0.8362	0.0209	9.9012	1.2336	9.9014	1.3603	A+	A+	A+
MATH	7	565885	5	B-E	2	13149	0.4378	0.1227	0.1259	0.3092	0.4378	0.0026	0.0017	0.3955	-0.2523	-0.1825	-0.1056	0.3955	-0.0474	-0.0407	0.2737	0.0198	3.961	1.0335	2.891	1.0338	A+	A+	A+
MATH	7	480349	5	C-G	1	13149	0.3105	0.1948	0.3578	0.1342	0.3105	0.0014	0.0013	0.2677	-0.1847	0.0453	-0.2069	0.2677	-0.0271	-0.0244	0.9647	0.0212	9.9012	1.1597	9.9013	1.2734	A-	A-	A-
MATH	7	560209	5	C-G	1	13149	0.5443	0.1247	0.5443	0.145	0.1833	0.0017	0.0009	0.469	-0.1939	0.469	-0.2519	-0.2026	-0.0437	-0.0192	-0.2627	0.0196	-7.1291	0.9461	-7.9191	0.906	A+	A-	A-
MATH	7	480352	5	D-S	2	13149	0.6009	0.1101	0.1921	0.6009	0.094	0.0017	0.0011	0.4944	-0.2539	-0.2594	0.4944	-0.1993	-0.0445	-0.0115	-0.5485	0.0198	-9.8991	0.9006	-9.8992	0.8358	A-	A+	A-
MATH	7	496116	6	A-N	2	13119	0.5828	0.2483	0.5828	0.0856	0.0797	0.0027	0.0008	0.2914	-0.0232	0.2914	-0.2339	-0.2373	-0.0625	-0.0248	-0.4309	0.0198	9.9011	1.1305	9.9012	1.1749	A+	A+	A+
MATH	7	480395	6	A-R	2	13119	0.3942	0.3942	0.1801	0.2082	0.2138	0.0024	0.0014	0.3962	0.3962	-0.1516	-0.2312	-0.0934	-0.0507	-0.0207	0.5292	0.0202	2.841	1.0254	5.2311	1.066	A+	A+	A+
MATH	7	575220	6	A-R	2	13119	0.4958	0.2369	0.4958	0.1311	0.1328	0.0027	0.0006	0.4012	-0.213	0.4012	-0.2213	-0.0967	-0.0354	-0.0289	0.0069	0.0197	3.161	1.0253	1.901	1.0218	A+	A+	A+
MATH	7	493714	6	B-E	2	13119	0.2312	0.2366	0.221	0.3067	0.2312	0.0037	0.0009	0.0913	0.0236	-0.0733	-0.0341	0.0913	-0.0265	-0.0258	1.4985	0.0231	9.9013	1.338	9.9017	1.7054	A-	A-	A+
MATH	7	493996	6	B-E	2	13119	0.5705	0.1028	0.5705	0.1979	0.1255	0.0016	0.0017	0.466	-0.1393	0.466	-0.2935	-0.2061	-0.0432	-0.0354	-0.3687	0.0197	-7.7091	0.9417	-6.6191	0.9172	A-	A-	A-
MATH	7	575224	6	C-G	2	13119	0.4698	0.1803	0.1477	0.4698	0.1992	0.002	0.001	0.3775	-0.2676	-0.1557	0.3775	-0.0706	-0.0361	-0.0137	0.1384	0.0197	6.8011	1.0563	5.2511	1.0608	A+	A+	A+
MATH	7	576068	6	C-G	2	13119	0.5314	0.1584	0.1499	0.5314	0.156	0.0034	0.0009	0.4167	-0.1857	-0.2061	0.4167	-0.1746	-0.0427	-0.0253	-0.1718	0.0196	0.081	1.0006	-0.999	0.9881	A+	A+	A+
MATH	7	480351	6	D-S	2	13119	0.4306	0.2588	0.178	0.1234	0.4306	0.0082	0.0011	0.3017	0.0411	-0.2199	-0.2472	0.3017	-0.0262	0.0111	0.3387	0.0199	9.9012	1.1509	9.9012	1.1958	A-	A-	A-
MATH	7	496115	7	A-N	1	13127	0.5857	0.2991	0.5857	0.067	0.0456	0.0018	0.0009	0.5122	-0.3495	0.5122	-0.218	-0.1714	-0.0329	-0.0224	-0.4505	0.0199	-9.8991	0.8953	-9.8992	0.8455	A-	A-	A-
MATH	7	581344	7	A-N	2	13127	0.4558	0.1859	0.4558	0.2238	0.1297	0.0027	0.0022	0.4924	-0.2388	0.4924	-0.2036	-0.1926	-0.034	-0.0222	0.2118	0.0199	-7.1491	0.9409	-5.4091	0.9377	A-	A+	A+
MATH	7	478164	7	A-R	2	13127	0.487	0.166	0.1025	0.487	0.2381	0.0058	0.0007	0.4121	-0.1029	-0.2096	0.4121	-0.2389	-0.027	-0.0134	0.0517	0.0198	3.791	1.0313	2.951	1.0351	A-	A-	A-
MATH	7	565882	7	A-R	2	13127	0.3203	0.2114	0.3203	0.222	0.2434	0.0018	0.0011	0.1209	-0.1989	0.1209	0.0676	-0.0015	-0.0377	-0.0309	0.9487	0.0212	9.9014	1.3621	9.9016	1.6247	A+	A+	A+

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	7	567233	7	B-E	1	13127	0.6039	0.1192	0.1463	0.1268	0.6039	0.0023	0.0016	0.5238	-0.2926	-0.2332	-0.2297	0.5238	-0.0316	-0.0263	-0.5445	0.02	-9.8991	0.8713	-9.8992	0.809	B+	A-	A-
MATH	7	581342	7	B-E	2	13127	0.3752	0.2188	0.1542	0.3752	0.247	0.004	0.0008	0.1387	0.031	-0.1319	0.1387	-0.0696	-0.0318	-0.0103	0.6383	0.0205	9.9014	1.3609	9.9015	1.4885	A-	A+	A+
MATH	7	567236	7	C-G	1	13127	0.5124	0.1437	0.2341	0.5124	0.1063	0.0022	0.0013	0.4848	-0.2551	-0.2637	0.4848	-0.1255	-0.0435	-0.0128	-0.0773	0.0197	-7.0591	0.9442	-8.0991	0.9057	A+	A-	A-
MATH	7	500379	7	D-S	2	13127	0.5637	0.208	0.5637	0.1182	0.1053	0.0031	0.0017	0.4194	-0.1511	0.4194	-0.2735	-0.1783	-0.0436	-0.0304	-0.3382	0.0198	0.461	1.0036	2.091	1.0276	A+	A-	A-
MATH	7	565300	8	A-N	1	13160	0.738	0.738	0.0636	0.0764	0.1145	0.0068	0.0007	0.3793	0.3793	-0.1988	-0.2134	-0.1827	-0.0316	-0.0314	-1.2967	0.0216	-3.529	0.9657	-0.949	0.9794	B+	A+	A+
MATH	7	502781	8	A-R	2	13160	0.3359	0.3359	0.3063	0.1561	0.1968	0.0025	0.0024	0.3348	0.3348	-0.2058	-0.1362	-0.0282	-0.031	-0.0217	0.8506	0.0209	9.9011	1.1057	9.9012	1.2193	A-	A-	A-
MATH	7	567230	8	A-R	2	13160	0.7164	0.7164	0.105	0.0897	0.0856	0.0018	0.0014	0.527	0.527	-0.2739	-0.2662	-0.2667	-0.0432	-0.0274	-1.1677	0.0212	-9.8992	0.8176	-9.8993	0.6745	A+	A+	A+
MATH	7	565850	8	B-E	2	13160	0.3587	0.2337	0.1878	0.3587	0.2155	0.0025	0.0017	0.2096	-0.1044	-0.1632	0.2096	0.0258	-0.032	-0.0394	0.7215	0.0206	9.9013	1.2638	9.9014	1.4028	A+	A+	A+
MATH	7	574887	8	B-E	2	13160	0.5018	0.2251	0.5018	0.1588	0.1099	0.0024	0.002	0.5199	-0.1504	0.5199	-0.3438	-0.2182	-0.0454	-0.0228	-0.0311	0.0197	-9.8991	0.8993	-9.8991	0.8763	A+	A+	A-
MATH	7	480669	8	C-G	1	13160	0.3767	0.3907	0.1235	0.3767	0.1055	0.0021	0.0016	0.5128	-0.3159	-0.2188	0.5128	-0.0633	-0.0412	-0.0265	0.6227	0.0204	-9.8991	0.9075	-5.5291	0.9289	A+	A-	A+
MATH	7	565887	8	C-G	2	13160	0.1706	0.2198	0.4176	0.1884	0.1706	0.0017	0.0019	-0.036	0.0214	0.1385	-0.1567	-0.036	-0.0251	-0.0301	1.9739	0.0256	9.9014	1.4209	9.9023	2.3308	A+	A-	A+
MATH	7	480396	8	D-S	1	13160	0.6071	0.1191	0.6071	0.1172	0.1521	0.0038	0.0006	0.4831	-0.2095	0.4831	-0.2482	-0.2393	-0.0308	-0.0156	-0.5691	0.02	-9.8991	0.9172	-9.7391	0.8666	A-	A-	A-
MATH	7	480243	9	A-N	2	13119	0.5701	0.1633	0.5701	0.1427	0.1165	0.0063	0.0011	0.4682	-0.2395	0.4682	-0.2316	-0.1844	-0.0285	-0.0258	-0.3558	0.0198	-6.7791	0.9475	-8.3591	0.8949	A+	A-	A-
MATH	7	567234	9	A-R	1	13119	0.4154	0.1819	0.2916	0.4154	0.1063	0.003	0.0018	0.3926	-0.3281	0.0348	0.3926	-0.2548	-0.0556	-0.0269	0.4368	0.0201	6.5011	1.0588	6.8911	1.0854	A+	A-	A-
MATH	7	574883	9	A-R	2	13119	0.4311	0.0951	0.3744	0.4311	0.0954	0.0024	0.0016	0.3345	-0.1523	-0.0953	0.3345	-0.243	-0.0457	-0.0302	0.3548	0.02	9.9011	1.1221	9.9012	1.1557	A-	A-	A-
MATH	7	412774	9	B-E	2	13119	0.4735	0.1867	0.1438	0.1914	0.4735	0.0035	0.0011	0.4275	-0.2161	-0.1324	-0.2031	0.4275	-0.0334	-0.0274	0.1354	0.0198	1.011	1.0085	0.301	1.0034	A+	A+	A+
MATH	7	565851	9	B-E	2	13119	0.5388	0.5388	0.1547	0.1355	0.1674	0.0026	0.0009	0.4737	0.4737	-0.2488	-0.257	-0.1477	-0.0482	-0.0209	-0.1968	0.0198	-6.219	0.9513	-8.0191	0.905	A+	A+	A+
MATH	7	478171	9	C-G	2	13119	0.442	0.2813	0.1793	0.442	0.0927	0.003	0.0016	0.4439	-0.133	-0.2696	0.4439	-0.1868	-0.0468	-0.0127	0.2976	0.02	-0.689	0.9941	0.491	1.0057	A-	A-	A-
MATH	7	581349	9	C-G	2	13119	0.4478	0.4478	0.1864	0.2004	0.1624	0.0021	0.0009	0.4123	0.4123	-0.2345	-0.1042	-0.1883	-0.0356	-0.0303	0.2676	0.0199	3.551	1.0307	3.621	1.0426	A+	A-	A-
MATH	7	567237	9	D-S	2	13119	0.2114	0.3385	0.2314	0.2141	0.2114	0.0027	0.0018	0.0156	0.1824	0.0085	-0.2271	0.0156	-0.0414	-0.0233	1.6716	0.0239	9.9015	1.4524	9.9019	1.9145	A+	A-	A+
MATH	8	300428	0	A-N	1	116550	0.6598	0.0828	0.1338	0.6598	0.1217	0.0009	0.0009	0.4837	-0.2878	-0.2158	0.4837	-0.2279	-0.0333	-0.0262	-0.8743	0.0066	-9.8991	0.9081	-9.8991	0.879	A+	A-	A-
MATH	8	301917	0	A-N	1	116550	0.352	0.1768	0.352	0.2343	0.2336	0.0019	0.0016	0.3086	-0.1234	0.3086	-0.1531	-0.0789	-0.035	-0.0138	0.5418	0.0066	9.9011	1.1473	9.9012	1.2347	A-	A+	A+
MATH	8	312493	0	A-N	2	116550	0.5841	0.5841	0.1927	0.1317	0.0886	0.0013	0.0016	0.5377	0.5377	-0.2661	-0.259	-0.2473	-0.0332	-0.0251	-0.4781	0.0064	-9.8991	0.8867	-9.8992	0.8415	A+	A+	A+
MATH	8	319315	0	A-N	1	116550	0.5023	0.5023	0.1943	0.0879	0.2133	0.0011	0.0011	0.4548	0.4548	-0.2843	-0.2917	-0.0739	-0.0368	-0.023	-0.1931	0.0064	-2.639	0.9934	-1.349	0.9947	A+	A+	A+
MATH	8	335255	0	A-N	2	116550	0.4595	0.4595	0.3275	0.1223	0.0896	0.0004	0.0008	0.528	0.528	-0.2135	-0.2796	-0.2461	-0.0183	-0.025	0.091	0.0064	-9.8991	0.9202	-9.8991	0.9001	A-	A+	A-
MATH	8	398631	0	A-N	2	116550	0.4072	0.1898	0.1432	0.4072	0.2572	0.0015	0.0011	0.3671	-0.2115	-0.2186	0.3671	-0.0428	-0.0365	-0.0215	0.316	0.0065	9.9011	1.106	9.9012	1.1596	A-	A+	A+
MATH	8	489965	0	A-N	1	116550	0.4613	0.1337	0.4613	0.2274	0.1751	0.0007	0.0017	0.2785	-0.1133	0.2785	-0.2005	-0.0405	-0.0172	-0.0083	0.0654	0.0064	9.9012	1.2164	9.9013	1.2685	A-	A+	A+
MATH	8	265669	0	B-E	2	116550	0.5918	0.1157	0.1868	0.5918	0.1033	0.0013	0.001	0.5474	-0.2912	-0.2938	0.5474	-0.1941	-0.039	-0.0281	-0.5643	0.0064	-9.8991	0.8756	-9.8992	0.8138	A-	A+	A+
MATH	8	303001	0	B-E	2	116550	0.4397	0.2111	0.1516	0.4397	0.1952	0.0009	0.0015	0.4025	-0.1644	-0.2224	0.4025	-0.1294	-0.0291	-0.0196	0.1974	0.0065	9.9011	1.0691	9.9011	1.0813	A-	A+	A+
MATH	8	303120	0	B-E	1	116550	0.3888	0.131	0.3888	0.2734	0.2048	0.0009	0.0011	0.2981	-0.1222	0.2981	-0.1761	-0.0591	-0.0278	-0.0276	0.3712	0.0065	9.9012	1.1717	9.9012	1.2345	A+	A+	A+
MATH	8	319322	0	B-E	2	116550	0.3747	0.1824	0.2761	0.1643	0.3747	0.0015	0.001	0.2754	-0.1519	-0.1571	-0.0059	0.2754	-0.0341	-0.0286	0.5798	0.0067	9.9012	1.2289	9.9013	1.3217	A+	A+	A+
MATH	8	335215	0	B-E	2	116550	0.596	0.596	0.153	0.1664	0.0819	0.0014	0.0013	0.4641	0.4641	-0.2537	-0.2168	-0.1967	-0.0314	-0.0162	-0.5581	0.0064	-9.899	0.9661	-9.8991	0.9376	A-	A+	A+
MATH	8	335252	0	B-E	1	116550	0.4057	0.4057	0.1252	0.3343	0.1326	0.0008	0.0013	0.459	0.459	-0.2045	-0.188	-0.1994	-0.0232	-0.0192	0.3957	0.0065	1.381	1.0039	5.951	1.0243	A+	A+	A+
MATH	8	412783	0	B-E	2	116550	0.5925	0.0728	0.1453	0.1867	0.5925	0.0017	0.0011	0.3972	-0.2259	-0.1838	-0.1782	0.3972	-0.035	-0.027	-0.5651	0.0064	9.901	1.0412	8.171	1.0372	A+	A+	A+
MATH	8	412785	0	B-E	2	116550	0.5584	0.1641	0.1431	0.5584	0.1317	0.0014	0.0013	0.5511	-0.2791	-0.2663	0.5511	-0.2209	-0.0388	-0.0246	-0.434	0.0064	-9.8991	0.8894	-9.8992	0.828	A-	A-	A-
MATH	8	412792	0	B-E	2	116550	0.5874	0.1861	0.5874	0.1319	0.0912	0.0017	0.0017	0.4021	-0.0979	0.4021	-0.2686	-0.23	-0.0408	-0.0259	-0.6167	0.0064	9.901	1.0404	9.9011	1.0969	A-	A-	A-
MATH	8	413594	0	B-E	2	116550	0.5547	0.5547	0.1281	0.2418	0.0736	0.0011	0.0008	0.4199	0.4199	-0.2149	-0.2103	-0.1744	-0.0186	-0.0241	-0.4972	0.0064	9.901	1.0414	5.291	1.0232	A+	A+	A+
MATH	8	413597	0	B-E	2	116550	0.5203	0.2608	0.098	0.1187	0.5203	0.0009	0.0014	0.4786	-0.1944	-0.2636	-0.2279	0.4786	-0.0324	-0.0191	-0.2299	0.0064	-9.899	0.9705	-8.679	0.9662	A+	A+	A+
MATH	8	415799	0	B-E	2	116550	0.7649	0.0505	0.7649	0.1337	0.0496	0.0004	0.0008	0.5296	-0.2417	0.5296	-0.3492	-0.2371	-0.0196	-0.031	-1.5066	0.0072	-9.8992	0.8071	-9.8994	0.6495	A+	A+	A-
MATH	8	479834	0	B-E	1	116550	0.6332	0.2213	0.0891	0.6332	0.0547	0.0006	0.0012	0.5283	-0.4167	-0.2276	0.5283	-0.0683	-0.0195	-0.023	-0.8872	0.0066	-9.8991	0.8986	-9.8992	0.8491	A-	A+	A-
MATH	8	314886	0	B-F	2	116550	0.5803	0.5803	0.1412	0.1479	0.128	0.0013	0.0013	0.4724	0.4724	-0.2577	-0.2459	-0.1629	-0.0304	-0.0174	-0.4624	0.0064	-9.899	0.9591	-9.8991	0.9382	A+	A+	A+
MATH	8	404826	0	B-F	1	116550	0.5782	0.1281	0.5782	0.1215	0.1695	0.0014	0.0014	0.462	-0.2368	0.462	-0.2584	-0.1654	-0.0355	-0.0332	-0.5092	0.0064	-9.899	0.9735	-8.099	0.9649	A+	A-	A+
MATH	8	404827	0	B-F	2	116550	0.6699	0.6699	0.1217	0.0958	0.1102	0.0014	0.001	0.5161	0.5161	-0.2376	-0.2802	-0.2564	-0.0359	-0.0291	-0.9578	0.0066	-9.8991	0.8788	-9.8992	0.7976	A+	A+	A+
MATH	8	413596	0	B-F	2	116550	0.4065	0.2013	0.1631	0.2265	0.4065	0.0015	0.0012	0.4307	-0.1388	-0.2589	-0.1383	0.4307	-0.0364	-0.0276	0.2985	0.0065	9.071	1.0252	9.901	1.0451	A+	A+	A+
MATH	8	416553	0	B-F	2	116550	0.6389	0.1873	0.6389	0.0959	0.0762	0.0008	0.0009	0.4581	-0.2024	0.4581	-0.2603	-0.237	-0.0304	-0.0223	-0.8383	0.0065	-9.899	0.9618	-9.8991	0.9342	A-	A+	A+
MATH	8	497302	0	B-F	2	116550	0.5548	0.0527	0.3306	0.0596	0.5548	0.001	0.0012	0.5224	-0.2515	-0.3096	-0.2348	0.5224	-0.035	-0.0296	-0.4147	0.0064	-9.8991	0.9134	-9.8991	0.8861	A-	A+	A-
MATH	8	503515	0	B-F	2	116550	0.7595	0.7595	0.0916	0.0843	0.0619	0.0012	0.0015	0.5284	0.5284	-0.2619	-0.3009	-0.2663	-0.042	-0.0286	-1.5658	0.0072	-9.8992	0.8427	-9.8993	0.7036	A-	A-	A-
MATH	8	301844	0	C-G	2	116550	0.458	0.1951	0.1711	0.458	0.1723	0.0016	0.0018	0.4134	-0.2148	-0.2304	0.4134	-0.0833	-0.0388	-0.0261	0.0474	0.0064	9.9011	1.0516	9.9011	1.0508	A-	A-	A+
MATH	8	324086	0	C-G	2	116550	0.5041	0.133	0.1619	0.199	0.5041	0.0007	0.0012	0.3545	-0.2194	-0.1043	-0.1581	0.3545	-0.0193	-0.0194	-0.182	0.0064	9.9011	1.1161	9.9012	1.1564	A-	A-	A-
MATH	8	399397	0	C-G	2	116550	0.5798	0.1146	0.1904	0.1127	0.5798	0.0009	0.0016	0.2987	-0.1878	-0.0494	-0.2112	0.2987	-0.0213	-0.0203	-0.3954	0.0064	9.9012	1.1562	9.9012	1.1859	A+	A+	A+
MATH	8	404816	0	C-G	2	116550	0.5565	0.2298	0.5565	0.1488	0.062	0.0014	0.0015	0.4305	-0.2761	0.4305	-0.1485	-0.1757	-0.0406	-0.0247	-0.3412	0.0064	9.111	1.0226	4.991	1.0205	A+	A+	A+
MATH	8	405680	0	C-G	2	116550	0.5274	0.2047	0.5274	0.1493	0.1166	0.001	0.0009	0.3972	-0.1662	0.3972	-0.1983	-0.1831	-0.0314	-0.028	-0.2078	0.0064	9.9011	1.0607	9.9011	1.102	A+	A+	A+
MATH	8	412656	0	C-G	2	116550	0.3252	0.2465	0.2032	0.3252	0.2236	0.0007	0.0009	0.2732	-0.1283	-0.1382	0.2732	-0.0384	-0.0176	-0.0204	0.8191	0.0069	9.9012	1.2024	9.9014	1.3917	A-	A+	A+
MATH	8	301824	0	D-S	2	116550	0.3667	0.2011	0.182	0.2474	0.3667	0.0013	0.0015	0.3202	-0.1241	-0.1825	-0.0753	0.3202	-0.026	-0.0193	0.6023	0.0067	9.9012	1.1585	9.9013	1.2581	A-	A-	A+
MATH	8	335870	0	D-S	2	116550	0.4218	0.2419	0.1976	0.4218	0.1372	0.0008	0.0007	0.3771	-0.1881	-0.1733	0.3771	-0.1034	-0.0198	-0.0211	0.2542	0.0065	9.9011	1.0942	9.9011	1.1272	A+	A+	A+
MATH	8	335871	0	D-S	2	116550	0.5068	0.2179	0.168	0.5068	0.1053	0.0012	0.0009	0.5273	-0.2563	-0.2281	0.5273	-0.2301	-0.0345	-0.0248	-0.1979	0.0064	-9.8991	0.9186	-9.8991	0.8914	A-	A-	A-
MATH	8	399393	0	D-S	2	116550	0.6509	0.0863	0.1403	0.1212	0.6509	0.0005	0.0009	0.4269	-0.1182	-0.2464	-0.2562	0.4269	-0.0158	-0.0267	-0.9218	0.0066	-6.859	0.982	9.9011	1.0899	A+	A+	A+
MATH	8	404817	0	D-S	2	116550	0.8332	0.0365	0.8332	0.0725	0.056	0.0008	0.001	0.4398	-0.2007	0.4398	-0.2475	-0.263	-0.0334	-0.0232	-1.9198	0.0078	-9.8992	0.8091	-9.8993	0.6696	A+	A-	A-
MATH	8	416590	0	D-S	2	116550	0.5448	0.1771	0.1538	0.5448	0.1218	0.0014	0.0012	0.5506	-0.2426	-0.2941	0.5506	-0.2238	-0.0354	-0.0292	-0.2865	0.0064	-9.8991	0.883	-9.8992	0.8377	A-	A+	A+
MATH	8	494643	0	D-S	1	116550	0.3898	0.1025	0.3335	0.1708	0.3898	0.0019	0.0015	0.4781	-0.2526	-0.1275	-0.2497	0.4781	-0.0375	-0.022	0.413	0.0066	-9.899	0.9686	-5.219	0.9789	A+	A+	A+
MATH	8	566689	1	A-N	2	13575	0.2826	0.2826	0.1742	0.2264	0.3114	0.0045	0.001	0.1451	0.1451	-0.1743	-0.12	0.1166	-0.0411	-0.0078	0.9504	0.0193	9.9013	1.2947	9.9015	1.5152	A-	A-	A+
MATH	8	569266	1	B-E	1	13575	0.5629	0.1201	0.5629	0.1183	0.1962	0.0018	0.0007	0.5142	-0.2167	0.5142	-0.2686	-0.2403	-0.0492	-0.0149	-0.5265	0.0173	-9.8991	0.897	-9.8992	0.8415	A+	A+	A+
MATH	8	574410	1	B-E	2	13575	0.2278	0.3734	0.2278	0.2032	0.1917	0.0029	0.001	0.0851	0.0674	0.0851	-0.1252	-0.0369	-0.0524	-0.0166	1.2998	0.0206	9.9013	1.3075	9.9017	1.7336	A-	A-	A+
MATH	8	502450	1	B-F	2	13575	0.5008	0.1517	0.148	0.5008	0.1951	0.0027	0.0017	0.386	-0.1938	-0.1848	0.386	-0.1364	-0.055	-0.0224	-0.2251	0.0173	6.681	1.0459	3.571	1.0362	A+	A+	A+
MATH	8	574592	1	B-F	1	13575	0.1912	0.1894	0.1048	0.5109	0.1912	0.002	0.0017	0.1521	-0.1186	-0.1582	0.078	0.1521	-0.0531	-0.037	1.5492	0.0218	9.9012	1.218	9.9017	1.6986	A-	A-	A-
MATH	8	569269	1	C-G	1	13575	0.574	0.574	0.1257	0.1675	0.13	0.002	0.0008	0.3995	0.3995	-0.2377	-0.1611	-0.166	-0.0464	-0.0246	-0.5522	0.0173	-1.699	0.9888	-1.109	0.9878	A+	A-	A-
MATH	8	480712	1	D-S	2	13575	0.4928	0.0709	0.3209	0.4928	0.1112	0.0029	0.0014	0.342	-0.2516	-0.0809	0.342	-0.2069	-0.0564	-0.016	-0.183	0.0173	9.9011	1.0843	9.9011	1.131	A+	A-	A-
MATH	8	488719	1	D-S	1	13575	0.5579	0.197	0.0969	0.1448	0.5579	0.0029	0.0005	0.339	-0.1223	-0.1394	-0.2167	0.339	-0.0339	-0.0178	-0.4794	0.0173	8.0911	1.0541	9.9011	1.1343	A+	A+	A-
MATH	8	495718	2	A-N	1	12925	0.4812	0.3428	0.4812	0.0789	0.0933	0.002	0.0018	0.4995	-0.3201	0.4995	-0.2924	-0.0548	-0.0533	-0.0107	0.026	0.0185	-9.6491	0.9288	-7.5391	0.916	A-	A-	A-
MATH	8	499241	2	A-N	1	12925	0.45	0.2705	0.1879	0.0887	0.45	0.0015	0.0014	0.4705	-0.3378	-0.0351	-0.2363	0.4705	-0.0413	-0.0406	0.1838	0.0186	-4.469	0.9656	-4.059	0.9542	A+	A-	A-
MATH	8	488714	2	B-E	2	12925	0.3786	0.3786	0.1796	0.2543	0.183	0.0037	0.0008	0.3798	0.3798	-0.1028	-0.1106	-0.2426	-0.0389	-0.0153	0.5544	0.0191	6.6911	1.0581	8.8411	1.1151	A-	A-	A-
MATH	8	565842	2	B-E	1	12925	0.5745	0.2127	0.1128	0.5745	0.0966	0.0023	0.0011	0.4802	-0.1593	-0.3046	0.4802	-0.2451	-0.0499	-0.0318	-0.4682	0.0186	-9.0691	0.9348	-7.6691	0.9014	A+	A+	A-
MATH	8	565843	2	B-F	2	12925	0.5919	0.1626	0.5919	0.1137	0.1285	0.0023	0.001	0.5236	-0.2076	0.5236	-0.2827	-0.263	-0.0514	-0.0148	-0.5896	0.0187	-9.8991	0.8893	-9.8992	0.8455	A-	A+	A+
MATH	8	575464	2	B-F	2	12925	0.4961	0.4961	0.2023	0.1693	0.1284	0.0022	0.0017	0.4982	0.4982	-0.179	-0.2598	-0.2276	-0.0502	-0.0317	-0.0665	0.0185	-9.8991	0.9241	-9.7891	0.8906	A+	A-	A+
MATH	8	574589	2	C-G	2	12925	0.5413	0.1119	0.1962	0.1484	0.5413	0.0019	0.0004	0.4833	-0.2498	-0.2073	-0.2182	0.4833	-0.0408	-0.0225	-0.2881	0.0185	-8.0891	0.9418	-6.1591	0.9259	A-	A-	A-
MATH	8	574972	2	D-S	2	12925	0.4392	0.2277	0.1383	0.4392	0.1913	0.0029	0.0005	0.2888	-0.1045	-0.1989	0.2888	-0.0726	-0.038	-0.0111	0.2519	0.0187	9.9012	1.192	9.9013	1.2867	A+	A+	A-
MATH	8	574395	3	A-N	2	12892	0.334	0.3254	0.1455	0.334	0.1917	0.0015	0.0019	0.1987	0.0655	-0.2663	0.1987	-0.071	-0.0399	-0.0231	0.7561	0.0195	9.9012	1.2428	9.9014	1.3773	A-	A+	A-
MATH	8	499243	3	B-E	2	12892	0.4459	0.1124	0.4459	0.225	0.2132	0.0019	0.0017	0.4757	-0.1927	0.4757	-0.2174	-0.2006	-0.0333	-0.0294	0.132	0.0185	-9.8991	0.9265	-7.1491	0.9252	A-	A+	A+
MATH	8	502445	3	B-E	2	12892	0.2889	0.1658	0.1554	0.3863	0.2889	0.0022	0.0013	0.3476	-0.1831	-0.1962	-0.0297	0.3476	-0.0534	-0.037	1.0038	0.0202	3.701	1.0377	9.9012	1.1788	A-	A+	A+
MATH	8	495725	3	B-F	2	12892	0.5966	0.2062	0.5966	0.1036	0.0905	0.0022	0.0009	0.4953	-0.2211	0.4953	-0.2925	-0.2129	-0.0514	-0.0301	-0.6182	0.0185	-9.8991	0.8877	-9.8992	0.8306	A+	A+	A+
MATH	8	499245	3	B-F	1	12892	0.2571	0.217	0.2571	0.4291	0.0935	0.0018	0.0016	0.1535	-0.1609	0.1535	0.1186	-0.1962	-0.0396	-0.0181	1.195	0.0209	9.9013	1.2531	9.9016	1.5539	A-	A+	A+
MATH	8	575470	3	C-G	2	12892	0.2296	0.2296	0.4073	0.1732	0.1869	0.0014	0.0016	0.0702	0.0702	0.2135	-0.2426	-0.1015	-0.0472	-0.0323	1.4258	0.0219	9.9013	1.3034	9.9018	1.8179	A-	A+	A+
MATH	8	487620	3	D-S	2	12892	0.3455	0.2118	0.3455	0.2228	0.2162	0.003	0.0008	0.2843	-0.1382	0.2843	-0.03	-0.1568	-0.0237	-0.0138	0.6945	0.0194	9.9011	1.1483	9.9013	1.2596	A+	A-	A-
MATH	8	569270	3	D-S	1	12892	0.5683	0.0918	0.1937	0.1398	0.5683	0.0058	0.0006	0.5346	-0.2529	-0.2352	-0.2776	0.5346	-0.0276	-0.0205	-0.4693	0.0184	-9.8991	0.852	-9.8992	0.8016	A+	A-	A-
MATH	8	480708	4	A-N	2	12851	0.4083	0.2722	0.1426	0.1735	0.4083	0.0022	0.0012	0.4501	-0.0815	-0.2649	-0.236	0.4501	-0.0453	-0.0241	0.3597	0.0201	-5.299	0.9556	-3.249	0.9611	A-	A+	A+
MATH	8	575467	4	A-N	1	12851	0.5446	0.1105	0.5446	0.1703	0.1727	0.0012	0.0008	0.3928	-0.1693	0.3928	-0.1501	-0.2244	-0.0287	-0.0109	-0.3237	0.0197	2.271	1.0171	2.221	1.0281	A+	A+	A+
MATH	8	503513	4	B-E	2	12851	0.6139	0.1428	0.6139	0.1599	0.0803	0.0013	0.0018	0.4506	-0.1796	0.4506	-0.2618	-0.2128	-0.041	-0.029	-0.6712	0.02	-8.7591	0.9339	-7.7091	0.8902	A-	A+	A+
MATH	8	574933	4	B-E	2	12851	0.2717	0.2627	0.2717	0.2654	0.1969	0.0019	0.0012	0.0507	0.0127	0.0507	-0.0447	-0.0157	-0.0301	-0.0245	1.1273	0.0222	9.9014	1.4	9.9017	1.7303	A-	A-	A+
MATH	8	416594	4	B-F	2	12851	0.4681	0.4681	0.1422	0.2607	0.1247	0.0037	0.0005	0.4468	0.4468	-0.2232	-0.154	-0.2273	-0.0312	-0.0173	0.056	0.0198	-4.489	0.9651	-4.8191	0.9451	A-	A-	A-
MATH	8	566691	4	B-F	1	12851	0.2677	0.1375	0.197	0.2677	0.3948	0.0026	0.0005	0.1191	-0.1232	-0.0558	0.1191	0.0281	-0.0268	-0.0228	1.1528	0.0223	9.9013	1.2848	9.9016	1.5818	A-	A+	A-
MATH	8	416554	4	C-G	2	12851	0.4466	0.1933	0.1287	0.4466	0.2292	0.0013	0.0009	0.3693	-0.2694	-0.1993	0.3693	-0.0192	-0.0403	-0.0307	0.1642	0.0199	6.8611	1.0562	5.7411	1.0684	A-	A-	A-
MATH	8	416551	4	D-S	2	12851	0.2911	0.0787	0.4528	0.1734	0.2911	0.0022	0.0018	0.1879	-0.2706	0.0839	-0.136	0.1879	-0.0437	-0.0169	1.0081	0.0218	9.9012	1.2226	9.9014	1.407	A+	A+	A+
MATH	8	574595	5	A-N	1	12891	0.5988	0.157	0.1116	0.1268	0.5988	0.0048	0.001	0.4508	-0.1214	-0.2452	-0.2905	0.4508	-0.0359	-0.0147	-0.6194	0.02	-6.8791	0.9476	-4.9891	0.9276	A+	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
MATH	8	503512	5	B-E	2	12891	0.6114	0.1462	0.1554	0.6114	0.0834	0.0029	0.0007	0.5324	-0.251	-0.273	0.5324	-0.2499	-0.0426	-0.0204	-0.6844	0.0201	-9.8991	0.8578	-9.8992	0.7977	A-	A-	A-
MATH	8	565869	5	B-E	1	12891	0.6508	0.1078	0.1054	0.6508	0.1311	0.0033	0.0016	0.5019	-0.2384	-0.2708	0.5019	-0.235	-0.0331	-0.0239	-0.8907	0.0204	-9.8991	0.8762	-9.8992	0.8044	A+	A-	A-
MATH	8	503514	5	B-F	2	12891	0.458	0.1954	0.458	0.2048	0.1383	0.0022	0.0013	0.4326	-0.1372	0.4326	-0.2227	-0.2001	-0.0394	-0.0093	0.091	0.02	-0.419	0.9966	-0.879	0.9894	A-	A-	A-
MATH	8	574471	5	B-F	2	12891	0.4631	0.207	0.1567	0.4631	0.1703	0.0016	0.0013	0.3667	-0.1628	-0.2182	0.3667	-0.0916	-0.0497	-0.0319	0.065	0.0199	9.1111	1.0756	8.3611	1.1045	A-	A-	A-
MATH	8	494640	5	C-G	2	12891	0.4198	0.4198	0.2018	0.2422	0.1327	0.0025	0.0011	0.3166	0.3166	-0.1006	-0.1525	-0.1406	-0.044	-0.0203	0.2879	0.0202	9.9011	1.1334	9.9012	1.1957	A-	A-	A-
MATH	8	565844	5	C-G	1	12891	0.4436	0.1389	0.2537	0.4436	0.161	0.0019	0.0009	0.4184	-0.2345	-0.126	0.4184	-0.1885	-0.0412	-0.0289	0.1649	0.02	1.991	1.0166	1.871	1.0228	A+	A+	A+
MATH	8	574590	5	D-S	2	12891	0.3589	0.218	0.3589	0.2477	0.1719	0.0021	0.0015	0.305	-0.0787	0.305	-0.129	-0.1457	-0.041	-0.0331	0.6138	0.0208	9.9011	1.1369	9.9012	1.2217	A-	A+	A+
MATH	8	494637	6	A-N	1	12908	0.5672	0.1054	0.1823	0.5672	0.1389	0.0057	0.0005	0.4297	-0.1983	-0.1604	0.4297	-0.2545	-0.024	-0.0113	-0.4728	0.0199	-2.599	0.9802	-1.979	0.9728	A+	A-	A-
MATH	8	495722	6	B-E	1	12908	0.5103	0.1522	0.1956	0.5103	0.1374	0.0026	0.0019	0.4382	-0.1824	-0.2196	0.4382	-0.1825	-0.0498	-0.0249	-0.187	0.0198	-1.709	0.9867	-3.089	0.9618	A+	A+	A-
MATH	8	574949	6	B-E	2	12908	0.3571	0.1491	0.3571	0.2907	0.1999	0.0022	0.001	0.3582	-0.2271	0.3582	-0.04	-0.1749	-0.0395	-0.0261	0.6108	0.0208	7.5411	1.0741	9.6511	1.1405	A-	A+	A+
MATH	8	480715	6	B-F	2	12908	0.4895	0.1216	0.2175	0.4895	0.1667	0.0042	0.0005	0.4733	-0.2273	-0.2139	0.4733	-0.1927	-0.0281	-0.0195	-0.0825	0.0198	-6.5691	0.9485	-6.8591	0.9184	A+	A+	A+
MATH	8	574959	6	B-F	1	12908	0.3337	0.3337	0.2838	0.2222	0.1577	0.0015	0.0012	0.3312	0.3312	-0.0638	-0.1241	-0.2018	-0.0317	-0.0314	0.7432	0.0212	9.7111	1.1007	9.9012	1.2074	A-	A-	A+
MATH	8	574971	6	C-G	1	12908	0.3926	0.2333	0.2653	0.3926	0.1064	0.0014	0.0011	0.4416	-0.021	-0.3547	0.4416	-0.1539	-0.0394	-0.0384	0.4178	0.0204	-1.689	0.9848	0.291	1.0037	A-	A-	A-
MATH	8	488720	6	D-S	2	12908	0.3043	0.3043	0.1386	0.1425	0.4117	0.0018	0.0011	0.3002	0.3002	-0.2467	-0.1842	0.0287	-0.0504	-0.0142	0.9153	0.0217	9.9012	1.1515	9.9013	1.2802	A-	A-	A-
MATH	8	502455	6	D-S	2	12908	0.5648	0.103	0.5648	0.1605	0.1666	0.0031	0.002	0.35	-0.209	0.35	-0.1892	-0.0985	-0.0527	-0.0192	-0.4607	0.0199	8.9411	1.07	7.4011	1.1051	A+	A-	A+
MATH	8	493096	7	A-N	2	12848	0.3692	0.1669	0.3692	0.2404	0.2202	0.0019	0.0014	0.3188	-0.1653	0.3188	-0.1704	-0.0403	-0.0368	-0.0294	0.5427	0.0205	9.9011	1.0948	9.9012	1.1631	A-	A-	A-
MATH	8	494635	7	B-E	2	12848	0.4029	0.1761	0.2156	0.2017	0.4029	0.0022	0.0016	0.441	-0.2532	-0.1359	-0.1528	0.441	-0.0351	-0.0257	0.3654	0.0202	-4.049	0.9657	-2.399	0.9715	A-	A-	A+
MATH	8	574935	7	B-E	1	12848	0.3768	0.3768	0.2045	0.3103	0.104	0.0034	0.001	0.0951	0.0951	-0.1502	0.1655	-0.1958	-0.0311	-0.0145	0.502	0.0204	9.9014	1.3677	9.9015	1.4784	A+	A+	A+
MATH	8	495726	7	B-F	2	12848	0.5756	0.1193	0.092	0.5756	0.2108	0.0014	0.0009	0.475	-0.2201	-0.2865	0.475	-0.1924	-0.0352	-0.0275	-0.4976	0.0198	-9.8991	0.9176	-9.6091	0.8809	A-	A-	A-
MATH	8	569260	7	B-F	2	12848	0.3913	0.0985	0.129	0.3913	0.3771	0.0017	0.0023	0.1888	-0.1986	-0.191	0.1888	0.069	-0.0396	-0.015	0.4253	0.0203	9.9012	1.2446	9.9013	1.318	A-	A+	A-
MATH	8	487627	7	C-G	2	12848	0.3223	0.1898	0.2613	0.2229	0.3223	0.0022	0.0015	0.4599	-0.0887	-0.2165	-0.1967	0.4599	-0.0438	-0.0282	0.8009	0.0211	-7.9191	0.9231	-1.009	0.9852	A+	A+	A+
MATH	8	488686	7	C-G	2	12848	0.4497	0.2144	0.4497	0.1703	0.1627	0.0017	0.0012	0.4443	-0.1764	0.4443	-0.2433	-0.148	-0.0355	-0.0316	0.1266	0.0199	-4.179	0.9668	-3.569	0.9602	A-	A-	A-
MATH	8	574973	7	D-S	1	12848	0.1889	0.1889	0.1521	0.3623	0.2927	0.0034	0.0006	-0.0028	-0.0028	-0.083	0.0898	-0.0218	-0.0265	-0.031	1.6779	0.0249	9.9013	1.3474	9.9021	2.0536	A-	A-	A-
MATH	8	495719	8	A-N	2	12820	0.3925	0.184	0.3925	0.1696	0.2498	0.0032	0.0009	0.3716	-0.2653	0.3716	-0.2486	0.0366	-0.0121	-0.0156	0.438	0.0204	7.0311	1.0637	7.4211	1.0989	A+	A+	A+
MATH	8	574931	8	A-N	1	12820	0.6803	0.0934	0.6803	0.1112	0.1109	0.0034	0.0008	0.5224	-0.2682	0.5224	-0.2738	-0.2457	-0.0264	-0.0282	-1.0405	0.0208	-9.8992	0.8435	-9.8992	0.7534	A+	A-	A+
MATH	8	415802	8	B-E	1	12820	0.5089	0.2594	0.1314	0.5089	0.097	0.0015	0.002	0.4297	-0.1351	-0.3021	0.4297	-0.1738	-0.039	-0.015	-0.1575	0.0198	-1.749	0.9864	-2.439	0.97	A+	A-	A+
MATH	8	502447	8	B-E	2	12820	0.473	0.214	0.473	0.1666	0.1433	0.002	0.001	0.3605	-0.0509	0.3605	-0.2541	-0.1764	-0.0407	-0.0241	0.0229	0.0199	9.0011	1.0738	7.1311	1.0887	A+	A+	A+
MATH	8	575469	8	B-E	1	12820	0.475	0.2475	0.1614	0.475	0.1137	0.0018	0.0006	0.3009	-0.0327	-0.1755	0.3009	-0.2181	-0.041	-0.023	0.013	0.0199	9.9011	1.1456	9.9012	1.1935	A+	A+	A+
MATH	8	488716	8	B-F	2	12820	0.3294	0.2551	0.3294	0.2209	0.1917	0.0019	0.0009	0.3753	-0.1105	0.3753	-0.203	-0.1076	-0.0274	-0.0143	0.785	0.0212	3.511	1.0354	9.4311	1.1491	A-	A-	A+
MATH	8	480717	8	C-G	1	12820	0.2587	0.1847	0.4855	0.2587	0.0686	0.0014	0.0011	0.3785	-0.2749	-0.0195	0.3785	-0.1856	-0.0381	-0.0299	1.2156	0.0227	-0.829	0.9902	9.6012	1.1964	A-	A-	A-
MATH	8	574473	8	D-S	1	12820	0.6218	0.6218	0.0654	0.0619	0.247	0.0016	0.0023	0.378	0.378	-0.2335	-0.2377	-0.1514	-0.0479	-0.023	-0.7286	0.0202	1.441	1.0115	4.9111	1.0793	A-	A-	A-
MATH	8	569268	9	A-N	2	12840	0.416	0.416	0.1664	0.1452	0.2695	0.0018	0.0012	0.2554	0.2554	-0.1283	-0.2578	0.0337	-0.0397	-0.0176	0.3036	0.0201	9.9012	1.1885	9.9013	1.2969	A-	A-	A-
MATH	8	335241	9	B-E	2	12840	0.4128	0.1499	0.1981	0.4128	0.2361	0.0021	0.001	0.2899	-0.2216	-0.1154	0.2899	-0.0354	-0.035	-0.0307	0.3204	0.0201	9.9011	1.1397	9.9012	1.1949	A-	A-	A-
MATH	8	574469	9	B-E	2	12840	0.5046	0.109	0.5046	0.1533	0.2292	0.0025	0.0014	0.395	-0.1872	0.395	-0.2605	-0.1008	-0.0362	-0.0301	-0.1417	0.0197	3.011	1.0232	1.631	1.0191	A-	A+	A-
MATH	8	574948	9	B-E	1	12840	0.6158	0.6158	0.1096	0.1469	0.1234	0.0032	0.0011	0.433	0.433	-0.2359	-0.1835	-0.2094	-0.0343	-0.0355	-0.6988	0.0201	-5.949	0.954	-5.3891	0.9233	A+	A+	A+
MATH	8	574588	9	B-F	2	12840	0.4026	0.2063	0.4026	0.2292	0.1583	0.0024	0.0012	0.3431	-0.0927	0.3431	-0.172	-0.1511	-0.0467	-0.0306	0.3729	0.0202	9.0411	1.0791	9.6211	1.1222	A+	A-	A+
MATH	8	416369	9	C-G	2	12840	0.4374	0.1803	0.4374	0.1678	0.21	0.0034	0.0012	0.3269	-0.1652	0.3269	-0.1814	-0.0687	-0.0349	-0.0253	0.1947	0.02	9.9011	1.1049	9.9011	1.1452	A-	A-	A+
MATH	8	569263	9	C-G	2	12840	0.2639	0.1921	0.2639	0.1771	0.3639	0.0019	0.0011	0.0335	-0.1021	0.0335	-0.1531	0.1803	-0.0365	-0.0367	1.1593	0.0223	9.9014	1.3965	9.9018	1.7774	A-	A+	A+
MATH	8	569264	9	D-S	1	12840	0.6185	0.0604	0.1837	0.6185	0.1335	0.0021	0.0018	0.3873	-0.271	-0.2123	0.3873	-0.1122	-0.0475	-0.0243	-0.7128	0.0201	-1.159	0.9909	2.671	1.0398	A+	A-	A-
SCIENCE	4	252203	0	A	2	117700	0.5176	0.0563	0.5176	0.1417	0.2804	0.0016	0.0024	0.4716	-0.1426	0.4716	-0.1758	-0.3066	-0.0417	-0.0434	0.9678	0.0063	-9.8991	0.9477	-9.8991	0.9391	A-	A-	A-
SCIENCE	4	270395	0	A	3	117700	0.4556	0.4556	0.2201	0.1575	0.1629	0.0017	0.0023	0.3407	0.3407	-0.1304	-0.1765	-0.1296	-0.041	-0.0386	1.2707	0.0063	9.9011	1.0857	9.9011	1.1168	A+	A-	A+
SCIENCE	4	270396	0	A	2	117700	0.4672	0.2673	0.1707	0.4672	0.0923	0.0006	0.0018	0.4493	-0.2665	-0.1032	0.4493	-0.2264	-0.0247	-0.029	1.121	0.0063	-9.899	0.9679	-9.089	0.9713	A+	A-	A-
SCIENCE	4	270399	0	A	2	117700	0.492	0.0608	0.3057	0.1385	0.492	0.0011	0.0019	0.3907	-0.2588	-0.139	-0.1941	0.3907	-0.035	-0.0284	1.0746	0.0063	9.901	1.0348	9.901	1.0377	A-	A-	A-
SCIENCE	4	270400	0	A	2	117700	0.6722	0.1353	0.6722	0.0702	0.1201	0.0006	0.0017	0.5129	-0.28	0.5129	-0.2724	-0.226	-0.0237	-0.0332	0.102	0.0067	-9.8991	0.906	-9.8992	0.8464	A+	A-	A-
SCIENCE	4	304880	0	A	2	117700	0.6783	0.1596	0.6783	0.0781	0.0816	0.0009	0.0015	0.4512	-0.253	0.4512	-0.1906	-0.2371	-0.0293	-0.0303	0.1849	0.0066	-9.8991	0.9358	-9.8991	0.8992	A-	A-	A-
SCIENCE	4	304887	0	A	2	117700	0.5314	0.5314	0.1193	0.1292	0.2164	0.0011	0.0026	0.3983	0.3983	-0.2203	-0.2342	-0.1121	-0.0322	-0.031	0.8967	0.0063	9.901	1.0238	7.901	1.0257	A-	A+	A+
SCIENCE	4	409030	0	A	2	117700	0.6485	0.056	0.2464	0.6485	0.0471	0.0008	0.0013	0.356	-0.2129	-0.1858	0.356	-0.1852	-0.0244	-0.029	0.2661	0.0065	9.9011	1.0581	9.9011	1.085	A+	A-	A-
SCIENCE	4	411193	0	A	2	117700	0.5405	0.131	0.0735	0.5405	0.253	0.0008	0.0013	0.3679	-0.2345	-0.2668	0.3679	-0.0751	-0.0273	-0.0327	0.8202	0.0063	9.9011	1.0585	9.9011	1.0726	A+	A+	A+
SCIENCE	4	411757	0	A	2	117700	0.5475	0.0986	0.5475	0.2138	0.136	0.0019	0.0022	0.4617	-0.2299	0.4617	-0.2519	-0.1589	-0.0406	-0.0359	0.8623	0.0063	-9.899	0.9554	-9.8991	0.9408	A-	A+	A+
SCIENCE	4	494423	0	A	3	117700	0.6973	0.6973	0.1014	0.1285	0.0696	0.0011	0.0021	0.4659	0.4659	-0.2738	-0.2347	-0.1982	-0.0362	-0.0265	0.0259	0.0067	-9.8991	0.922	-9.8991	0.899	A-	A-	A-
SCIENCE	4	494806	0	A	2	117700	0.6054	0.0742	0.6054	0.0977	0.2204	0.0007	0.0015	0.3491	-0.2592	0.3491	-0.1765	-0.117	-0.0338	-0.0214	0.4912	0.0064	9.9011	1.0711	9.9011	1.1014	A+	A-	A-
SCIENCE	4	494812	0	A	2	117700	0.6712	0.1576	0.0861	0.6712	0.0813	0.0018	0.002	0.4801	-0.1874	-0.284	0.4801	-0.2724	-0.0486	-0.0251	0.185	0.0066	-9.8991	0.9117	-9.8991	0.8867	A+	A+	A+
SCIENCE	4	494815	0	A	2	117700	0.3233	0.2361	0.2338	0.3233	0.2028	0.0014	0.0026	0.2453	-0.1634	-0.1577	0.2453	0.0598	-0.0327	-0.0289	1.8688	0.0066	9.9011	1.1291	9.9013	1.2791	A-	A+	A+
SCIENCE	4	494822	0	A	2	117700	0.7985	0.0595	0.0369	0.103	0.7985	0.0007	0.0013	0.3873	-0.2011	-0.2276	-0.2073	0.3873	-0.0281	-0.0306	-0.6554	0.0077	-7.589	0.9679	-2.739	0.979	B+	A+	A+
SCIENCE	4	494827	0	A	3	117700	0.3648	0.1071	0.1581	0.3678	0.3648	0.0009	0.0014	0.3037	-0.2652	-0.2301	0.0443	0.3037	-0.0288	-0.0201	1.6982	0.0065	9.9011	1.1013	9.9012	1.176	A+	A+	A+
SCIENCE	4	494837	0	A	2	117700	0.5822	0.1684	0.096	0.5822	0.15	0.0015	0.0019	0.5358	-0.2786	-0.2432	0.5358	-0.2379	-0.0428	-0.0395	0.6526	0.0063	-9.8991	0.8782	-9.8992	0.8362	A-	A-	A+
SCIENCE	4	495282	0	A	2	117700	0.5595	0.5595	0.1174	0.2136	0.1054	0.0014	0.0027	0.2778	0.2778	-0.0687	-0.0787	-0.2611	-0.0386	-0.0364	0.6751	0.0063	9.9012	1.1559	9.9012	1.2092	A+	A+	A+
SCIENCE	4	495283	0	A	2	117700	0.7869	0.0641	0.7869	0.0653	0.0806	0.0011	0.002	0.5402	-0.27	0.5402	-0.2789	-0.3056	-0.0352	-0.0404	-0.4829	0.0074	-9.8992	0.7992	-9.8994	0.6487	A+	A-	A-
SCIENCE	4	298762	0	B	2	117700	0.7754	0.7754	0.0667	0.067	0.0875	0.0012	0.0022	0.4804	0.4804	-0.2633	-0.2464	-0.2479	-0.0363	-0.0403	-0.3823	0.0072	-9.8991	0.8583	-9.8993	0.7498	A+	A+	A+
SCIENCE	4	409070	0	B	2	117700	0.7029	0.059	0.7029	0.1562	0.0783	0.0015	0.0022	0.3864	-0.2452	0.3864	-0.1359	-0.2465	-0.0437	-0.0337	0.0142	0.0068	-2.679	0.9919	0.921	1.0047	A+	A+	A+
SCIENCE	4	411344	0	B	2	117700	0.3878	0.1436	0.1745	0.2902	0.3878	0.0015	0.0023	0.4739	-0.1954	-0.3483	-0.0595	0.4739	-0.0374	-0.0363	1.5995	0.0064	-9.8991	0.9275	-9.899	0.9531	A-	A+	A+
SCIENCE	4	411527	0	B	2	117700	0.4886	0.4886	0.1556	0.1018	0.2503	0.0011	0.0027	0.4996	0.4996	-0.2667	-0.2315	-0.1854	-0.0312	-0.0332	1.0335	0.0063	-9.8991	0.9185	-9.8991	0.9058	A-	A-	A-
SCIENCE	4	496710	0	B	2	117700	0.7364	0.7364	0.0589	0.1526	0.0489	0.0007	0.0024	0.4423	0.4423	-0.2317	-0.248	-0.2263	-0.0264	-0.0323	-0.1289	0.0069	-9.8991	0.9196	-9.8991	0.8535	A-	A+	A+
SCIENCE	4	496717	0	B	2	117700	0.311	0.1485	0.311	0.3312	0.2057	0.0015	0.0022	0.2422	-0.1863	0.2422	0.0003	-0.1064	-0.0347	-0.0369	1.863	0.0066	9.9011	1.1036	9.9013	1.2654	A-	A+	A+
SCIENCE	4	498446	0	B	2	117700	0.644	0.067	0.644	0.1268	0.1587	0.0012	0.0022	0.443	-0.2156	0.443	-0.2298	-0.2162	-0.0373	-0.0305	0.333	0.0065	-9.899	0.9641	-9.899	0.953	A+	A-	A-
SCIENCE	4	272640	0	C	2	117700	0.5602	0.208	0.096	0.1327	0.5602	0.001	0.002	0.4454	-0.2407	-0.1537	-0.2228	0.4454	-0.0295	-0.0357	0.7503	0.0063	-9.899	0.9731	-6.169	0.9794	A-	A-	A+
SCIENCE	4	272642	0	C	2	117700	0.4838	0.2397	0.1452	0.4838	0.1281	0.0009	0.0022	0.3684	-0.1869	-0.163	0.3684	-0.1333	-0.0307	-0.0301	1.0683	0.0063	9.9011	1.0581	9.9011	1.0719	A+	A+	A+
SCIENCE	4	496495	0	C	2	117700	0.293	0.293	0.1535	0.4645	0.0859	0.0009	0.0022	0.2386	0.2386	-0.0726	-0.081	-0.1421	-0.0269	-0.0293	2.0092	0.0067	9.9011	1.12	9.9013	1.2715	A-	A+	A+
SCIENCE	4	496496	0	C	2	117700	0.4854	0.1394	0.4854	0.1289	0.2437	0.001	0.0017	0.3636	-0.2058	0.3636	-0.1441	-0.1405	-0.0308	-0.0211	1.1133	0.0063	9.9011	1.0625	9.9011	1.0833	A-	A-	A-
SCIENCE	4	496504	0	C	2	117700	0.6669	0.1123	0.6669	0.0874	0.1312	0.0007	0.0015	0.4949	-0.2777	0.4949	-0.2498	-0.2167	-0.0313	-0.0256	0.1664	0.0066	-9.8991	0.9114	-9.8991	0.8711	A-	A-	A-
SCIENCE	4	496876	0	C	2	117700	0.5566	0.5566	0.1023	0.2217	0.1116	0.0017	0.0061	0.3909	0.3909	-0.2969	-0.1133	-0.1698	-0.0444	-0.0243	0.7681	0.0063	9.901	1.0313	8.611	1.0291	A-	A+	A+
SCIENCE	4	279554	0	D	2	117700	0.3465	0.3465	0.174	0.2689	0.2065	0.0016	0.0024	0.2993	0.2993	-0.1652	-0.0183	-0.1697	-0.041	-0.0268	1.8776	0.0066	9.9011	1.118	9.9012	1.2411	A-	A-	A-
SCIENCE	4	299622	0	D	2	117700	0.3826	0.2522	0.1887	0.1724	0.3826	0.0018	0.0024	0.3112	-0.1997	-0.0119	-0.1495	0.3112	-0.0453	-0.0309	1.5876	0.0064	9.9011	1.0922	9.9012	1.1675	A-	A+	A-
SCIENCE	4	305000	0	D	2	117700	0.3898	0.2402	0.3898	0.1876	0.1788	0.0015	0.0021	0.3835	-0.1019	0.3835	-0.1707	-0.1928	-0.0374	-0.0336	1.5226	0.0064	4.911	1.0124	9.9011	1.0721	A-	A-	A-
SCIENCE	4	496519	0	D	2	117700	0.6712	0.6712	0.0919	0.1173	0.1164	0.0013	0.002	0.4603	0.4603	-0.1951	-0.3018	-0.1861	-0.0377	-0.0398	0.1949	0.0066	-9.8991	0.9326	-9.8991	0.9144	A+	A-	A-
SCIENCE	4	496522	0	D	3	117700	0.6127	0.6127	0.0779	0.0907	0.2164	0.0009	0.0014	0.428	0.428	-0.2521	-0.2438	-0.1676	-0.0355	-0.0229	0.4038	0.0064	0.801	1.0021	-2.049	0.9919	A+	A+	A-
SCIENCE	4	498458	0	D	2	117700	0.7591	0.0517	0.0492	0.7591	0.1378	0.0007	0.0015	0.4952	-0.2759	-0.2574	0.4952	-0.2695	-0.0307	-0.0335	-0.3106	0.0071	-9.8991	0.8603	-9.8992	0.7689	A-	A-	A-
SCIENCE	4	494810	1	A	2	10355	0.6851	0.0834	0.6851	0.0979	0.1197	0.0129	0.0009	0.5509	-0.2517	0.5509	-0.2538	-0.3288	-0.0289	-0.0279	-0.0165	0.0204	-9.8992	0.8109	-9.8993	0.7247	A-	A-	A-
SCIENCE	4	565987	1	A	2	10355	0.5642	0.0905	0.5642	0.201	0.1404	0.0016	0.0023	0.4131	-0.1483	0.4131	-0.2088	-0.2147	-0.0388	-0.0516	0.6049	0.0194	-4.249	0.9683	-2.499	0.9731	A+	A-	A-
SCIENCE	4	574831	1	A	2	10355	0.629	0.1282	0.115	0.1232	0.629	0.0021	0.0024	0.5216	-0.2198	-0.2631	-0.2763	0.5216	-0.0414	-0.0366	0.2857	0.0198	-9.8991	0.8615	-9.8992	0.8053	A-	A-	A+
SCIENCE	4	574878	1	A	2	10355	0.5561	0.2167	0.1139	0.1064	0.5561	0.004	0.003	0.3756	-0.1426	-0.2116	-0.1835	0.3756	-0.0377	-0.0309	0.6259	0.0194	3.211	1.0243	0.281	1.0029	A-	A-	A+
SCIENCE	4	496706	1	B	1	10355	0.4407	0.0803	0.2224	0.4407	0.2415	0.0135	0.0015	0.3263	-0.2244	-0.0674	0.3263	-0.161	-0.0262	-0.0261	1.2196	0.0195	9.2411	1.0726	8.9511	1.0975	A+	A+	A-
SCIENCE	4	566203	1	B	2	10355	0.6625	0.6625	0.1415	0.1157	0.0753	0.0025	0.0025	0.4659	0.4659	-0.2191	-0.2567	-0.2173	-0.0603	-0.0286	0.1292	0.0201	-9.8991	0.9074	-9.8992	0.8474	A+	A+	A-
SCIENCE	4	566164	1	C	2	10355	0.5141	0.1254	0.5141	0.1177	0.2363	0.0032	0.0032	0.436	-0.1801	0.436	-0.265	-0.1568	-0.0615	-0.0489	0.8409	0.0193	-6.299	0.9539	-6.1591	0.9385	A+	A-	A-
SCIENCE	4	565986	1	D	2	10355	0.3962	0.2406	0.1256	0.2302	0.3962	0.0053	0.002	0.3125	-0.0805	-0.2413	-0.0809	0.3125	-0.0384	-0.0356	1.4474	0.0198	7.0111	1.0577	8.7111	1.1045	A-	A-	A-
SCIENCE	4	494808	2	A	2	9756	0.5033	0.0669	0.1032	0.5033	0.3154	0.0103	0.0009	0.3185	-0.1571	-0.0811	0.3185	-0.1959	-0.0325	-0.0321	1.0342	0.0207	8.0911	1.0633	8.2211	1.0872	A+	A+	A+
SCIENCE	4	565988	2	A	2	9756	0.4364	0.269	0.0809	0.208	0.4364	0.003	0.0028	0.3737	-0.0571	-0.2725	-0.2007	0.3737	-0.0433	-0.0362	1.3416	0.0208	-2.159	0.9832	1.131	1.0121	A+	A-	A+
SCIENCE	4	566170	2	A	2	9756	0.7549	0.081	0.7549	0.1034	0.0559	0.0027	0.0022	0.4342	-0.262	0.4342	-0.1914	-0.232	-0.0483	-0.0263	-0.3089	0.0238	-8.4791	0.9011	-7.1491	0.8586	A+	A-	A+
SCIENCE	4	574877	2	A	2	9756	0.3983	0.2086	0.2533	0.1347	0.3983	0.0033	0.0018	0.3257	-0.2226	0.0059	-0.1977	0.3257	-0.0553	-0.0214	1.5525	0.0211	3.211	1.0264	8.0311	1.0975	A+	A-	A-
SCIENCE	4	479683	2	B	2	9756	0.6075	0.1478	0.6075	0.0811	0.1541	0.0092	0.0003	0.4483	-0.1968	0.4483	-0.2359	-0.224	-0.0351	-0.0272	0.4721	0.0213	-9.7991	0.9185	-9.7891	0.8808	A+	A-	A-
SCIENCE	4	578732	2	B	2	9756	0.4317	0.4317	0.2368	0.1111	0.2157	0.0022	0.0026	0.1422	0.1422	0.0408	-0.2077	-0.0455	-0.0428	-0.0349	1.4111	0.0209	9.9012	1.2308	9.9013	1.318	A+	A+	A+
SCIENCE	4	566165	2	C	2	9756	0.7243	0.7243	0.0669	0.0915	0.1124	0.003	0.0018	0.5097	0.5097	-0.2474	-0.2841	-0.2587	-0.0353	-0.0087	-0.1306	0.023	-9.8992	0.8379	-9.8993	0.7461	A+	A-	A+
SCIENCE	4	579535	2	D	2	9756	0.3805	0.1517	0.2408	0.3805	0.2217	0.0037	0.0016	0.1479	-0.137	-0.0461	0.1479	0.0009	-0.0353	-0.0291	1.5954	0.0211	9.9012	1.1992	9.9013	1.2772	A-	A-	A+

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
SCIENCE	4	408836	3	A	2	9755	0.5216	0.1679	0.0803	0.2212	0.5216	0.008	0.001	0.3519	-0.2109	-0.2555	-0.054	0.3519	-0.0477	-0.028	0.93	0.0207	1.961	1.0151	4.581	1.0495	A+	A-	A-
SCIENCE	4	574815	3	A	2	9755	0.7638	0.0831	0.0686	0.0784	0.7638	0.0024	0.0037	0.4745	-0.2513	-0.2304	-0.2583	0.4745	-0.0579	-0.0278	-0.3776	0.0242	-9.8991	0.8532	-9.8993	0.7486	A+	A-	A-
SCIENCE	4	574825	3	A	2	9755	0.6519	0.1075	0.0718	0.6519	0.1645	0.0023	0.0021	0.3978	-0.1776	-0.2777	0.3978	-0.1606	-0.0361	-0.0347	0.273	0.0217	-4.809	0.9564	-4.0491	0.9423	A+	A-	A-
SCIENCE	4	576373	3	A	2	9755	0.6043	0.0423	0.6043	0.2831	0.0658	0.0027	0.0017	0.1716	-0.2462	0.1716	0.0511	-0.2161	-0.0489	-0.0298	0.5272	0.0212	9.9012	1.1989	9.9013	1.268	A+	A+	A+
SCIENCE	4	495291	3	B	2	9755	0.6156	0.1057	0.1377	0.6156	0.134	0.0068	0.0003	0.415	-0.2821	-0.1633	0.415	-0.1632	-0.0378	-0.0093	0.4583	0.0213	-5.709	0.9517	-4.2291	0.946	A+	A-	A+
SCIENCE	4	579571	3	B	2	9755	0.7039	0.0678	0.1667	0.7039	0.0587	0.0012	0.0016	0.4224	-0.2246	-0.2312	0.4224	-0.2042	-0.0293	-0.0286	-0.0118	0.0226	-7.1391	0.9273	-5.6791	0.9043	A-	A-	A-
SCIENCE	4	579554	3	C	2	9755	0.6438	0.0707	0.6438	0.2145	0.0662	0.003	0.0018	0.4323	-0.2437	0.4323	-0.1889	-0.2568	-0.0256	-0.0412	0.3009	0.0216	-8.4791	0.9248	-7.9891	0.8901	A+	A-	A-
SCIENCE	4	566167	3	D	2	9755	0.4048	0.2683	0.1771	0.1442	0.4048	0.0035	0.0021	0.289	-0.1287	-0.114	-0.1064	0.289	-0.034	-0.0427	1.5459	0.0211	8.9711	1.075	9.9011	1.1318	A+	A-	A-
SCIENCE	4	494804	4	A	2	9845	0.4377	0.1795	0.4377	0.2204	0.1537	0.0081	0.0006	0.3076	-0.129	0.3076	-0.0625	-0.2056	-0.0291	-0.0178	1.3462	0.0224	7.6911	1.0672	8.1511	1.1006	A+	A-	A-
SCIENCE	4	566172	4	A	2	9845	0.4833	0.1916	0.4833	0.2164	0.1057	0.0019	0.0011	0.3662	-0.0579	0.3662	-0.275	-0.1453	-0.0497	-0.0052	1.124	0.0223	1.691	1.0141	2.461	1.0284	B-	A-	A-
SCIENCE	4	574833	4	A	2	9845	0.4596	0.0832	0.4596	0.2749	0.1777	0.0021	0.0025	0.4027	-0.1801	0.4027	-0.1291	-0.2331	-0.0534	-0.0352	1.2389	0.0223	-3.439	0.9713	-1.729	0.98	A+	A-	A-
SCIENCE	4	580123	4	A	2	9845	0.6543	0.6543	0.1507	0.0478	0.1423	0.0027	0.002	0.392	0.392	-0.2138	-0.239	-0.158	-0.036	-0.0414	0.2759	0.0232	-3.029	0.9709	-3.2791	0.9491	A+	A-	A-
SCIENCE	4	498452	4	B	2	9845	0.6099	0.1316	0.1289	0.1195	0.6099	0.0098	0.0004	0.4714	-0.2439	-0.2283	-0.2062	0.4714	-0.0375	-0.0201	0.5046	0.0227	-9.8991	0.9046	-9.8992	0.8462	A-	A+	A-
SCIENCE	4	578733	4	B	2	9845	0.636	0.081	0.1007	0.636	0.1787	0.0019	0.0018	0.4057	-0.2623	-0.2311	0.4057	-0.1314	-0.0474	-0.0398	0.3716	0.023	-4.069	0.9623	-4.1391	0.9397	A+	A-	A+
SCIENCE	4	579925	4	C	2	9845	0.4382	0.2859	0.4382	0.1214	0.1494	0.0033	0.0018	0.3489	-0.0819	0.3489	-0.2198	-0.1709	-0.0377	-0.0296	1.3437	0.0224	2.891	1.0249	3.541	1.0428	A+	A-	A-
SCIENCE	4	579538	4	D	2	9845	0.7125	0.0936	0.7125	0.1266	0.0615	0.0043	0.0016	0.4582	-0.1934	0.4582	-0.2621	-0.2464	-0.0486	-0.0384	-0.0427	0.0242	-9.8991	0.8918	-8.3792	0.8471	A+	A-	A+
SCIENCE	4	494830	5	A	2	9770	0.7397	0.0579	0.1076	0.7397	0.0871	0.0073	0.0004	0.3532	-0.2232	-0.1857	0.3532	-0.145	-0.0451	-0.0276	-0.2261	0.025	-2.419	0.9708	1.291	1.0271	A+	A-	A+
SCIENCE	4	566176	5	A	2	9770	0.7325	0.1305	0.0529	0.0791	0.7325	0.0021	0.0028	0.3777	-0.1516	-0.1441	-0.2983	0.3777	-0.0523	-0.0175	-0.183	0.0248	-3.869	0.9545	-3.6791	0.927	A+	A-	A-
SCIENCE	4	566205	5	A	2	9770	0.4335	0.1498	0.2745	0.4335	0.1379	0.0017	0.0026	0.292	-0.2474	-0.0166	0.292	-0.1306	-0.0367	-0.0485	1.3456	0.0225	8.6111	1.0753	9.2511	1.1153	A-	A-	A-
SCIENCE	4	574816	5	A	2	9770	0.6144	0.6144	0.103	0.1818	0.0964	0.0027	0.0017	0.4213	0.4213	-0.2928	-0.1379	-0.2007	-0.0471	-0.0289	0.4603	0.0229	-5.9291	0.9464	-5.3191	0.9292	A+	A-	A+
SCIENCE	4	580787	5	B	2	9770	0.722	0.0753	0.722	0.1042	0.0944	0.0024	0.0017	0.4454	-0.2744	0.4454	-0.2072	-0.2028	-0.0647	-0.033	-0.1205	0.0246	-8.9191	0.9001	-9.1592	0.8315	A+	A-	A+
SCIENCE	4	409089	5	C	2	9770	0.7857	0.0819	0.074	0.046	0.7857	0.0112	0.0013	0.4326	-0.2369	-0.2513	-0.1956	0.4326	-0.0487	-0.0189	-0.5214	0.0265	-8.8291	0.88	-7.9192	0.8141	A+	A-	A-
SCIENCE	4	566202	5	C	2	9770	0.7178	0.0531	0.061	0.7178	0.1617	0.0043	0.002	0.3756	-0.2655	-0.2351	0.3756	-0.1301	-0.054	-0.0393	-0.0961	0.0245	-3.449	0.9609	-2.109	0.96	A+	A-	A+
SCIENCE	4	579924	5	D	2	9770	0.2466	0.4119	0.2466	0.1453	0.1888	0.006	0.0013	0.0428	0.1067	0.0428	-0.0903	-0.0904	-0.0437	-0.0097	2.3541	0.0254	9.9013	1.2536	9.9017	1.6701	A-	A+	A+
SCIENCE	4	494826	6	A	2	9710	0.5354	0.5354	0.1276	0.211	0.1149	0.0104	0.0006	0.3329	0.3329	-0.2458	0.0093	-0.2612	-0.0339	-0.0435	0.8607	0.0225	5.9411	1.0516	5.8411	1.0716	A-	A-	A-
SCIENCE	4	574826	6	A	2	9710	0.4838	0.059	0.0559	0.4838	0.3961	0.0033	0.0019	0.4249	-0.2399	-0.2375	0.4249	-0.1979	-0.0537	-0.0319	1.1115	0.0224	-4.739	0.9605	-3.369	0.9609	A-	A-	B-
SCIENCE	4	574835	6	A	2	9710	0.6987	0.1084	0.6987	0.0859	0.1021	0.003	0.002	0.493	-0.2139	0.493	-0.2709	-0.2629	-0.0416	-0.0435	0.0196	0.0242	-9.8991	0.865	-9.8992	0.7966	A+	A-	A-
SCIENCE	4	576378	6	A	2	9710	0.6919	0.0975	0.0568	0.6919	0.1477	0.005	0.001	0.4183	-0.242	-0.2547	0.4183	-0.1636	-0.0522	-0.02	0.0578	0.024	-5.0591	0.9464	-5.3291	0.907	A+	A-	A+
SCIENCE	4	565989	6	B	2	9710	0.4614	0.3886	0.1281	0.4614	0.0181	0.0024	0.0014	0.3337	-0.1617	-0.1938	0.3337	-0.1459	-0.0543	-0.0181	1.2208	0.0225	5.461	1.0471	5.4411	1.0661	A-	A-	A-
SCIENCE	4	496494	6	C	2	9710	0.7299	0.0649	0.1295	0.7299	0.0656	0.0093	0.0009	0.4821	-0.2772	-0.2212	0.4821	-0.2758	-0.0218	-0.0384	-0.1612	0.0249	-9.8991	0.8697	-9.8992	0.7985	A+	A-	A-
SCIENCE	4	579555	6	C	2	9710	0.7	0.0859	0.1108	0.7	0.0977	0.004	0.0015	0.4869	-0.2833	-0.2671	0.4869	-0.1884	-0.0486	-0.0219	0.0121	0.0242	-9.8991	0.8787	-9.8992	0.8032	A+	A+	A+
SCIENCE	4	579540	6	D	2	9710	0.4019	0.1332	0.1479	0.4019	0.3116	0.0045	0.0009	0.2776	-0.1416	-0.1929	0.2776	-0.0383	-0.028	0.0037	1.5149	0.0228	9.9011	1.0946	9.9012	1.1596	A+	A-	A-
SCIENCE	4	409020	7	A	2	9781	0.3614	0.1107	0.06	0.3614	0.4558	0.0113	0.0007	0.1461	-0.1796	-0.1601	0.1461	0.0604	-0.0512	-0.0186	1.7046	0.023	9.9012	1.2057	9.9013	1.3247	A+	A+	A+
SCIENCE	4	566208	7	A	2	9781	0.7652	0.7652	0.0791	0.0741	0.0761	0.0032	0.0024	0.4535	0.4535	-0.2603	-0.2008	-0.2466	-0.0441	-0.0317	-0.3707	0.0257	-9.8991	0.8741	-9.8992	0.7838	A+	A-	A+
SCIENCE	4	576372	7	A	2	9781	0.7721	0.0441	0.1447	0.7721	0.0339	0.0033	0.0019	0.3908	-0.1786	-0.2358	0.3908	-0.2207	-0.0427	-0.0437	-0.4155	0.0259	-5.5291	0.9276	-5.4991	0.8771	A-	A-	A-
SCIENCE	4	580124	7	A	2	9781	0.7075	0.0744	0.1045	0.1084	0.7075	0.0045	0.0007	0.49	-0.2631	-0.2426	-0.2443	0.49	-0.0449	-0.0243	-0.0253	0.0241	-9.8991	0.858	-9.8992	0.7828	A+	A-	A+
SCIENCE	4	567094	7	B	2	9781	0.2249	0.3032	0.2131	0.2249	0.2542	0.002	0.0026	0.116	-0.0766	-0.0544	0.116	0.0272	-0.0336	-0.0254	2.4871	0.0261	9.9011	1.149	9.9015	1.541	A-	A+	A+
SCIENCE	4	496497	7	C	2	9781	0.7157	0.0472	0.1467	0.0802	0.7157	0.0097	0.0005	0.4482	-0.2621	-0.2276	-0.2286	0.4482	-0.0345	-0.0279	-0.0718	0.0243	-9.2391	0.8997	-9.6192	0.8303	A+	B-	A-
SCIENCE	4	579926	7	C	2	9781	0.4465	0.1437	0.3153	0.4465	0.0901	0.0027	0.0017	0.3007	-0.2054	-0.022	0.3007	-0.2231	-0.0372	-0.0346	1.2818	0.0223	7.5211	1.0638	8.7611	1.1037	A-	A-	A+
SCIENCE	4	579541	7	D	2	9781	0.4775	0.1091	0.1875	0.4775	0.2212	0.0031	0.0016	0.2385	-0.1599	-0.0906	0.2385	-0.0739	-0.0457	-0.0173	1.1325	0.0222	9.9011	1.1298	9.9012	1.1665	A+	A-	A-
SCIENCE	4	494823	8	A	2	9714	0.6604	0.0707	0.2076	0.0538	0.6604	0.0066	0.0008	0.4732	-0.2772	-0.2403	-0.2352	0.4732	-0.0297	-0.0014	0.2166	0.0235	-9.8991	0.8927	-9.8992	0.8313	A+	A-	A-
SCIENCE	4	566173	8	A	2	9714	0.7458	0.7458	0.0943	0.0902	0.0649	0.0021	0.0028	0.3967	0.3967	-0.2066	-0.225	-0.1774	-0.0473	-0.0391	-0.2687	0.0252	-4.9791	0.9396	-5.5091	0.8847	B+	A-	A-
SCIENCE	4	574836	8	A	2	9714	0.7937	0.0564	0.0806	0.7937	0.0653	0.0019	0.0022	0.4553	-0.2318	-0.2441	0.4553	-0.2488	-0.0416	-0.0228	-0.5819	0.0269	-9.1191	0.8727	-9.8993	0.722	A+	A+	A+
SCIENCE	4	581718	8	A	3	9714	0.293	0.287	0.293	0.2289	0.1869	0.003	0.0011	0.1149	-0.0331	0.1149	-0.0407	-0.047	-0.0339	-0.0017	2.0762	0.0243	9.9012	1.2118	9.9015	1.46	A-	A-	A-
SCIENCE	4	579572	8	B	2	9714	0.8288	0.0426	0.0846	0.8288	0.0393	0.0026	0.0021	0.4483	-0.2486	-0.2567	0.4483	-0.2195	-0.064	-0.0294	-0.843	0.0287	-8.9391	0.8566	-9.8993	0.6883	A+	A-	A+
SCIENCE	4	496501	8	C	2	9714	0.4889	0.2064	0.1758	0.4889	0.1196	0.0083	0.0009	0.3184	-0.1856	-0.0622	0.3184	-0.177	-0.0215	-0.0319	1.0714	0.0224	7.3011	1.0626	7.2411	1.0857	A-	A-	A-
SCIENCE	4	578731	8	C	2	9714	0.6839	0.0454	0.6839	0.1789	0.0878	0.0024	0.0016	0.3874	-0.2237	0.3874	-0.1889	-0.2023	-0.0463	-0.0405	0.0899	0.0238	-2.969	0.9691	-3.0691	0.9477	A-	B-	A-
SCIENCE	4	579542	8	D	2	9714	0.2874	0.1991	0.3624	0.2874	0.1472	0.0034	0.0005	0.1449	-0.0375	-0.0447	0.1449	-0.0749	-0.0411	-0.0063	2.1081	0.0245	9.9012	1.1956	9.9014	1.4056	A+	A-	A-
SCIENCE	4	494819	9	A	2	9783	0.7077	0.7077	0.1036	0.1198	0.0597	0.0088	0.0004	0.4694	0.4694	-0.2977	-0.1593	-0.287	-0.0327	0.0009	-0.0145	0.0242	-9.8991	0.8741	-8.3391	0.8534	A+	A-	A-
SCIENCE	4	566179	9	A	2	9783	0.3218	0.2062	0.3218	0.1733	0.2942	0.0026	0.002	0.1585	-0.2297	0.1585	-0.132	0.1614	-0.0531	-0.0446	1.9346	0.0236	9.9012	1.1822	9.9013	1.341	A-	A+	A-
SCIENCE	4	574828	9	A	2	9783	0.6871	0.0731	0.1699	0.0659	0.6871	0.0015	0.0025	0.4888	-0.2219	-0.2756	-0.2521	0.4888	-0.042	-0.0244	0.1001	0.0238	-9.8991	0.8729	-9.8992	0.7955	A+	A-	A-
SCIENCE	4	576380	9	A	2	9783	0.4654	0.0971	0.1062	0.4654	0.3272	0.0024	0.0017	0.2441	-0.1978	-0.1653	0.2441	-0.0186	-0.0417	-0.0362	1.2083	0.0223	9.9011	1.1322	9.9012	1.1678	A+	A+	A-
SCIENCE	4	579549	9	B	2	9783	0.6925	0.1019	0.0787	0.1222	0.6925	0.0032	0.0015	0.4972	-0.2567	-0.2825	-0.2209	0.4972	-0.0347	-0.0354	0.0702	0.0239	-9.8991	0.8607	-9.8992	0.7943	A+	A-	A-
SCIENCE	4	580194	9	C	2	9783	0.4895	0.2479	0.4895	0.1447	0.1117	0.0036	0.0026	0.2802	-0.1571	0.2802	-0.0656	-0.1458	-0.0213	-0.0396	1.0917	0.0223	9.9011	1.0936	9.9011	1.1259	A-	A-	A-
SCIENCE	4	496521	9	D	1	9783	0.4126	0.4126	0.3395	0.1603	0.0766	0.0101	0.001	0.3547	0.3547	-0.0877	-0.1561	-0.2726	-0.027	-0.0195	1.4666	0.0226	0.981	1.0086	3.611	1.0454	A-	A-	A-
SCIENCE	4	579543	9	D	1	9783	0.3818	0.3818	0.1993	0.0646	0.3471	0.0043	0.0029	0.2341	0.2341	-0.0701	-0.2615	-0.0379	-0.0227	-0.0362	1.6207	0.0228	9.9011	1.1193	9.9012	1.2054	A-	A-	A+
SCIENCE	4	496499	10	A	2	9752	0.3975	0.3975	0.0885	0.1329	0.372	0.0084	0.0007	0.3543	0.3543	-0.212	-0.2047	-0.0854	-0.0171	-0.0307	1.5431	0.0227	-1.109	0.9903	4.3811	1.0565	A+	A-	A-
SCIENCE	4	566175	10	A	2	9752	0.4004	0.1434	0.2936	0.158	0.4004	0.0022	0.0025	0.263	-0.1585	-0.044	-0.135	0.263	-0.0483	-0.0356	1.5283	0.0227	9.6811	1.0872	9.9012	1.1544	A+	A-	A-
SCIENCE	4	574837	10	A	2	9752	0.7895	0.0946	0.0529	0.7895	0.0604	0.0018	0.0007	0.2828	-0.0565	-0.2157	0.2828	-0.1978	-0.0574	-0.0331	-0.514	0.0266	0.831	1.0119	4.6811	1.121	A+	A+	A+
SCIENCE	4	574876	10	A	2	9752	0.7081	0.1008	0.1023	0.7081	0.0851	0.0024	0.0013	0.5065	-0.2562	-0.2605	0.5065	-0.2533	-0.0415	-0.0406	-0.0099	0.0242	-9.8991	0.8536	-9.8992	0.7608	A+	A-	A+
SCIENCE	4	579550	10	B	2	9752	0.3179	0.2038	0.3179	0.2744	0.1983	0.0028	0.0029	0.1187	-0.1868	0.1187	0.0666	-0.0174	-0.0215	-0.0312	1.9554	0.0237	9.9012	1.2086	9.9014	1.3877	A+	A-	A-
SCIENCE	4	579923	10	C	2	9752	0.7916	0.0657	0.0494	0.7916	0.0871	0.004	0.0022	0.4369	-0.229	-0.2347	0.4369	-0.2296	-0.0441	-0.0497	-0.5288	0.0267	-8.3791	0.8837	-9.7192	0.7746	A+	A-	A-
SCIENCE	4	479245	10	D	2	9752	0.4188	0.3415	0.4188	0.1148	0.1144	0.0094	0.001	0.2862	0.0124	0.2862	-0.1965	-0.2506	-0.0413	-0.0207	1.4376	0.0225	8.6911	1.0763	8.7611	1.1092	A+	A-	A-
SCIENCE	4	579544	10	D	3	9752	0.343	0.343	0.1331	0.3562	0.1606	0.0048	0.0023	0.1548	0.1548	-0.2691	0.2075	-0.2075	-0.0415	-0.0506	1.8212	0.0233	9.9012	1.1964	9.9013	1.3074	A-	A-	A-
SCIENCE	4	496516	11	A	2	9711	0.3948	0.2054	0.2913	0.0973	0.3948	0.0102	0.0009	0.264	-0.0504	-0.0634	-0.2546	0.264	-0.0374	-0.0221	1.5318	0.0227	9.5411	1.0866	9.9011	1.1487	A+	A-	A+
SCIENCE	4	574829	11	A	2	9711	0.3843	0.3967	0.11	0.1037	0.3843	0.0025	0.0029	0.2289	0.0686	-0.1912	-0.2648	0.2289	-0.0582	-0.027	1.5843	0.0228	9.9011	1.1171	9.9012	1.1951	A-	A+	A-
SCIENCE	4	576386	11	A	2	9711	0.6222	0.2627	0.0441	0.0646	0.6222	0.0049	0.0015	0.2394	-0.0356	-0.2073	-0.217	0.2394	-0.0472	-0.0304	0.428	0.0229	9.9011	1.1158	9.9011	1.1485	A+	A-	A+
SCIENCE	4	578198	11	A	2	9711	0.494	0.2791	0.494	0.1728	0.0491	0.003	0.0021	0.3628	-0.1159	0.3628	-0.1861	-0.2491	-0.0726	-0.028	1.0509	0.0223	0.371	1.003	0.581	1.0064	A+	A-	A-
SCIENCE	4	579552	11	B	2	9711	0.5249	0.1281	0.1907	0.1515	0.5249	0.0025	0.0024	0.3458	-0.195	-0.1791	-0.0945	0.3458	-0.0491	-0.0174	0.9032	0.0223	2.261	1.0185	3.391	1.038	A+	A-	A-
SCIENCE	4	581703	11	C	2	9711	0.843	0.843	0.0607	0.0426	0.0487	0.0033	0.0018	0.4241	0.4241	-0.2348	-0.2478	-0.2034	-0.058	-0.0267	-0.9311	0.0295	-7.6491	0.868	-9.8993	0.6925	A+	A-	A-
SCIENCE	4	496524	11	D	2	9711	0.4981	0.2928	0.0965	0.1037	0.4981	0.0084	0.0005	0.2984	0.058	-0.2709	-0.2918	0.2984	-0.0671	-0.0226	1.0312	0.0223	7.6911	1.0635	8.0011	1.09	A+	A-	A-
SCIENCE	4	566169	11	D	2	9711	0.4128	0.0922	0.4128	0.1501	0.3397	0.0038	0.0013	0.3092	-0.2141	0.3092	-0.1818	-0.0449	-0.0464	-0.0339	1.4427	0.0226	4.551	1.0395	6.6911	1.0831	A-	A-	A-
SCIENCE	4	495295	12	A	2	9768	0.5671	0.072	0.5671	0.1057	0.2464	0.0084	0.0005	0.3124	-0.1956	0.3124	-0.1051	-0.158	-0.0404	-0.0069	0.6952	0.0225	7.1911	1.0633	5.6511	1.0703	A+	A-	A-
SCIENCE	4	574830	12	A	2	9768	0.255	0.2693	0.2744	0.255	0.1956	0.0025	0.0032	0.1061	-0.0674	-0.0289	0.1061	0.0012	-0.0616	-0.0161	2.3023	0.0252	9.9012	1.1848	9.9015	1.5433	A+	A+	A+
SCIENCE	4	574838	12	A	2	9768	0.6425	0.6425	0.0745	0.1776	0.0989	0.0034	0.0031	0.524	0.524	-0.264	-0.3013	-0.2086	-0.045	-0.0314	0.3157	0.0231	-9.8992	0.8446	-9.8992	0.7826	A-	A+	A+
SCIENCE	4	581582	12	A	2	9768	0.734	0.0613	0.1132	0.734	0.0869	0.0034	0.0011	0.4335	-0.2255	-0.2124	0.4335	-0.2347	-0.0595	-0.0171	-0.1907	0.0248	-8.2691	0.905	-8.5592	0.8347	A+	A-	A-
SCIENCE	4	579553	12	B	1	9768	0.489	0.489	0.1348	0.1241	0.2465	0.0026	0.003	0.3891	0.3891	-0.0713	-0.1622	-0.2597	-0.0515	-0.0399	1.074	0.0223	-1.319	0.989	-0.209	0.9976	A+	A-	A-
SCIENCE	4	579557	12	C	2	9768	0.6984	0.0746	0.0822	0.6984	0.1395	0.0034	0.0018	0.451	-0.2267	-0.2261	0.451	-0.2366	-0.0437	-0.0193	0.015	0.024	-9.5791	0.9002	-8.9092	0.8484	A+	A-	A-
SCIENCE	4	496510	12	D	2	9768	0.3124	0.2475	0.0857	0.3462	0.3124	0.0077	0.0004	0.2032	-0.1249	-0.2421	0.0624	0.2032	-0.0224	-0.0116	1.9684	0.0239	9.9011	1.1302	9.9013	1.3186	A+	A-	A-
SCIENCE	4	579536	12	D	1	9768	0.7882	0.0953	0.0416	0.0689	0.7882	0.0046	0.0014	0.4551	-0.277	-0.2363	-0.2134	0.4551	-0.0329	-0.0303	-0.5362	0.0266	-9.8191	0.867	-9.8992	0.7621	A-	B-	A-
SCIENCE	8	273251	0	A	2	114494	0.352	0.2037	0.1192	0.3237	0.352	0.0006	0.0008	0.2739	-0.0767	-0.2372	-0.0468	0.2739	-0.0175	-0.0262	1.1888	0.0064	9.9011	1.1002	9.9012	1.1581	A+	A-	A+
SCIENCE	8	277778	0	A	2	114494	0.5265	0.1848	0.218	0.5265	0.0695	0.0004	0.0008	0.3228	-0.133	-0.1052	0.3228	-0.2565	-0.0161	-0.0205	0.5226	0.0062	9.9011	1.0959	9.9011	1.1226	A+	A+	A+
SCIENCE	8	300194	0	A	2	114494	0.4657	0.1378	0.2272	0.1667	0.4657	0.0009	0.0017	0.4232	-0.1166	-0.1742	-0.2582	0.4232	-0.0309	-0.0179	0.6644	0.0063	-7.469	0.983	-4.549	0.9861	A-	A-	A-
SCIENCE	8	303675	0	A	2	114494	0.6692	0.0725	0.1062	0.1501	0.6692	0.0009	0.001	0.5087	-0.2885	-0.2524	-0.2379	0.5087	-0.0361	-0.0219	-0.282	0.0066	-9.8991	0.8868	-9.8992	0.8448	A+	A+	A+
SCIENCE	8	305026	0	A	2	114494	0.724	0.1171	0.0763	0.724	0.0809	0.0009	0.0008	0.4854	-0.226	-0.2664	0.4854	-0.2641	-0.0316	-0.0225	-0.5687	0.0069	-9.8991	0.8883	-9.8992	0.8223	A+	A+	A-
SCIENCE	8	315480	0	A	2	114494	0.3563	0.1959	0.2465	0.3563	0.1993	0.0007	0.0012	0.2486	-0.1766	-0.0899	0.2486	-0.022	-0.0278	-0.0186	1.2242	0.0065	9.9011	1.1301	9.9012	1.2326	A+	A+	A+
SCIENCE	8	330232	0	A	3	114494	0.4128	0.0854	0.2006	0.2992	0.4128	0.0007	0.0012	0.309	-0.2874	-0.0914	-0.0735	0.309	-0.0292	-0.0213	0.9021	0.0063	9.9011	1.0944	9.9011	1.1265	A-	A-	A+
SCIENCE	8	401685	0	A	2	114494	0.6786	0.6786	0.0867	0.1175	0.1154	0.0007	0.0011	0.4457	0.4457	-0.2341	-0.2626	-0.176	-0.0323	-0.0196	-0.3505	0.0066	-9.8991	0.9456	-9.8991	0.9457	A+	A+	A+
SCIENCE	8	405216	0	A	2	114494	0.6085	0.6085	0.102	0.0952	0.1922	0.0008	0.0012	0.3948	0.3948	-0.2708	-0.2869	-0.0619	-0.0379	-0.0313	0.0538	0.0064	3.601	1.009	4.031	1.0144	A-	A+	A+
SCIENCE	8	405217	0	A	2	114494	0.3675	0.2855	0.3675	0.1772	0.1674	0.0013	0.0011	0.2726	-0.1204	0.2726	-0.1642	-0.0321	-0.0335	-0.0336	1.1632	0.0064	9.9011	1.0996	9.9012	1.2048	A-	A+	A+
SCIENCE	8	409110	0	A	2	114494	0.6776	0.2144	0.0435	0.0624	0.6776	0.0007	0.0015	0.3794	-0.1408	-0.2621	-0.2667	0.3794	-0.023	-0.026	-0.317	0.0066	1.641	1.0047	8.681	1.0391	A+	A+	A+
SCIENCE	8	410886	0	A	2	114494	0.6525	0.0815	0.1692	0.0949	0.6525	0.0009	0.0009	0.54	-0.2803	-0.245	-0.2956	0.54	-0.0333	-0.0302	-0.2139	0.0065	-9.8991	0.865	-9.8992	0.8065	A+	A+	A+
SCIENCE	8	410888	0	A	1	114494	0.4514	0.2171	0.4514	0.1443	0.1855	0.0008	0.0009	0.4412	-0.1482	0.4412	-0.1914	-0.2307	-0.0216	-0.0306	0.782	0.0063	-9.899	0.9666	-5.999	0.9812	A-	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
SCIENCE	8	411451	0	A	2	114494	0.6714	0.0843	0.1114	0.6714	0.1317	0.0003	0.0009	0.3192	-0.2402	-0.1165	0.3192	-0.1349	-0.0129	-0.0239	-0.2824	0.0066	9.9011	1.0616	9.9011	1.1419	A+	A+	A+
SCIENCE	8	412142	0	A	2	114494	0.6129	0.6129	0.1151	0.1711	0.0989	0.0009	0.0011	0.491	0.491	-0.2187	-0.2594	-0.2336	-0.0301	-0.0314	0.1275	0.0063	-9.8991	0.9025	-9.8991	0.866	A-	A+	A+
SCIENCE	8	493912	0	A	2	114494	0.5759	0.5759	0.3564	0.0313	0.0341	0.0003	0.002	0.303	0.303	-0.1679	-0.2017	-0.1833	-0.018	-0.015	0.1415	0.0063	9.9011	1.1188	9.9011	1.1428	A+	A-	A-
SCIENCE	8	493918	0	A	3	114494	0.8273	0.0316	0.8273	0.0522	0.0878	0.0002	0.0009	0.3859	-0.2195	0.3859	-0.2501	-0.18	-0.0131	-0.0247	-1.2148	0.0079	-9.8991	0.9017	-9.8992	0.8398	A+	A+	A+
SCIENCE	8	494453	0	A	2	114494	0.669	0.0954	0.1301	0.669	0.1037	0.0007	0.0009	0.5842	-0.3011	-0.3169	0.5842	-0.2555	-0.0319	-0.033	-0.2728	0.0066	-9.8992	0.8142	-9.8993	0.7296	A-	A-	A-
SCIENCE	8	494458	0	A	2	114494	0.5576	0.5576	0.1099	0.2581	0.0725	0.001	0.0009	0.4541	0.4541	-0.312	-0.146	-0.2394	-0.034	-0.0313	0.3175	0.0063	-9.899	0.9545	-9.8991	0.9414	A-	A-	A-
SCIENCE	8	494524	0	A	2	114494	0.291	0.1645	0.2074	0.3349	0.291	0.0009	0.0012	0.2366	-0.1903	-0.0682	-0.0157	0.2366	-0.027	-0.029	1.4364	0.0066	9.9011	1.0843	9.9012	1.1933	A+	A+	A+
SCIENCE	8	496708	0	A	2	114494	0.6663	0.0813	0.6663	0.0949	0.1554	0.0007	0.0015	0.4524	-0.2604	0.4524	-0.2863	-0.1565	-0.0286	-0.0207	-0.2982	0.0066	-9.8991	0.9485	-9.8991	0.9303	A-	A-	A-
SCIENCE	8	405213	0	B	2	114494	0.6125	0.1049	0.1086	0.1714	0.6125	0.0013	0.0012	0.4606	-0.1962	-0.2788	-0.1985	0.4606	-0.0441	-0.0315	0.0357	0.0064	-9.8991	0.9439	-9.8991	0.9218	A+	A+	A+
SCIENCE	8	410869	0	B	2	114494	0.7204	0.0678	0.7204	0.0771	0.1332	0.0006	0.0009	0.4821	-0.213	0.4821	-0.3204	-0.2223	-0.0317	-0.0344	-0.5392	0.0068	-9.8991	0.8872	-9.8992	0.8326	A-	A-	A-
SCIENCE	8	412458	0	B	3	114494	0.5154	0.1035	0.1994	0.5154	0.1799	0.0006	0.0012	0.3566	-0.2444	-0.1328	0.3566	-0.1287	-0.018	-0.0258	0.5244	0.0062	9.9011	1.0602	9.9011	1.0888	A+	A+	A+
SCIENCE	8	498027	0	B	2	114494	0.5414	0.5414	0.151	0.1553	0.1499	0.0008	0.0015	0.4208	0.4208	-0.2247	-0.2128	-0.1412	-0.0263	-0.0259	0.4134	0.0063	-6.269	0.9856	-5.269	0.9838	A+	A+	A+
SCIENCE	8	401747	0	C	2	114494	0.7339	0.1193	0.0926	0.0525	0.7339	0.0008	0.001	0.3783	-0.1778	-0.2029	-0.219	0.3783	-0.0331	-0.0305	-0.6577	0.007	-1.059	0.9964	-0.039	0.9998	A+	A+	A+
SCIENCE	8	405211	0	C	2	114494	0.7584	0.076	0.7584	0.0552	0.1081	0.0012	0.0012	0.5741	-0.3134	0.5741	-0.285	-0.305	-0.0429	-0.0426	-0.7828	0.0071	-9.8992	0.7959	-9.8993	0.6514	A-	A+	A-
SCIENCE	8	410875	0	C	2	114494	0.4932	0.259	0.1281	0.4932	0.1176	0.0009	0.0013	0.4121	-0.1356	-0.24	0.4121	-0.2007	-0.0296	-0.0242	0.5454	0.0062	-0.309	0.9993	1.361	1.0042	A-	A-	A-
SCIENCE	8	494464	0	C	2	114494	0.5939	0.2812	0.5939	0.0533	0.0704	0.0004	0.0009	0.4746	-0.2927	0.4746	-0.225	-0.1935	-0.0249	-0.0334	0.1273	0.0063	-9.8991	0.9313	-9.8991	0.895	C-	A-	A+
SCIENCE	8	496017	0	C	2	114494	0.552	0.552	0.101	0.2543	0.0907	0.0008	0.0012	0.4024	0.4024	-0.2737	-0.095	-0.2601	-0.0308	-0.0205	0.3544	0.0063	3.921	1.0091	2.181	1.0068	A-	A+	A+
SCIENCE	8	496714	0	C	2	114494	0.4429	0.1791	0.1426	0.2336	0.4429	0.001	0.0008	0.3434	-0.2671	-0.2216	0.0263	0.3434	-0.0371	-0.0226	0.8167	0.0063	9.9011	1.065	9.9011	1.0968	A-	A+	A-
SCIENCE	8	278324	0	D	2	114494	0.4343	0.1256	0.4343	0.2477	0.1907	0.0006	0.0012	0.3019	-0.1897	0.3019	-0.1182	-0.0881	-0.0157	-0.0217	0.6573	0.0063	9.9011	1.103	9.9011	1.1325	A-	A-	A+
SCIENCE	8	278461	0	D	2	114494	0.2712	0.1773	0.2901	0.2598	0.2712	0.0008	0.0009	0.2238	-0.0404	-0.1645	-0.0177	0.2238	-0.0292	-0.0288	1.6766	0.0069	9.9011	1.1064	9.9013	1.2908	A+	A-	A-
SCIENCE	8	336927	0	D	2	114494	0.5469	0.0948	0.1249	0.5469	0.2311	0.001	0.0013	0.3545	-0.3017	-0.2509	0.3545	-0.0084	-0.0275	-0.0203	0.3186	0.0063	9.9011	1.0663	9.9011	1.0809	A-	A+	A+
SCIENCE	8	339836	0	D	2	114494	0.5165	0.5165	0.1063	0.3094	0.0662	0.0007	0.0009	0.4233	0.4233	-0.2696	-0.1523	-0.2265	-0.0284	-0.0323	0.3937	0.0063	-1.639	0.9962	-2.979	0.9908	A-	A-	A-
SCIENCE	8	339840	0	D	2	114494	0.4616	0.4616	0.1991	0.2448	0.0932	0.0005	0.0008	0.348	0.348	-0.1165	-0.1681	-0.1842	-0.0184	-0.0251	0.7997	0.0063	9.9011	1.0696	9.9011	1.0965	A-	A-	A+
SCIENCE	8	413673	0	D	2	114494	0.4873	0.1351	0.2988	0.0778	0.4873	0.0003	0.0007	0.3332	-0.137	-0.1399	-0.2048	0.3332	-0.0136	-0.0214	0.6117	0.0062	9.9011	1.0807	9.9011	1.0991	A-	A-	A-
SCIENCE	8	496022	0	D	2	114494	0.8218	0.0493	0.8218	0.0597	0.0678	0.0004	0.0011	0.5039	-0.2839	0.5039	-0.2965	-0.2374	-0.0259	-0.0292	-1.2222	0.0079	-9.8992	0.8211	-9.8993	0.6662	A+	A+	A+
SCIENCE	8	494430	1	A	2	10155	0.5486	0.1121	0.5486	0.1883	0.1474	0.0026	0.0011	0.3455	-0.2778	0.3455	-0.0625	-0.1622	-0.0371	-0.0145	0.2143	0.0187	5.451	1.0387	5.9111	1.0584	A+	A-	A-
SCIENCE	8	560311	1	A	2	10155	0.5018	0.2248	0.1153	0.155	0.5018	0.0013	0.0018	0.4583	-0.141	-0.2719	-0.2244	0.4583	-0.0408	-0.018	0.3972	0.0187	-9.7991	0.9333	-9.6191	0.9127	A+	A+	A-
SCIENCE	8	560335	1	A	2	10155	0.6215	0.1383	0.6215	0.101	0.1359	0.0012	0.0022	0.4419	-0.2784	0.4419	-0.2689	-0.1027	-0.0443	-0.0103	-0.1376	0.0191	-9.8991	0.9226	-7.9691	0.9119	A+	A+	A-
SCIENCE	8	566178	1	A	2	10155	0.5871	0.0918	0.1979	0.1209	0.5871	0.0014	0.0009	0.4699	-0.2605	-0.1708	-0.2636	0.4699	-0.0353	-0.029	0.0254	0.0189	-9.8991	0.8976	-9.8991	0.8625	A+	A-	A-
SCIENCE	8	498038	1	B	2	10155	0.3731	0.1561	0.3731	0.2683	0.2002	0.0011	0.0012	0.2801	-0.1766	0.2801	-0.081	-0.0823	-0.0379	-0.0389	1.0051	0.0192	9.9011	1.0859	9.9012	1.1786	A+	A-	A+
SCIENCE	8	560315	1	B	2	10155	0.3773	0.1326	0.1528	0.3773	0.3335	0.002	0.0018	0.2643	-0.2399	-0.246	0.2643	0.0945	-0.0485	-0.0139	1.0018	0.0192	9.9011	1.0986	9.9012	1.164	A-	A-	A-
SCIENCE	8	580791	1	C	2	10155	0.6822	0.0708	0.109	0.1349	0.6822	0.0019	0.0012	0.5313	-0.2892	-0.2968	-0.2302	0.5313	-0.0387	-0.0102	-0.4884	0.0198	-9.8992	0.8275	-9.8993	0.7422	A-	A-	A-
SCIENCE	8	496719	1	D	2	10155	0.5113	0.3094	0.5113	0.0807	0.0955	0.0025	0.0006	0.3077	-0.0974	0.3077	-0.1957	-0.1816	-0.0258	-0.0346	0.3637	0.0187	9.9011	1.0707	8.6811	1.0836	A-	A-	A-
SCIENCE	8	560316	1	D	2	10155	0.4484	0.4484	0.1511	0.1867	0.21	0.0017	0.0022	0.4123	0.4123	-0.2078	-0.2035	-0.1178	-0.054	-0.0236	0.7605	0.0188	-6.589	0.953	-3.919	0.9617	A+	A-	A-
SCIENCE	8	577967	1	D	2	10155	0.432	0.2409	0.203	0.432	0.1202	0.002	0.002	0.2022	0.0249	-0.0999	0.2022	-0.2077	-0.0351	-0.0334	0.764	0.0188	9.9012	1.1705	9.9012	1.2281	A-	A-	A-
SCIENCE	8	493907	2	A	2	9495	0.5759	0.2173	0.0755	0.5759	0.128	0.0028	0.0005	0.3985	-0.1444	-0.2863	0.3985	-0.1815	-0.0163	-0.012	0.1676	0.0203	-3.799	0.9709	-4.319	0.9536	A+	A-	A-
SCIENCE	8	560312	2	A	2	9495	0.537	0.537	0.2155	0.1524	0.0927	0.0014	0.0011	0.4369	0.4369	-0.1489	-0.2583	-0.2136	-0.0338	-0.0184	0.4512	0.02	-9.8991	0.9166	-9.8991	0.9055	A-	A-	A-
SCIENCE	8	560313	2	A	2	9495	0.5415	0.1799	0.2138	0.5415	0.063	0.0008	0.0009	0.4521	-0.2868	-0.194	0.4521	-0.1419	-0.027	-0.0093	0.3201	0.0201	-9.8991	0.9137	-9.8991	0.8928	A-	A-	A-
SCIENCE	8	566171	2	A	2	9495	0.4721	0.0871	0.1263	0.4721	0.3118	0.0019	0.0007	0.1999	-0.2366	-0.2639	0.1999	0.1231	-0.0331	-0.0371	0.6713	0.02	9.9012	1.1738	9.9012	1.2462	A+	A-	A-
SCIENCE	8	578780	2	A	3	9495	0.3346	0.2454	0.3346	0.1599	0.2576	0.0014	0.0012	0.2347	-0.0472	0.2347	-0.1866	-0.0465	-0.0267	-0.0219	1.3946	0.0211	7.7511	1.0701	9.9012	1.2243	A-	A+	A-
SCIENCE	8	580790	2	A	2	9495	0.6079	0.0657	0.2414	0.6079	0.0831	0.0013	0.0006	0.3964	-0.2145	-0.1604	0.3964	-0.2538	-0.0223	-0.0362	-0.0282	0.0206	-3.899	0.9683	-4.6891	0.9441	A+	A-	A-
SCIENCE	8	496028	2	B	2	9495	0.5403	0.1813	0.1667	0.5403	0.1094	0.0017	0.0006	0.4352	-0.1742	-0.2754	0.4352	-0.1459	-0.0275	-0.0186	0.3475	0.0201	-9.8991	0.9276	-9.8991	0.9008	A-	A-	A-
SCIENCE	8	560314	2	B	2	9495	0.4579	0.1958	0.206	0.4579	0.137	0.0016	0.0017	0.3838	-0.1041	-0.163	0.3838	-0.2372	-0.0391	-0.0208	0.7433	0.0201	-4.319	0.9686	-2.009	0.9803	A-	A-	A+
SCIENCE	8	560317	2	C	2	9495	0.5341	0.1666	0.1927	0.1039	0.5341	0.0013	0.0014	0.3922	-0.1694	-0.1265	-0.2657	0.3922	-0.026	-0.0157	0.384	0.0201	-3.089	0.9773	-2.979	0.9704	A+	A+	A+
SCIENCE	8	413214	2	D	3	9495	0.4163	0.4163	0.3405	0.144	0.0965	0.0025	0.0002	0.2894	0.2894	-0.0749	-0.1186	-0.215	-0.0366	-0.0143	0.9929	0.0203	5.451	1.0424	7.6911	1.0848	A-	A-	A-
SCIENCE	8	413674	3	A	2	9522	0.403	0.403	0.1547	0.3137	0.1243	0.0035	0.0008	0.3494	0.3494	-0.1282	-0.1291	-0.1894	-0.0227	-0.0446	0.9745	0.0201	-2.069	0.9847	1.131	1.0118	A-	A-	A-
SCIENCE	8	560292	3	A	2	9522	0.6214	0.0885	0.6214	0.2355	0.0522	0.0008	0.0016	0.3993	-0.2721	0.3993	-0.1617	-0.2062	-0.033	-0.0239	-0.0638	0.0205	-5.689	0.9542	-6.2891	0.9258	A-	A-	A-
SCIENCE	8	560294	3	A	3	9522	0.4687	0.2063	0.0924	0.2304	0.4687	0.0005	0.0017	0.3849	-0.1625	-0.2312	-0.1384	0.3849	-0.007	-0.022	0.6783	0.0199	-4.029	0.9719	-1.349	0.9871	A-	A-	A-
SCIENCE	8	574819	3	A	2	9522	0.7969	0.0484	0.059	0.0927	0.7969	0.0013	0.0017	0.4636	-0.2392	-0.2684	-0.238	0.4636	-0.0409	-0.0349	-1.1599	0.025	-9.8992	0.85	-9.8993	0.7416	B+	A+	A+
SCIENCE	8	579567	3	A	2	9522	0.678	0.1665	0.678	0.1052	0.0482	0.0009	0.0012	0.3782	-0.0904	0.3782	-0.2869	-0.2458	-0.039	-0.0332	-0.3527	0.0213	-4.209	0.9613	-2.879	0.9585	A-	A-	A-
SCIENCE	8	412459	3	B	2	9522	0.4591	0.4591	0.2541	0.133	0.1515	0.0013	0.0009	0.3002	0.3002	-0.1093	-0.2385	-0.052	-0.0386	-0.0339	0.7505	0.0199	5.841	1.0419	5.6511	1.0553	A-	A+	A-
SCIENCE	8	560299	3	B	2	9522	0.3529	0.3121	0.118	0.2139	0.3529	0.0014	0.0017	0.2305	-0.0265	-0.2603	-0.0293	0.2305	-0.0413	-0.0094	1.219	0.0206	9.9011	1.0939	9.9012	1.1632	A+	A+	A+
SCIENCE	8	496874	3	D	3	9522	0.3502	0.2388	0.2007	0.2085	0.3502	0.0016	0.0002	0.0711	0.0397	-0.0691	-0.0543	0.0711	-0.0166	-0.0333	1.3089	0.0208	9.9012	1.2393	9.9014	1.3654	A-	A-	A+
SCIENCE	8	560298	3	D	2	9522	0.3443	0.3443	0.2996	0.1312	0.2215	0.0016	0.0019	0.3312	0.3312	-0.089	-0.1569	-0.1471	-0.0251	-0.0349	1.3042	0.0207	-4.149	0.9656	2.891	1.0367	A-	A-	A+
SCIENCE	8	577686	3	D	2	9522	0.4206	0.4206	0.1052	0.1495	0.3231	0.0012	0.0003	0.2244	0.2244	-0.2572	-0.2007	0.0866	-0.0147	-0.0164	0.9363	0.0201	9.9011	1.0998	9.9011	1.1408	A-	A+	A-
SCIENCE	8	493908	4	A	2	9541	0.3618	0.2721	0.2775	0.0854	0.3618	0.0027	0.0004	0.3605	-0.1128	-0.1273	-0.2317	0.3605	-0.0289	0.0114	1.22	0.0233	-2.779	0.9738	3.4511	1.0503	B-	A-	A-
SCIENCE	8	560293	4	A	2	9541	0.4526	0.1079	0.1241	0.4526	0.3141	0.0006	0.0007	0.3699	-0.257	-0.2829	0.3699	-0.0222	-0.0297	-0.004	0.7672	0.0226	-1.229	0.9895	1.121	1.0131	A-	A-	A-
SCIENCE	8	560295	4	A	1	9541	0.382	0.1403	0.382	0.2465	0.2294	0.001	0.0006	0.223	-0.1445	0.223	-0.1517	0.021	-0.0413	-0.0105	1.1165	0.0231	9.9011	1.1255	9.9012	1.2002	A+	A-	A+
SCIENCE	8	574820	4	A	2	9541	0.5925	0.0998	0.1526	0.5925	0.1527	0.0016	0.0008	0.3891	-0.2353	-0.1826	0.3891	-0.1466	-0.0404	-0.0229	0.0867	0.0229	-1.629	0.9854	-2.239	0.9713	A-	A+	A+
SCIENCE	8	579963	4	A	2	9541	0.6537	0.1089	0.6537	0.1516	0.0843	0.001	0.0005	0.4479	-0.1788	0.4479	-0.2301	-0.2652	-0.0242	-0.0202	-0.2256	0.0235	-9.0091	0.9134	-8.8091	0.8704	A-	C-	C-
SCIENCE	8	577687	4	B	2	9541	0.6636	0.0778	0.6636	0.1304	0.1262	0.0015	0.0006	0.5008	-0.2289	0.5008	-0.2765	-0.2404	-0.0452	-0.0279	-0.2777	0.0237	-9.8991	0.8632	-9.8992	0.7832	A+	B-	A-
SCIENCE	8	560296	4	C	2	9541	0.4062	0.1953	0.2231	0.4062	0.1736	0.0009	0.0008	0.327	-0.1602	-0.1491	0.327	-0.0884	-0.0324	-0.0193	0.9949	0.0229	2.721	1.0243	5.6811	1.0739	A+	A-	A-
SCIENCE	8	496021	4	D	2	9541	0.551	0.1459	0.1565	0.551	0.1438	0.0025	0.0003	0.3813	-0.1679	-0.1074	0.3813	-0.254	-0.0424	-0.0074	0.2908	0.0227	-1.029	0.9911	-0.409	0.9951	A+	A-	A-
SCIENCE	8	560297	4	D	2	9541	0.5595	0.5595	0.2232	0.1112	0.1038	0.0008	0.0015	0.4369	0.4369	-0.0976	-0.2904	-0.2744	-0.0388	-0.0038	0.2494	0.0227	-8.2491	0.9302	-7.2691	0.9152	A+	A-	A+
SCIENCE	8	574839	4	D	2	9541	0.7851	0.0675	0.0867	0.7851	0.0578	0.0022	0.0007	0.5087	-0.2563	-0.3153	0.5087	-0.2286	-0.0422	-0.0232	-0.9984	0.0268	-9.8992	0.8224	-9.8993	0.6825	A+	A-	A-
SCIENCE	8	494459	5	A	2	9436	0.5248	0.1623	0.5248	0.1591	0.1505	0.0023	0.0011	0.4731	-0.1947	0.4731	-0.175	-0.2768	-0.0194	-0.0166	0.4232	0.0227	-9.8991	0.8966	-9.8991	0.8792	A-	A-	A-
SCIENCE	8	560287	5	A	3	9436	0.5492	0.1757	0.128	0.5492	0.1448	0.0011	0.0013	0.3495	-0.1185	-0.2306	0.3495	-0.1412	-0.0443	-0.0172	0.3054	0.0227	2.151	1.0186	0.801	1.0092	A+	A+	A-
SCIENCE	8	560300	5	A	2	9436	0.4642	0.1019	0.2057	0.2268	0.4642	0.0008	0.0005	0.4483	-0.2654	-0.2252	-0.1224	0.4483	-0.0288	-0.0075	0.7149	0.0227	-9.8991	0.9071	-8.2891	0.9095	A+	A-	A-
SCIENCE	8	569370	5	A	2	9436	0.3297	0.1646	0.3297	0.2709	0.2321	0.0015	0.0013	0.0313	-0.0093	0.0313	-0.1134	0.098	-0.0587	0.0007	1.3898	0.0239	9.9013	1.3175	9.9015	1.4814	A+	A+	A+
SCIENCE	8	575686	5	A	2	9436	0.7124	0.054	0.0955	0.7124	0.1363	0.001	0.0008	0.4776	-0.2428	-0.282	0.4776	-0.2222	-0.0377	-0.035	-0.538	0.0247	-9.8991	0.8725	-9.8992	0.7835	A+	A-	A-
SCIENCE	8	577688	5	B	3	9436	0.6974	0.6974	0.1134	0.1051	0.0823	0.0014	0.0003	0.5421	0.5421	-0.3108	-0.2612	-0.2504	-0.0308	-0.0224	-0.4538	0.0244	-9.8992	0.8177	-9.8993	0.7138	A+	A-	A-
SCIENCE	8	496008	5	C	2	9436	0.6135	0.1403	0.6135	0.1027	0.1411	0.0019	0.0005	0.5096	-0.2081	0.5096	-0.3067	-0.2318	-0.0368	-0.0195	-0.0116	0.0232	-9.8991	0.8597	-9.8992	0.8046	A-	A-	A-
SCIENCE	8	560288	5	C	2	9436	0.4207	0.3104	0.4207	0.1899	0.077	0.0007	0.0012	0.2739	-0.0465	0.2739	-0.1311	-0.2263	-0.0409	-0.0246	0.9262	0.0229	8.6011	1.0769	9.9011	1.1269	A-	A-	A-
SCIENCE	8	560289	5	C	2	9436	0.4824	0.1091	0.1469	0.4824	0.2583	0.0016	0.0018	0.2861	-0.2343	-0.2224	0.2861	0.0271	-0.0513	-0.0236	0.6271	0.0226	8.5211	1.0735	8.3011	1.095	A-	A-	A-
SCIENCE	8	566168	5	D	2	9436	0.522	0.1447	0.1939	0.522	0.1366	0.0016	0.0012	0.4334	-0.2493	-0.165	0.4334	-0.178	-0.0348	-0.0299	0.4365	0.0227	-8.2491	0.9317	-7.3991	0.9197	A+	A-	A-
SCIENCE	8	493899	6	A	2	9494	0.5	0.5	0.2229	0.1346	0.1395	0.0022	0.0008	0.2865	0.2865	-0.0576	-0.1988	-0.1426	-0.0327	-0.0164	0.5585	0.0225	8.6911	1.0725	7.5711	1.0836	A+	A-	A+
SCIENCE	8	560301	6	A	2	9494	0.6545	0.119	0.0984	0.1253	0.6545	0.0011	0.0017	0.4331	-0.2207	-0.2339	-0.1875	0.4331	-0.0332	-0.0403	-0.2014	0.0235	-9.1691	0.9112	-6.2191	0.912	A+	A-	A-
SCIENCE	8	560310	6	A	2	9494	0.7127	0.077	0.7127	0.0892	0.1181	0.0007	0.0023	0.4648	-0.2486	0.4648	-0.2483	-0.2186	-0.0337	-0.0385	-0.5182	0.0246	-9.8991	0.8881	-9.8992	0.816	A+	A-	A-
SCIENCE	8	566926	6	A	2	9494	0.7561	0.0689	0.7561	0.0594	0.1141	0.0007	0.0008	0.4832	-0.2558	0.4832	-0.287	-0.2289	-0.0302	-0.0448	-0.7773	0.0258	-9.8991	0.8548	-9.8992	0.7657	B+	A+	A+
SCIENCE	8	578781	6	A	2	9494	0.6518	0.1473	0.0875	0.6518	0.1111	0.0008	0.0015	0.448	-0.2012	-0.2829	0.448	-0.1924	-0.0085	-0.0374	-0.1872	0.0235	-9.5191	0.9085	-9.3291	0.8712	A+	A-	A-
SCIENCE	8	580122	6	B	3	9494	0.441	0.441	0.0889	0.1508	0.317	0.0016	0.0006	0.2412	0.2412	-0.2431	-0.1445	0.0084	-0.0506	-0.0287	0.8405	0.0226	9.9011	1.1056	9.9011	1.1342	A+	A+	A-
SCIENCE	8	496014	6	C	3	9494	0.7483	0.7483	0.0715	0.1197	0.0581	0.0019	0.0005	0.5143	0.5143	-0.2946	-0.2676	-0.2492	-0.0338	-0.0282	-0.7289	0.0255	-9.8992	0.8375	-9.8993	0.7173	A+	A-	A+
SCIENCE	8	560290	6	C	3	9494	0.3186	0.3064	0.1669	0.3186	0.2053	0.0015	0.0013	0.1355	0.0351	-0.1136	0.1355	-0.086	-0.0405	-0.0187	1.456	0.0238	9.9012	1.1646	9.9013	1.337	A-	A+	A-
SCIENCE	8	560291	6	C	2	9494	0.4204	0.1321	0.4204	0.277	0.1676	0.0012	0.0018	0.2364	-0.1969	0.2364	-0.051	-0.0681	-0.0286	-0.0186	0.9403	0.0227	9.9011	1.1058	9.9012	1.1616	A-	A+	A+
SCIENCE	8	577685	6	D	1	9494	0.2562	0.2562	0.3618	0.1193	0.2606	0.0008	0.0013	0.0501	0.0501	0.2133	-0.2665	-0.082	-0.0308	-0.0305	1.8094	0.0252	9.9012	1.2149	9.9016	1.5673	A-	A-	A-
SCIENCE	8	494532	7	A	2	9484	0.6759	0.0885	0.0825	0.1516	0.6759	0.0012	0.0004	0.4571	-0.2875	-0.1933	-0.2184	0.4571	-0.0078	-0.025	-0.3224	0.0239	-9.8991	0.8944	-7.6591	0.8784	A-	A-	A-
SCIENCE	8	560309	7	A	2	9484	0.5439	0.2049	0.1014	0.1475	0.5439	0.0013	0.0011	0.3319	-0.0439	-0.2392	-0.2065	0.3319	-0.0339	-0.0285	0.3451	0.0227	3.991	1.0342	5.0111	1.0597	A+	A+	A+
SCIENCE	8	560318	7	A	2	9484	0.5662	0.1997	0.1401	0.5662	0.0924	0.0007	0.0008	0.4108	-0.1243	-0.2558	0.4108	-0.2212	-0.0267	-0.011	0.2364	0.0228	-4.669	0.9602	-4.5191	0.9461	A+	A+	A-
SCIENCE	8	578782	7	A	2	9484	0.8181	0.0634	0.0657	0.0505	0.8181	0.0013	0.0011	0.4888	-0.2616	-0.2589	-0.2658	0.4888	-0.0396	-0.0329	-1.2137	0.0284	-9.8992	0.8262	-9.8994	0.6481	A+	A-	A-
SCIENCE	8	579570	7	A	2	9484	0.7631	0.7631	0.0708	0.097	0.0677	0.0007	0.0007	0.51	0.51	-0.2701	-0.2764	-0.2563	-0.0417	-0.0103	-0.8314	0.0261	-9.8992	0.8232	-9.8993	0.7123	A+	A-	A-
SCIENCE	8	565992	7	B	2	9484	0.3613	0.1732	0.3613	0.2408	0.2225	0.0009	0.0012	0.2391	-0.0974	0.2391	-0.0078	-0.1767	-0.0389	0.0006	1.2383	0.0234	9.9011	1.0984	9.9012	1.1959	A-	A-	A-
SCIENCE	8	496018	7	C	2	9484	0.6098	0.1148	0.1781	0.6098	0.095	0.0019	0.0004	0.4439	-0.2606	-0.2511	0.4439	-0.1214	-0.0241	-0.0367	0.021	0.0231	-8.5691	0.9235	-8.4091	0.891	A-	A-	A-
SCIENCE	8	560320	7	C	2	9484	0.4353	0.1229	0.2032	0.4353	0.2363	0.0008	0.0015	0.3882	-0.164	-0.1146	0.3882	-0.2152	-0.0168	-0.0153	0.8692	0.0227	-3.169	0.9733	0.241	1.0028	A+	A+	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	ProportionINV	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
SCIENCE	8	560321	7	D	2	9484	0.3735	0.162	0.2584	0.3735	0.2038	0.0008	0.0015	0.2644	-0.1962	-0.0765	0.2644	-0.0513	-0.0366	-0.0106	1.1762	0.0232	8.0011	1.0756	9.9012	1.175	A-	A-	A-
SCIENCE	8	577973	7	D	2	9484	0.5076	0.5076	0.137	0.2422	0.1109	0.0007	0.0016	0.3722	0.3722	-0.1921	-0.1322	-0.196	-0.0267	-0.0281	0.52	0.0226	-0.709	0.9941	-0.319	0.9963	A+	A-	A-
SCIENCE	8	312354	8	A	2	9471	0.7819	0.0586	0.7819	0.0735	0.084	0.0012	0.0008	0.5293	-0.2843	0.5293	-0.3027	-0.2534	-0.0476	-0.0317	-0.9554	0.0267	-9.8992	0.8068	-9.8994	0.64	A-	A+	A+
SCIENCE	8	494452	8	A	2	9471	0.3552	0.2881	0.3552	0.1606	0.193	0.0021	0.001	0.2121	-0.0483	0.2121	-0.0769	-0.1296	0.0007	-0.0099	1.2632	0.0234	9.9011	1.1185	9.9012	1.2297	A-	B-	A-
SCIENCE	8	560319	8	A	2	9471	0.4836	0.1336	0.2313	0.1489	0.4836	0.0011	0.0016	0.3344	-0.1774	-0.0783	-0.2049	0.3344	-0.0311	0.0044	0.6311	0.0226	3.391	1.0283	3.701	1.0415	A+	A+	A+
SCIENCE	8	560333	8	A	2	9471	0.4345	0.196	0.1893	0.4345	0.178	0.0007	0.0015	0.3701	-0.1977	-0.1422	0.3701	-0.1261	-0.0273	-0.0075	0.8678	0.0227	-2.339	0.9803	0.721	1.0084	A+	A+	A+
SCIENCE	8	580788	8	A	2	9471	0.715	0.715	0.0928	0.1301	0.0608	0.0007	0.0005	0.4871	0.4871	-0.2632	-0.228	-0.2721	-0.04	-0.0295	-0.5421	0.0247	-9.8991	0.8619	-9.8992	0.8035	A-	A+	A+
SCIENCE	8	566163	8	B	2	9471	0.5805	0.1463	0.1264	0.5805	0.1443	0.0007	0.0017	0.5182	-0.2353	-0.257	0.5182	-0.2441	-0.0299	-0.0144	0.1633	0.0228	-9.8991	0.8573	-9.8992	0.814	A-	A-	A+
SCIENCE	8	395285	8	C	2	9471	0.4444	0.1612	0.4444	0.1568	0.2352	0.0018	0.0005	0.3554	-0.096	0.3554	-0.2459	-0.119	-0.023	-0.0196	0.8196	0.0227	-0.129	0.9989	2.361	1.0275	A-	A-	A-
SCIENCE	8	560323	8	C	2	9471	0.5672	0.1989	0.5672	0.1248	0.1055	0.002	0.0016	0.3577	-0.113	0.3577	-0.1949	-0.2145	-0.0208	-0.0223	0.2284	0.0228	0.361	1.0031	0.501	1.0059	A+	A-	A-
SCIENCE	8	560322	8	D	2	9471	0.5995	0.0675	0.2489	0.5995	0.0827	0.0005	0.001	0.3605	-0.2601	-0.1277	0.3605	-0.1993	-0.0196	-0.0265	0.0694	0.023	0.191	1.0017	1.481	1.0188	A-	A+	A+
SCIENCE	8	565991	8	D	2	9471	0.3492	0.3492	0.1819	0.2059	0.2609	0.0008	0.0013	0.1007	0.1007	-0.1173	-0.0831	0.0717	-0.0112	-0.0084	1.2943	0.0235	9.9012	1.2364	9.9014	1.3704	A-	A+	A+
SCIENCE	8	494531	9	A	2	9456	0.7542	0.7542	0.0845	0.0643	0.0938	0.0025	0.0006	0.4961	0.4961	-0.2563	-0.2631	-0.2561	-0.0436	-0.0361	-0.7767	0.0259	-9.8992	0.836	-9.8993	0.7231	A+	A+	A+
SCIENCE	8	560325	9	A	2	9456	0.5201	0.1008	0.1643	0.5201	0.2125	0.0011	0.0013	0.3787	-0.2586	-0.1885	0.3787	-0.097	-0.0336	-0.021	0.467	0.0227	-0.679	0.9942	-0.419	0.9952	A+	A-	A-
SCIENCE	8	560327	9	A	2	9456	0.7228	0.0906	0.0789	0.1049	0.7228	0.0007	0.002	0.4522	-0.2554	-0.2326	-0.2087	0.4522	-0.0442	-0.0279	-0.5856	0.025	-9.6091	0.8899	-9.7392	0.8213	A-	A+	A-
SCIENCE	8	574821	9	A	2	9456	0.7464	0.0843	0.0745	0.7464	0.0924	0.0012	0.0013	0.5365	-0.3116	-0.314	0.5365	-0.2124	-0.048	-0.0352	-0.7278	0.0256	-9.8992	0.8039	-9.8993	0.7007	A+	A+	A-
SCIENCE	8	575471	9	A	2	9456	0.51	0.1355	0.1586	0.51	0.1938	0.0007	0.0013	0.376	-0.1757	-0.203	0.376	-0.132	-0.0141	-0.0315	0.5156	0.0227	-0.169	0.9986	0.081	1.0009	A-	A-	A-
SCIENCE	8	579568	9	A	2	9456	0.6496	0.085	0.1474	0.6496	0.1158	0.0008	0.0013	0.1988	-0.1231	-0.0555	0.1988	-0.1212	-0.0423	-0.024	-0.1803	0.0237	9.9012	1.1714	9.9012	1.2348	A-	A-	A-
SCIENCE	8	496029	9	B	2	9456	0.6184	0.6184	0.0938	0.1565	0.1295	0.001	0.0007	0.4847	0.4847	-0.2634	-0.2646	-0.1819	-0.0157	-0.034	-0.0189	0.0233	-9.8991	0.8857	-9.8991	0.8566	A-	A+	A+
SCIENCE	8	579962	9	B	2	9456	0.5869	0.1321	0.1669	0.1124	0.5869	0.0006	0.0011	0.4835	-0.2053	-0.2178	-0.27	0.4835	-0.0237	-0.0454	0.1397	0.023	-9.8991	0.8839	-9.8991	0.8507	A+	A-	A-
SCIENCE	8	560329	9	C	2	9456	0.7468	0.1053	0.7468	0.0679	0.0773	0.0012	0.0015	0.5095	-0.2931	0.5095	-0.2547	-0.2447	-0.0339	-0.0262	-0.7304	0.0257	-9.8992	0.8246	-9.8993	0.7267	A+	A-	A-
SCIENCE	8	560331	9	C	2	9456	0.5743	0.0941	0.1739	0.5743	0.1555	0.0007	0.0015	0.3238	-0.2646	-0.0771	0.3238	-0.1426	-0.0345	-0.0265	0.2021	0.0229	5.251	1.0477	5.7111	1.0719	A-	A+	A+
SCIENCE	8	494525	10	A	2	9487	0.5047	0.1996	0.1402	0.1525	0.5047	0.0017	0.0013	0.3564	-0.1329	-0.1935	-0.157	0.3564	-0.0246	-0.0124	0.5396	0.0223	-1.059	0.9917	-1.409	0.9855	A-	A+	A-
SCIENCE	8	560326	10	A	2	9487	0.4411	0.4411	0.2326	0.2327	0.0904	0.0005	0.0025	0.2586	0.2586	-0.0606	-0.142	-0.1438	-0.0234	-0.0194	0.8402	0.0225	8.7511	1.0726	9.9011	1.116	A-	A-	A-
SCIENCE	8	560328	10	A	2	9487	0.5131	0.5131	0.0987	0.1768	0.2075	0.0013	0.0026	0.443	0.443	-0.2465	-0.2546	-0.1179	-0.0446	-0.0276	0.4999	0.0224	-9.8991	0.9102	-9.8991	0.8991	A+	A-	A-
SCIENCE	8	581583	10	A	2	9487	0.5465	0.0733	0.278	0.5465	0.1003	0.0009	0.0009	0.285	-0.2168	-0.0398	0.285	-0.2155	-0.052	-0.0394	0.342	0.0224	7.1911	1.0591	7.3111	1.0806	A-	B-	A-
SCIENCE	8	496709	10	B	2	9487	0.244	0.244	0.0862	0.5452	0.1208	0.0024	0.0014	0.1014	0.1014	-0.2076	0.2197	-0.2807	-0.0517	-0.0188	1.8783	0.0256	9.9011	1.1451	9.9014	1.4403	A-	A+	A+
SCIENCE	8	574873	10	B	2	9487	0.4792	0.4792	0.1032	0.2528	0.1622	0.0015	0.0012	0.3542	0.3542	-0.2518	-0.1379	-0.1023	-0.0393	-0.0359	0.6599	0.0224	-1.059	0.9916	-0.269	0.9972	A-	A-	A+
SCIENCE	8	560330	10	C	2	9487	0.5588	0.1184	0.1129	0.2069	0.5588	0.0018	0.0013	0.4155	-0.2228	-0.2576	-0.1235	0.4155	-0.0588	-0.0097	0.2838	0.0225	-7.8091	0.9376	-8.5291	0.9092	A+	A+	A-
SCIENCE	8	560332	10	C	2	9487	0.425	0.1668	0.425	0.2936	0.1128	0.0006	0.0013	0.2811	-0.1245	0.2811	-0.0472	-0.2196	-0.0455	-0.012	0.9174	0.0226	5.9311	1.0497	6.8911	1.0792	A-	A-	A-
SCIENCE	8	566166	10	C	2	9487	0.3628	0.1455	0.3628	0.3745	0.115	0.0008	0.0014	0.2389	-0.1969	0.2389	0.048	-0.2075	-0.0388	-0.0368	1.2229	0.0231	7.5211	1.0704	9.9012	1.159	A-	A+	A+
SCIENCE	8	566204	10	D	1	9487	0.2125	0.2668	0.2959	0.2125	0.2216	0.0021	0.0012	-0.0029	-0.0756	0.1674	-0.0029	-0.0956	-0.0199	-0.0341	2.0816	0.0267	9.9012	1.2198	9.9016	1.6241	A+	A+	A-
SCIENCE	8	494536	11	A	3	9475	0.4134	0.4134	0.2553	0.1723	0.156	0.0027	0.0002	0.1988	0.1988	-0.084	-0.0126	-0.152	-0.0278	0.0061	0.9811	0.0228	9.9011	1.1394	9.9012	1.2174	A+	A-	A+
SCIENCE	8	561247	11	A	3	9475	0.4523	0.2957	0.114	0.4523	0.1353	0.0008	0.0018	0.2889	0.0088	-0.2565	0.2889	-0.1862	-0.0343	-0.0381	0.7929	0.0226	7.5711	1.0633	7.7611	1.0896	A+	A+	A+
SCIENCE	8	561248	11	A	2	9475	0.6702	0.1001	0.1446	0.6702	0.0833	0.0006	0.0013	0.5317	-0.2627	-0.2869	0.5317	-0.2459	-0.025	-0.0465	-0.2751	0.0238	-9.8992	0.8376	-9.8992	0.7509	A+	A-	A+
SCIENCE	8	566849	11	A	2	9475	0.7631	0.1237	0.0649	0.7631	0.0459	0.0012	0.0013	0.3587	-0.0878	-0.288	0.3587	-0.2423	-0.0415	-0.0146	-0.8107	0.026	-3.669	0.952	-1.159	0.9744	A+	A+	A+
SCIENCE	8	580789	11	A	2	9475	0.4418	0.2417	0.0846	0.2291	0.4418	0.0014	0.0014	0.2762	-0.1457	-0.2385	-0.0131	0.2762	-0.0461	-0.0306	0.8436	0.0226	9.2911	1.0785	8.3311	1.098	A-	A-	A-
SCIENCE	8	496033	11	B	2	9475	0.6391	0.2171	0.1021	0.6391	0.0388	0.0015	0.0015	0.4006	-0.1915	-0.2044	0.4006	-0.2524	-0.0392	-0.0342	-0.1127	0.0233	-4.309	0.9593	-4.7391	0.9347	A-	A-	A-
SCIENCE	8	498031	11	B	2	9475	0.5863	0.067	0.5863	0.2259	0.1178	0.0022	0.0008	0.3871	-0.2935	0.3871	-0.0834	-0.2482	-0.0328	-0.0293	0.1509	0.0228	-3.189	0.9723	-1.949	0.9765	A+	A+	A+
SCIENCE	8	579922	11	B	2	9475	0.4845	0.4845	0.0849	0.3661	0.0625	0.0011	0.0009	0.3188	0.3188	-0.2838	-0.0562	-0.2121	-0.0316	-0.0254	0.6392	0.0225	4.981	1.0409	3.951	1.0435	A-	A-	A+
SCIENCE	8	561261	11	C	2	9475	0.3852	0.232	0.3852	0.1468	0.2334	0.0013	0.0014	0.2903	-0.126	0.2903	-0.1623	-0.0678	-0.0361	-0.0183	1.1199	0.023	4.831	1.0432	8.7611	1.1184	A-	A-	A-
SCIENCE	8	561260	11	D	2	9475	0.3355	0.1096	0.3355	0.0795	0.4731	0.0015	0.0008	0.2208	-0.1513	0.2208	-0.2682	0.036	-0.0451	-0.0228	1.3735	0.0236	9.9011	1.1015	9.9012	1.2081	A+	A-	A-
SCIENCE	8	493917	12	A	2	9478	0.7009	0.7009	0.1401	0.0847	0.07	0.0031	0.0013	0.4265	0.4265	-0.2173	-0.1961	-0.2492	-0.0161	-0.0219	-0.4586	0.0243	-8.6491	0.908	-6.2491	0.8934	A+	A+	A+
SCIENCE	8	561246	12	A	2	9478	0.333	0.333	0.0582	0.1719	0.4346	0.0007	0.0016	0.3196	0.3196	-0.2598	-0.0057	-0.1726	-0.0324	-0.0307	1.3658	0.0236	-0.099	0.999	5.3511	1.0837	A+	A-	A+
SCIENCE	8	566177	12	A	2	9478	0.3461	0.2676	0.3461	0.135	0.2491	0.0014	0.0008	0.2385	-0.0668	0.2385	-0.2264	-0.0097	-0.0501	-0.0146	1.2976	0.0234	7.5411	1.0734	9.9012	1.1757	A+	A-	A-
SCIENCE	8	566925	12	A	2	9478	0.4319	0.1603	0.1151	0.2889	0.4319	0.0024	0.0014	0.3675	-0.203	-0.243	-0.0617	0.3675	-0.0164	-0.0348	0.8707	0.0226	-2.449	0.9799	-0.929	0.9891	A-	A-	A+
SCIENCE	8	581705	12	A	2	9478	0.8341	0.0446	0.0627	0.8341	0.0566	0.0009	0.0011	0.5085	-0.2732	-0.3085	0.5085	-0.2415	-0.0401	-0.0291	-1.33	0.0293	-9.8992	0.8006	-9.8994	0.5874	B+	A+	A-
SCIENCE	8	412140	12	B	1	9478	0.396	0.396	0.2525	0.0874	0.2599	0.0036	0.0007	0.1372	0.1372	-0.1475	-0.1973	0.1242	-0.0241	-0.012	1.046	0.0229	9.9012	1.1943	9.9013	1.2772	A-	A-	A+
SCIENCE	8	577935	12	B	2	9478	0.507	0.2849	0.0387	0.1663	0.507	0.0017	0.0015	0.3301	-0.0719	-0.2489	-0.2207	0.3301	-0.025	-0.0348	0.5129	0.0224	2.951	1.0239	2.131	1.0236	A-	A-	A-
SCIENCE	8	561263	12	C	2	9478	0.6218	0.1275	0.1329	0.6218	0.1161	0.0006	0.0012	0.4631	-0.2617	-0.1761	0.4631	-0.2356	-0.0234	-0.0431	-0.0428	0.0231	-9.8991	0.8973	-9.8991	0.8562	A+	A-	A-
SCIENCE	8	561262	12	D	2	9478	0.417	0.417	0.2608	0.2387	0.0806	0.0013	0.0017	0.2529	0.2529	-0.049	-0.1176	-0.1892	-0.0212	-0.0183	0.9432	0.0227	9.9011	1.0869	9.9011	1.1251	A-	A-	A+
SCIENCE	8	561264	12	D	2	9478	0.4885	0.2085	0.4885	0.1355	0.1654	0.0007	0.0014	0.276	-0.0564	0.276	-0.2223	-0.0995	-0.0342	-0.0296	0.6006	0.0224	8.6611	1.0711	8.3011	1.0939	A+	A-	A+

Multiple-Choice Computer-Based Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PubID	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
PValue	P-Value
ProportionA	Proportion A
ProportionB	Proportion B
ProportionC	Proportion C
ProportionD	Proportion D
ProportionOMITS	Proportion Omits
PtBiserial	Point Biserial
CorrelationA	Correlation A
CorrelationB	Correlation B
CorrelationC	Correlation C
CorrelationD	Correlation D
CorrelationOMITS	Correlation Omits

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	3	478860	0	A-C	3	4078	0.4436	0.3131	0.0885	0.1508	0.4436	0.0039	0.4519	-0.1524	-0.297	-0.1881	0.4519	-0.0342
ELA	3	400685	0	A-K	1	4078	0.643	0.1878	0.643	0.0772	0.09	0.002	0.4207	-0.1587	0.4207	-0.2199	-0.2755	-0.0468
ELA	3	400694	0	A-K	3	4078	0.7423	0.1427	0.0522	0.0608	0.7423	0.002	0.5094	-0.2598	-0.2933	-0.2707	0.5094	-0.0449
ELA	3	400696	0	A-K	2	4078	0.5576	0.2572	0.0777	0.5576	0.1057	0.0017	0.4445	-0.1634	-0.2494	0.4445	-0.2652	-0.025
ELA	3	478865	0	A-K	2	4078	0.6471	0.1202	0.114	0.1148	0.6471	0.0039	0.5497	-0.3364	-0.2183	-0.248	0.5497	-0.0779
ELA	3	400699	0	A-V	2	4078	0.36	0.2126	0.1957	0.36	0.2293	0.0025	0.3384	-0.1519	-0.1251	0.3384	-0.1155	-0.0426
ELA	3	400700	0	A-V	2	4078	0.6631	0.6631	0.1913	0.0905	0.0532	0.002	0.3655	0.3655	-0.0731	-0.2865	-0.2687	-0.0339
ELA	3	478862	0	A-V	2	4078	0.5245	0.5245	0.1192	0.1528	0.2013	0.0022	0.3793	0.3793	-0.2549	-0.1453	-0.1301	-0.0505
ELA	3	478867	0	A-V	2	4078	0.7989	0.7989	0.0851	0.065	0.0476	0.0034	0.5228	0.5228	-0.3034	-0.2642	-0.2616	-0.0697
ELA	3	478868	0	A-V	2	4078	0.5799	0.0736	0.1616	0.5799	0.1822	0.0027	0.4065	-0.281	-0.1843	0.4065	-0.1437	-0.0767
ELA	3	271995	0	B-C	3	4078	0.4647	0.177	0.1631	0.4647	0.1925	0.0027	0.4831	-0.2863	-0.1624	0.4831	-0.1769	-0.0376
ELA	3	271996	0	B-C	2	4078	0.6751	0.6751	0.0944	0.1658	0.0618	0.0029	0.5982	0.5982	-0.3039	-0.3329	-0.2652	-0.0676
ELA	3	278410	0	B-C	3	4078	0.5669	0.2621	0.5669	0.0853	0.0829	0.0027	0.5705	-0.2588	0.5705	-0.3289	-0.2682	-0.0579
ELA	3	495038	0	B-C	1	4078	0.5498	0.1582	0.5498	0.1118	0.179	0.0012	0.4823	-0.2202	0.4823	-0.2952	-0.1697	-0.0425
ELA	3	271993	0	B-K	2	4078	0.7766	0.1003	0.075	0.0468	0.7766	0.0012	0.5632	-0.3956	-0.2555	-0.223	0.5632	-0.0378
ELA	3	495040	0	B-K	3	4078	0.5812	0.1282	0.5812	0.1783	0.1086	0.0037	0.3761	-0.193	0.3761	-0.1192	-0.2342	-0.0419
ELA	3	495041	0	B-K	2	4078	0.5571	0.5571	0.0785	0.1383	0.2224	0.0037	0.3665	0.3665	-0.2276	-0.2477	-0.0761	-0.0607
ELA	3	340677	0	B-V	2	4078	0.6972	0.6972	0.0635	0.1302	0.1064	0.0027	0.4658	0.4658	-0.2764	-0.212	-0.2359	-0.0491
ELA	3	495037	0	B-V	2	4078	0.6609	0.0831	0.154	0.101	0.6609	0.001	0.4938	-0.233	-0.2148	-0.3042	0.4938	-0.0093
ELA	3	495044	0	B-V	2	4078	0.527	0.0535	0.3411	0.527	0.0763	0.0022	0.4749	-0.2898	-0.2363	0.4749	-0.2194	-0.035
ELA	3	252462	0	D	2	4078	0.6525	0.2045	0.0336	0.1086	0.6525	0.0007	0.4775	-0.2606	-0.2055	-0.2729	0.4775	-0.0105
ELA	3	252790	0	D	2	4078	0.5118	0.1437	0.1638	0.5118	0.18	0.0007	0.4207	-0.1456	-0.2337	0.4207	-0.1891	-0.0035
ELA	3	255078	0	D	2	4078	0.527	0.527	0.2425	0.0883	0.141	0.0012	0.3677	0.3677	-0.0919	-0.2502	-0.21	-0.0046
ELA	3	255090	0	D	2	4078	0.4684	0.0956	0.2658	0.1687	0.4684	0.0015	0.3441	-0.2757	-0.0567	-0.1755	0.3441	0.0035
ELA	3	255382	0	D	2	4078	0.3063	0.1312	0.3063	0.3222	0.2388	0.0015	0.2983	-0.1158	0.2983	-0.1085	-0.1116	-0.0029
ELA	3	314991	0	D	1	4078	0.5704	0.1545	0.5704	0.1628	0.1106	0.0017	0.3905	-0.244	0.3905	-0.1661	-0.1415	0.0129
ELA	3	341249	0	D	2	4078	0.4009	0.2344	0.1741	0.4009	0.1886	0.002	0.3944	-0.2173	-0.126	0.3944	-0.1324	-0.0376
ELA	3	408509	0	D	2	4078	0.4397	0.3109	0.1209	0.1268	0.4397	0.0017	0.3509	-0.1413	-0.1474	-0.1809	0.3509	-0.0126
ELA	3	408513	0	D	2	4078	0.333	0.2744	0.333	0.2773	0.1148	0.0005	0.3771	-0.2121	0.3771	-0.0694	-0.1609	-0.0335
ELA	3	496239	1	A-C	3	4078	0.6025	0.6025	0.1498	0.1025	0.1425	0.0027	0.4742	0.4742	-0.2338	-0.2355	-0.2122	-0.0584
ELA	3	496237	1	A-K	2	4078	0.5194	0.1569	0.0615	0.2599	0.5194	0.0022	0.4022	-0.2678	-0.2704	-0.0842	0.4022	-0.035
ELA	3	496240	1	A-K	2	4078	0.6984	0.1756	0.0586	0.0645	0.6984	0.0029	0.5147	-0.2707	-0.2763	-0.267	0.5147	-0.0511
ELA	3	496245	1	A-K	2	4078	0.4944	0.2472	0.0785	0.4944	0.1788	0.0012	0.3198	-0.128	-0.2419	0.3198	-0.1012	-0.0254
ELA	3	496244	1	A-V	2	4078	0.669	0.669	0.0763	0.1667	0.0848	0.0032	0.4935	0.4935	-0.3393	-0.1759	-0.2709	-0.0198
ELA	3	496246	1	A-V	2	4078	0.7055	0.1108	0.7055	0.0927	0.089	0.002	0.4965	-0.2493	0.4965	-0.3251	-0.1849	-0.0254
ELA	3	579123	1	B-C	2	1829	0.5276	0.0787	0.5276	0.187	0.2034	0.0033	0.424	-0.2554	0.424	-0.1859	-0.1667	-0.0573
ELA	3	579124	1	B-C	3	1829	0.6156	0.1547	0.1115	0.1154	0.6156	0.0027	0.498	-0.1978	-0.2843	-0.2527	0.498	-0.0095
ELA	3	579125	1	B-C	3	1829	0.3029	0.1733	0.3029	0.3691	0.1525	0.0022	0.1084	-0.2609	0.1084	0.2292	-0.1687	-0.0225
ELA	3	579341	1	B-C	3	1829	0.4226	0.3045	0.094	0.4226	0.1739	0.0049	0.2776	-0.0253	-0.1939	0.2776	-0.1731	-0.0472
ELA	3	579127	1	B-K	2	1829	0.5254	0.1137	0.5254	0.1345	0.2253	0.0011	0.5248	-0.2905	0.5248	-0.2496	-0.2004	-0.0283
ELA	3	579129	1	B-K	3	1829	0.7572	0.111	0.0842	0.0454	0.7572	0.0022	0.4758	-0.2818	-0.2405	-0.2379	0.4758	0.0176
ELA	3	579122	1	B-V	2	1829	0.6845	0.0782	0.1121	0.1219	0.6845	0.0033	0.5438	-0.2483	-0.2908	-0.2845	0.5438	-0.0215
ELA	3	579130	1	B-V	2	1829	0.6145	0.6145	0.1996	0.1066	0.0765	0.0027	0.5618	0.5618	-0.4069	-0.214	-0.161	-0.0375
ELA	3	504075	1	D	2	1829	0.6752	0.1345	0.6752	0.0984	0.0908	0.0011	0.5379	-0.2858	0.5379	-0.2486	-0.2777	-0.0177
ELA	3	581075	1	D	2	1829	0.5068	0.1394	0.2444	0.5068	0.1093		0.2489	-0.2532	0.0764	0.2489	-0.2228	
ELA	3	581084	1	D	2	1829	0.4631	0.134	0.1941	0.4631	0.2067	0.0022	0.3194	-0.1663	-0.0092	0.3194	-0.2432	-0.0113
ELA	3	576345	2	B-C	2	1120	0.7375	0.0509	0.1089	0.1018	0.7375	0.0009	0.5355	-0.2349	-0.3179	-0.2797	0.5355	-0.0123
ELA	3	576346	2	B-C	2	1120	0.508	0.1116	0.2643	0.508	0.1152	0.0009	0.3082	-0.302	0.044	0.3082	-0.2447	-0.0088
ELA	3	576347	2	B-C	3	1120	0.5777	0.1625	0.1188	0.1348	0.5777	0.0063	0.4257	-0.2488	-0.213	-0.1275	0.4257	-0.0765
ELA	3	576349	2	B-K	3	1120	0.5848	0.5848	0.1723	0.1813	0.058	0.0036	0.3131	0.3131	-0.1508	-0.1274	-0.1773	-0.1142
ELA	3	576350	2	B-K	3	1120	0.5652	0.2214	0.1054	0.1063	0.5652	0.0018	0.3671	-0.1039	-0.1915	-0.2603	0.3671	0.005
ELA	3	576352	2	B-K	3	1120	0.6393	0.1884	0.6393	0.0741	0.0964	0.0018	0.5061	-0.2797	0.5061	-0.185	-0.2837	-0.0348
ELA	3	576353	2	B-V	2	1120	0.6741	0.0384	0.0652	0.6741	0.2196	0.0027	0.2852	-0.1672	-0.269	0.2852	-0.0843	-0.0051
ELA	3	576354	2	B-V	3	1120	0.7125	0.1973	0.7125	0.0625	0.0277		0.2144	-0.0923	0.2144	-0.1095	-0.206	

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	3	504077	2	D	2	1120	0.5518	0.2	0.0857	0.5518	0.1625		0.3304	-0.1805	-0.1422	0.3304	-0.1417	
ELA	3	581076	2	D	2	1120	0.8688	0.0455	0.8688	0.0571	0.0277	0.0009	0.3363	-0.1556	0.3363	-0.2343	-0.1632	0.0018
ELA	3	581087	2	D	2	1120	0.6491	0.1348	0.6491	0.1268	0.0884	0.0009	0.3932	-0.1901	0.3932	-0.2132	-0.1829	0.0053
ELA	3	574385	3	B-C	2	1129	0.3844	0.3047	0.1488	0.1612	0.3844	0.0009	0.2699	-0.1144	-0.1528	-0.0626	0.2699	-0.0425
ELA	3	574386	3	B-C	2	1129	0.6537	0.1435	0.1045	0.6537	0.0965	0.0018	0.3876	-0.1656	-0.1239	0.3876	-0.2933	-0.0441
ELA	3	574387	3	B-C	3	1129	0.3782	0.3782	0.1329	0.2188	0.2693	0.0009	0.0788	0.0788	-0.1565	0.0476	-0.0087	-0.0312
ELA	3	574388	3	B-K	3	1129	0.6191	0.1293	0.6191	0.0815	0.1647	0.0053	0.3695	-0.2135	0.3695	-0.2986	-0.0745	0.0212
ELA	3	574371	3	B-V	2	1129	0.8601	0.8601	0.0443	0.0345	0.0602	0.0009	0.3517	0.3517	-0.1562	-0.1788	-0.2375	-0.0236
ELA	3	574372	3	B-V	2	1129	0.4092	0.1842	0.1515	0.2507	0.4092	0.0044	0.3356	-0.1882	-0.2261	-0.0261	0.3356	0.0049
ELA	3	574373	3	B-V	2	1129	0.2719	0.3818	0.2719	0.2028	0.1408	0.0027	0.1651	-0.0209	0.1651	-0.0994	-0.06	-0.0475
ELA	3	574374	3	B-V	2	1129	0.7786	0.1311	0.7786	0.0576	0.0328		0.4544	-0.3267	0.4544	-0.2011	-0.1775	
ELA	3	504079	3	D	2	1129	0.682	0.0841	0.1647	0.682	0.0664	0.0027	0.395	-0.236	-0.2247	0.395	-0.1479	0.0336
ELA	3	581077	3	D	2	1129	0.884	0.0239	0.884	0.0292	0.062	0.0009	0.3919	-0.2118	0.3919	-0.199	-0.242	-0.0425
ELA	3	581086	3	D	2	1129	0.8379	0.0965	0.0363	0.8379	0.0275	0.0018	0.3793	-0.2486	-0.1947	0.3793	-0.1738	-0.036
ELA	4	494336	0	A-C	3	4632	0.5559	0.5559	0.1988	0.1174	0.1259	0.0019	0.4226	0.4226	-0.1202	-0.3518	-0.1446	-0.0168
ELA	4	495065	0	A-C	3	4632	0.4495	0.3182	0.1021	0.4495	0.1256	0.0045	0.3456	-0.0222	-0.2835	0.3456	-0.22	-0.0414
ELA	4	494339	0	A-K	2	4632	0.6017	0.1194	0.1582	0.6017	0.1196	0.0011	0.5877	-0.2854	-0.2462	0.5877	-0.3221	-0.0248
ELA	4	495069	0	A-K	3	4632	0.3389	0.245	0.3389	0.2774	0.1323	0.0063	0.2572	0.0316	0.2572	-0.1256	-0.2191	-0.0616
ELA	4	495070	0	A-K	2	4632	0.5602	0.2457	0.1099	0.0818	0.5602	0.0024	0.4129	-0.1888	-0.1401	-0.2856	0.4129	-0.0323
ELA	4	494338	0	A-V	2	4632	0.6013	0.1351	0.6013	0.0693	0.1934	0.0009	0.5001	-0.2608	0.5001	-0.2779	-0.2122	-0.0438
ELA	4	494345	0	A-V	2	4632	0.7146	0.0961	0.1174	0.0717	0.7146	0.0002	0.635	-0.3184	-0.3526	-0.3086	0.635	0.0118
ELA	4	495072	0	A-V	2	4632	0.7129	0.7129	0.0898	0.0952	0.1002	0.0019	0.6536	0.6536	-0.3638	-0.3653	-0.2732	-0.0559
ELA	4	495073	0	A-V	2	4632	0.6246	0.1682	0.1112	0.0909	0.6246	0.0052	0.5303	-0.2445	-0.2587	-0.2748	0.5303	-0.0699
ELA	4	495074	0	A-V	2	4632	0.6183	0.0531	0.1604	0.6183	0.1636	0.0045	0.3366	-0.2772	-0.1199	0.3366	-0.1395	-0.0857
ELA	4	339685	0	B-C	2	4632	0.5848	0.1848	0.0976	0.1287	0.5848	0.0041	0.5655	-0.1555	-0.3196	-0.3576	0.5655	-0.0583
ELA	4	339686	0	B-C	3	4632	0.5283	0.2338	0.1321	0.5283	0.0987	0.0071	0.4863	-0.1475	-0.2961	0.4863	-0.2568	-0.0417
ELA	4	339689	0	B-C	3	4632	0.5514	0.0894	0.2228	0.1345	0.5514	0.0019	0.4914	-0.2627	-0.1693	-0.2846	0.4914	-0.0432
ELA	4	339690	0	B-C	3	4632	0.5225	0.1615	0.147	0.5225	0.1673	0.0017	0.3363	-0.174	-0.1197	0.3363	-0.1611	-0.0355
ELA	4	495045	0	B-C	3	4632	0.5404	0.5404	0.1669	0.1021	0.1885	0.0022	0.4723	0.4723	-0.221	-0.3143	-0.1423	-0.0467
ELA	4	495046	0	B-C	3	4632	0.6293	0.1531	0.1496	0.6293	0.0643	0.0037	0.5326	-0.239	-0.2617	0.5326	-0.307	-0.0413
ELA	4	495048	0	B-C	2	4632	0.5797	0.1854	0.0753	0.5797	0.1559	0.0037	0.5214	-0.2183	-0.2951	0.5214	-0.2532	-0.0456
ELA	4	495049	0	B-C	3	4632	0.7591	0.7591	0.0913	0.0797	0.0658	0.0041	0.5852	0.5852	-0.282	-0.3421	-0.2971	-0.0421
ELA	4	339687	0	B-K	1	4632	0.4758	0.4758	0.1518	0.2336	0.1362	0.0026	0.4112	0.4112	-0.157	-0.183	-0.2041	-0.0307
ELA	4	495052	0	B-K	2	4632	0.7083	0.1274	0.7083	0.0695	0.0915	0.0032	0.5751	-0.2973	0.5751	-0.2859	-0.2968	-0.0704
ELA	4	339684	0	B-V	2	4632	0.7122	0.7122	0.0991	0.0764	0.111	0.0013	0.496	0.496	-0.2756	-0.3281	-0.1696	-0.0495
ELA	4	495047	0	B-V	2	4632	0.704	0.0883	0.0974	0.1082	0.704	0.0022	0.5191	-0.2259	-0.2716	-0.2951	0.5191	-0.0153
ELA	4	495053	0	B-V	2	4632	0.4557	0.0777	0.4557	0.0877	0.3761	0.0028	0.3271	-0.3185	0.3271	-0.2523	-0.0062	-0.0625
ELA	4	253165	0	D	2	4632	0.5807	0.1403	0.5807	0.068	0.2092	0.0017	0.3455	-0.2916	0.3455	-0.1512	-0.0778	0.0122
ELA	4	254906	0	D	2	4632	0.6483	0.1636	0.6483	0.0926	0.0946	0.0009	0.4265	-0.2134	0.4265	-0.2338	-0.1906	-0.0404
ELA	4	255771	0	D	3	4632	0.603	0.603	0.168	0.13	0.0941	0.005	0.4975	0.4975	-0.1419	-0.3288	-0.2552	-0.075
ELA	4	255913	0	D	2	4632	0.5861	0.1572	0.5861	0.1097	0.1453	0.0017	0.4222	-0.184	0.4222	-0.1259	-0.2849	-0.0292
ELA	4	341145	0	D	2	4632	0.557	0.1686	0.1647	0.1034	0.557	0.0063	0.3685	-0.1429	-0.1776	-0.1973	0.3685	-0.0459
ELA	4	341147	0	D	2	4632	0.4627	0.1369	0.1375	0.2571	0.4627	0.0058	0.3777	-0.195	-0.1995	-0.114	0.3777	-0.0366
ELA	4	341155	0	D	2	4632	0.4514	0.4514	0.2081	0.1602	0.1794	0.0009	0.3099	0.3099	-0.1554	-0.1011	-0.1409	-0.0003
ELA	4	409160	0	D	2	4632	0.8055	0.0563	0.0449	0.8055	0.0928	0.0004	0.4162	-0.1736	-0.1725	0.4162	-0.3051	-0.0228
ELA	4	409163	0	D	2	4632	0.3828	0.2036	0.0684	0.345	0.3828	0.0002	0.4107	-0.1191	-0.22	-0.2028	0.4107	0.0172
ELA	4	579103	1	A-K	2	2172	0.3913	0.3983	0.3913	0.1298	0.0787	0.0018	0.2705	0.0729	0.2705	-0.2723	-0.2736	-0.0587
ELA	4	579104	1	A-K	2	2172	0.5921	0.1644	0.1137	0.5921	0.1289	0.0009	0.4252	-0.2133	-0.2383	0.4252	-0.1616	-0.0051
ELA	4	579118	1	A-K	2	2172	0.6662	0.0787	0.6662	0.1156	0.139	0.0005	0.5616	-0.2339	0.5616	-0.3159	-0.2932	0.0274
ELA	4	579119	1	A-K	2	2172	0.5005	0.1948	0.2302	0.5005	0.0737	0.0009	0.5336	-0.3216	-0.2632	0.5336	-0.1058	-0.0339
ELA	4	579342	1	A-K	2	2172	0.477	0.1436	0.2601	0.1183	0.477	0.0009	0.3663	-0.2679	-0.0468	-0.209	0.3663	-0.0312
ELA	4	579102	1	A-V	2	2172	0.6441	0.1197	0.1331	0.6441	0.1022	0.0009	0.5458	-0.2763	-0.2408	0.5458	-0.2952	-0.0147
ELA	4	579121	1	A-V	2	2172	0.7426	0.0884	0.7426	0.0792	0.0884	0.0014	0.5228	-0.3056	0.5228	-0.2442	-0.2606	-0.0511
ELA	4	581312	1	A-V	2	2172	0.5041	0.5041	0.1708	0.1768	0.1455	0.0028	0.4225	0.4225	-0.195	-0.1703	-0.1981	-0.058

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	4	493325	1	B-C	3	4632	0.4281	0.3469	0.1133	0.1071	0.4281	0.0045	0.3138	0.0334	-0.2283	-0.3134	0.3138	-0.028
ELA	4	493326	1	B-C	2	4632	0.6449	0.6449	0.1231	0.1058	0.1244	0.0019	0.5022	0.5022	-0.24	-0.2459	-0.2569	-0.025
ELA	4	493328	1	B-C	3	4632	0.7386	0.7386	0.062	0.0771	0.1205	0.0019	0.5714	0.5714	-0.2603	-0.3404	-0.2951	-0.0345
ELA	4	493332	1	B-K	2	4632	0.7699	0.062	0.0786	0.0866	0.7699	0.003	0.5298	-0.2808	-0.2532	-0.3051	0.5298	-0.0254
ELA	4	493327	1	B-V	2	4632	0.761	0.0972	0.0583	0.761	0.0829	0.0006	0.4892	-0.2849	-0.2765	0.4892	-0.2157	0.0008
ELA	4	493334	1	B-V	1	4632	0.5807	0.2673	0.5807	0.0794	0.0712	0.0013	0.2117	0.0127	0.2117	-0.1671	-0.2501	-0.0161
ELA	4	504068	1	D	2	2172	0.6169	0.1123	0.1888	0.081	0.6169	0.0009	0.3831	-0.1874	-0.2048	-0.1731	0.3831	0.0113
ELA	4	581064	1	D	2	2172	0.4517	0.2017	0.4517	0.1984	0.1455	0.0028	0.37	-0.1809	0.37	-0.1382	-0.1599	-0.001
ELA	4	581094	1	D	2	2172	0.4871	0.1418	0.1565	0.4871	0.2141	0.0005	0.4133	-0.189	-0.2014	0.4133	-0.1644	-0.0017
ELA	4	579112	2	A-K	3	1221	0.4423	0.1392	0.4423	0.0999	0.3161	0.0025	0.1	-0.2257	0.1	-0.1803	0.1826	-0.0479
ELA	4	579114	2	A-K	2	1221	0.6585	0.6585	0.0991	0.1147	0.1253	0.0025	0.2313	0.2313	0.0122	-0.2035	-0.1459	-0.0041
ELA	4	579134	2	A-K	2	1221	0.1753	0.1974	0.1753	0.2596	0.3669	0.0008	0.0352	-0.0939	0.0352	-0.0219	0.0678	0.0319
ELA	4	579135	2	A-K	3	1221	0.665	0.0835	0.0835	0.665	0.1646	0.0033	0.3672	-0.2502	-0.2959	0.3672	-0.0557	-0.027
ELA	4	579136	2	A-K	2	1221	0.4226	0.1196	0.1663	0.4226	0.2899	0.0016	-0.0168	-0.2064	0.0197	-0.0168	0.155	-0.0598
ELA	4	579113	2	A-V	2	1221	0.742	0.0794	0.0532	0.1245	0.742	0.0008	0.252	-0.1451	-0.1634	-0.105	0.252	0.0107
ELA	4	579137	2	A-V	2	1221	0.7035	0.1835	0.7035	0.0573	0.0557		0.3811	-0.1785	0.3811	-0.2223	-0.2322	
ELA	4	579138	2	A-V	2	1221	0.5512	0.2129	0.1417	0.5512	0.0917	0.0025	0.1217	-0.0817	0.0416	0.1217	-0.1449	0.0046
ELA	4	504070	2	D	2	1221	0.5176	0.5176	0.3006	0.0377	0.1441		0.2532	0.2532	-0.1924	-0.13	-0.0385	
ELA	4	581065	2	D	2	1221	0.3391	0.1859	0.1933	0.3391	0.2785	0.0033	0.1954	-0.0969	-0.0935	0.1954	-0.0345	-0.0422
ELA	4	581095	2	D	2	1221	0.7551	0.0622	0.7551	0.1319	0.05	0.0008	0.4004	-0.2268	0.4004	-0.1977	-0.2265	-0.0407
ELA	4	579388	3	A-K	2	1239	0.7571	0.0315	0.0605	0.1493	0.7571	0.0016	0.4315	-0.2495	-0.1181	-0.3152	0.4315	-0.0244
ELA	4	579416	3	A-K	2	1239	0.5214	0.0436	0.5214	0.226	0.2074	0.0016	0.2934	-0.2499	0.2934	-0.2136	-0.0154	0.0005
ELA	4	579417	3	A-K	3	1239	0.7062	0.0726	0.1768	0.7062	0.0436	0.0008	0.3962	-0.2561	-0.2113	0.3962	-0.1605	-0.0216
ELA	4	579419	3	A-K	3	1239	0.7272	0.117	0.7272	0.0638	0.0896	0.0024	0.4813	-0.2476	0.4813	-0.2871	-0.2213	-0.029
ELA	4	579420	3	A-K	2	1239	0.7215	0.1679	0.05	0.0597	0.7215	0.0008	0.3894	-0.2715	-0.078	-0.2341	0.3894	-0.0216
ELA	4	579389	3	A-V	2	1239	0.6489	0.1856	0.6489	0.1114	0.0533	0.0008	0.2358	-0.0244	0.2358	-0.1911	-0.1884	-0.0216
ELA	4	579390	3	A-V	2	1239	0.4633	0.4633	0.2026	0.0638	0.268	0.0024	0.2591	0.2591	-0.0151	-0.1738	-0.1778	-0.0392
ELA	4	579414	3	A-V	2	1239	0.8531	0.0363	0.0896	0.0202	0.8531	0.0008	0.307	-0.1028	-0.2088	-0.2077	0.307	-0.0216
ELA	4	504071	3	D	2	1239	0.7224	0.1412	0.0993	0.7224	0.0363	0.0008	0.4046	-0.2168	-0.221	0.4046	-0.2098	-0.0128
ELA	4	581066	3	D	2	1239	0.632	0.632	0.1663	0.0476	0.1525	0.0016	0.36	0.36	-0.2585	-0.209	-0.0895	-0.0181
ELA	4	581096	3	D	2	1239	0.7627	0.0815	0.0815	0.7627	0.0743		0.2931	-0.0991	-0.1921	0.2931	-0.1717	
ELA	5	493345	0	A-C	3	6935	0.6157	0.6157	0.1436	0.1598	0.0797	0.0012	0.4897	0.4897	-0.1818	-0.2523	-0.2973	-0.0445
ELA	5	493349	0	A-K	3	6935	0.5456	0.2411	0.5456	0.1296	0.0831	0.0006	0.4406	-0.1257	0.4406	-0.2945	-0.2406	-0.0125
ELA	5	493351	0	A-K	3	6935	0.6861	0.6861	0.1394	0.0407	0.1292	0.0046	0.59	0.59	-0.2973	-0.2363	-0.3583	-0.0588
ELA	5	495883	0	A-K	3	6935	0.551	0.2211	0.0686	0.551	0.1575	0.0019	0.4224	-0.1722	-0.2778	0.4224	-0.1862	-0.0138
ELA	5	495887	0	A-K	2	6935	0.5857	0.1275	0.5857	0.1772	0.1081	0.0014	0.4339	-0.2463	0.4339	-0.162	-0.2219	-0.0219
ELA	5	493347	0	A-V	2	6935	0.6849	0.1288	0.1195	0.0611	0.6849	0.0056	0.4699	-0.2477	-0.2032	-0.2732	0.4699	-0.0526
ELA	5	493352	0	A-V	2	6935	0.6466	0.1315	0.1374	0.6466	0.0809	0.0036	0.4731	-0.2099	-0.2436	0.4731	-0.2512	-0.0473
ELA	5	495884	0	A-V	2	6935	0.8574	0.8574	0.0337	0.075	0.0327	0.0012	0.4192	0.4192	-0.1651	-0.2953	-0.2134	-0.0307
ELA	5	495889	0	A-V	2	6935	0.5188	0.0787	0.5188	0.2696	0.1319	0.0009	0.3687	-0.2067	0.3687	-0.2843	-0.0045	-0.0305
ELA	5	495890	0	A-V	2	6935	0.458	0.1627	0.2386	0.139	0.458	0.0017	0.3678	-0.2345	-0.1157	-0.1336	0.3678	-0.0284
ELA	5	341044	0	B-C	3	6935	0.5019	0.1399	0.1549	0.1971	0.5019	0.0062	0.4958	-0.1894	-0.2264	-0.242	0.4958	-0.0511
ELA	5	341064	0	B-C	2	6935	0.5041	0.1844	0.183	0.1214	0.5041	0.0071	0.4753	-0.1584	-0.2789	-0.2003	0.4753	-0.0357
ELA	5	341083	0	B-C	3	6935	0.4724	0.4724	0.0685	0.3118	0.1455	0.0019	0.2569	0.2569	-0.2314	-0.1068	-0.0554	-0.0196
ELA	5	341084	0	B-C	3	6935	0.4389	0.4389	0.2019	0.205	0.152	0.0022	0.3827	0.3827	-0.2112	-0.1015	-0.176	-0.021
ELA	5	341085	0	B-C	3	6935	0.4499	0.2894	0.1673	0.4499	0.0916	0.0019	0.4388	-0.1163	-0.2784	0.4388	-0.2139	-0.0002
ELA	5	409603	0	B-C	2	6935	0.6258	0.082	0.6258	0.1043	0.1831	0.0048	0.5339	-0.2658	0.5339	-0.317	-0.2219	-0.0397
ELA	5	409605	0	B-C	3	6935	0.3779	0.1433	0.1056	0.3779	0.3712	0.002	0.4331	-0.2856	-0.1602	0.4331	-0.1236	-0.0223
ELA	5	341106	0	B-K	3	6935	0.5017	0.2437	0.0721	0.5017	0.1797	0.0029	0.3101	-0.1083	-0.3002	0.3101	-0.0775	-0.022
ELA	5	409606	0	B-K	3	6935	0.6195	0.166	0.1419	0.6195	0.0673	0.0053	0.4314	-0.2323	-0.1822	0.4314	-0.2244	-0.0444
ELA	5	409608	0	B-K	3	6935	0.63	0.63	0.1853	0.111	0.0712	0.0025	0.4808	0.4808	-0.2522	-0.2624	-0.1954	-0.03
ELA	5	340996	0	B-V	2	6935	0.5745	0.0877	0.5745	0.0681	0.2662	0.0036	0.3841	-0.2134	0.3841	-0.2468	-0.1459	-0.0483
ELA	5	409609	0	B-V	1	6935	0.5468	0.1785	0.5468	0.1495	0.1226	0.0026	0.4564	-0.1913	0.4564	-0.2473	-0.1967	-0.0244
ELA	5	409611	0	B-V	2	6935	0.8405	0.0322	0.0668	0.0597	0.8405	0.0009	0.4601	-0.244	-0.2524	-0.2615	0.4601	-0.0161

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	5	252244	0	D	1	6935	0.5899	0.1334	0.5899	0.1435	0.1312	0.002	0.3603	-0.1793	0.3603	-0.1458	-0.1885	-0.0337
ELA	5	256101	0	D	3	6935	0.5657	0.0744	0.0523	0.5657	0.3051	0.0025	0.5022	-0.2727	-0.2152	0.5022	-0.2768	-0.0401
ELA	5	341037	0	D	2	6935	0.6545	0.1536	0.6545	0.0542	0.137	0.0007	0.3912	-0.226	0.3912	-0.2455	-0.1404	-0.0245
ELA	5	411656	0	D	2	6935	0.2738	0.3938	0.1727	0.1565	0.2738	0.0032	0.3976	-0.2154	-0.0357	-0.1555	0.3976	-0.0365
ELA	5	411657	0	D	1	6935	0.4594	0.4594	0.1579	0.2149	0.1664	0.0014	0.164	0.164	-0.0471	-0.1288	-0.0286	-0.0269
ELA	5	411658	0	D	2	6935	0.8332	0.0898	0.0277	0.0466	0.8332	0.0027	0.3382	-0.2058	-0.1821	-0.1646	0.3382	-0.0513
ELA	5	411659	0	D	2	6935	0.6936	0.6936	0.0851	0.0588	0.1596	0.0029	0.3623	0.3623	-0.2032	-0.1244	-0.2188	-0.017
ELA	5	411661	0	D	2	6935	0.2754	0.0278	0.3687	0.2754	0.3275	0.0006	0.3206	-0.2205	-0.1635	0.3206	-0.0585	-0.0272
ELA	5	411662	0	D	2	6935	0.3847	0.0942	0.1691	0.3847	0.3507	0.0013	0.2879	-0.1772	-0.0658	0.2879	-0.1313	-0.0286
ELA	5	566389	1	A-K	2	3097	0.506	0.1543	0.1024	0.2341	0.506	0.0032	0.4616	-0.1866	-0.2313	-0.217	0.4616	-0.0238
ELA	5	566391	1	A-K	3	3097	0.4653	0.1983	0.1653	0.1686	0.4653	0.0026	0.3468	-0.0853	-0.1744	-0.1921	0.3468	-0.0447
ELA	5	566392	1	A-K	2	3097	0.6322	0.1269	0.1256	0.6322	0.1133	0.0019	0.525	-0.2901	-0.2601	0.525	-0.217	-0.0365
ELA	5	566393	1	A-K	2	3097	0.5515	0.5515	0.084	0.2257	0.1363	0.0026	0.5061	0.5061	-0.2419	-0.2235	-0.2613	-0.0307
ELA	5	566394	1	A-K	2	3097	0.4152	0.3339	0.1808	0.4152	0.0675	0.0026	0.2798	0.0454	-0.2547	0.2798	-0.2406	-0.0167
ELA	5	566395	1	A-V	1	3097	0.4391	0.4391	0.2364	0.1162	0.2073	0.001	0.357	0.357	-0.0838	-0.2542	-0.1491	0.01
ELA	5	566396	1	A-V	2	3097	0.7026	0.0865	0.7026	0.1411	0.0668	0.0029	0.506	-0.2511	0.506	-0.3015	-0.2224	-0.0037
ELA	5	566397	1	A-V	2	3097	0.6406	0.6406	0.1363	0.092	0.1275	0.0036	0.4471	0.4471	-0.2967	-0.2383	-0.1278	-0.021
ELA	5	497144	1	B-C	2	6935	0.7084	0.08	0.7084	0.0916	0.1184	0.0016	0.4156	-0.211	0.4156	-0.2464	-0.1846	-0.0236
ELA	5	497145	1	B-C	2	6935	0.559	0.559	0.1761	0.0963	0.1667	0.0019	0.4299	0.4299	-0.0987	-0.2613	-0.2603	-0.0403
ELA	5	497146	1	B-K	2	6935	0.4167	0.3743	0.0846	0.4167	0.1237	0.0006	0.4267	-0.1393	-0.2827	0.4267	-0.1936	-0.0211
ELA	5	497149	1	B-K	2	6935	0.5449	0.1898	0.1703	0.5449	0.0923	0.0027	0.4232	-0.0946	-0.2564	0.4232	-0.2613	-0.0309
ELA	5	497143	1	B-V	2	6935	0.5071	0.5071	0.0744	0.2111	0.2059	0.0014	0.3845	0.3845	-0.2226	-0.19	-0.1357	-0.0374
ELA	5	497152	1	B-V	1	6935	0.5804	0.0871	0.5804	0.2508	0.0799	0.0019	0.2889	-0.2527	0.2889	-0.0268	-0.2151	-0.0325
ELA	5	505540	1	D	2	3097	0.6109	0.0923	0.1692	0.6109	0.1256	0.0019	0.5441	-0.276	-0.2411	0.5441	-0.2857	-0.0071
ELA	5	581207	1	D	2	3097	0.3048	0.2699	0.1947	0.3048	0.2286	0.0019	0.0571	0.1018	-0.1025	0.0571	-0.0723	-0.0115
ELA	5	581217	1	D	2	3097	0.3591	0.3591	0.2073	0.1902	0.2418	0.0016	0.1947	0.1947	0.0155	-0.2225	-0.0277	-0.0136
ELA	5	576322	2	A-C	3	1928	0.597	0.1385	0.0716	0.597	0.1914	0.0016	0.3705	-0.2873	-0.2193	0.3705	-0.0644	-0.0154
ELA	5	576324	2	A-K	2	1928	0.6587	0.0877	0.2054	0.0467	0.6587	0.0016	0.3513	-0.1429	-0.2026	-0.1954	0.3513	-0.0777
ELA	5	576326	2	A-K	2	1928	0.777	0.041	0.777	0.0705	0.1115		0.45	-0.2396	0.45	-0.276	-0.2197	
ELA	5	576327	2	A-K	2	1928	0.4492	0.4492	0.1483	0.0747	0.3273	0.0005	0.2745	0.2745	-0.1553	-0.3046	-0.002	-0.0164
ELA	5	576328	2	A-K	2	1928	0.5685	0.3491	0.5685	0.0498	0.0306	0.0021	0.2758	-0.1567	0.2758	-0.152	-0.1509	-0.063
ELA	5	576329	2	A-V	2	1928	0.8185	0.0197	0.027	0.1343	0.8185	0.0005	0.2883	-0.2266	-0.195	-0.1368	0.2883	-0.0615
ELA	5	576330	2	A-V	2	1928	0.7894	0.7894	0.0773	0.0757	0.0576		0.4164	0.4164	-0.2051	-0.2472	-0.2131	
ELA	5	576331	2	A-V	2	1928	0.6281	0.1037	0.6281	0.0441	0.2225	0.0016	0.2142	-0.1554	0.2142	-0.1934	-0.0329	-0.0704
ELA	5	505542	2	D	2	1928	0.4689	0.2049	0.1836	0.1421	0.4689	0.0005	0.3331	-0.0967	-0.1514	-0.1944	0.3331	-0.0289
ELA	5	581209	2	D	2	1928	0.8164	0.0747	0.0861	0.8164	0.0218	0.001	0.2896	-0.141	-0.1747	0.2896	-0.1756	-0.0126
ELA	5	581218	2	D	2	1928	0.9201	0.0083	0.0602	0.0099	0.9201	0.0016	0.0379	-0.154	0.071	-0.1326	0.0379	-0.0024
ELA	5	579326	3	A-C	2	1910	0.7817	0.0675	0.7817	0.0649	0.0848	0.001	0.3996	-0.1862	0.3996	-0.152	-0.2906	0.0006
ELA	5	579330	3	A-K	2	1910	0.7068	0.0518	0.0455	0.1942	0.7068	0.0016	0.3244	-0.1987	-0.2096	-0.1508	0.3244	-0.0072
ELA	5	579332	3	A-K	3	1910	0.5414	0.0743	0.3052	0.5414	0.0775	0.0016	0.3088	-0.1929	-0.0819	0.3088	-0.2407	-0.0301
ELA	5	579334	3	A-K	2	1910	0.8377	0.0529	0.8377	0.0476	0.0613	0.0005	0.4318	-0.2256	0.4318	-0.1936	-0.279	-0.0256
ELA	5	579338	3	A-K	2	1910	0.6068	0.1021	0.6068	0.1466	0.1424	0.0021	0.4791	-0.2245	0.4791	-0.2671	-0.2039	-0.0066
ELA	5	579302	3	A-V	2	1910	0.9277	0.0194	0.0194	0.9277	0.0314	0.0021	0.3989	-0.2148	-0.2214	0.3989	-0.2408	-0.0252
ELA	5	579303	3	A-V	2	1910	0.3026	0.3026	0.4738	0.1592	0.0639	0.0005	0.1711	0.1711	0.0454	-0.1444	-0.1933	-0.0529
ELA	5	579340	3	A-V	2	1910	0.955	0.0152	0.0147	0.955	0.0141	0.001	0.3329	-0.195	-0.2058	0.3329	-0.1815	0.0304
ELA	5	505543	3	D	2	1910	0.3005	0.3005	0.3325	0.1602	0.2063	0.0005	0.2302	0.2302	-0.0686	-0.0832	-0.1048	-0.0132
ELA	5	581210	3	D	2	1910	0.5455	0.1173	0.0372	0.5455	0.2995	0.0005	0.3329	-0.1429	-0.1033	0.3329	-0.2183	-0.0107
ELA	5	581219	3	D	2	1910	0.601	0.0775	0.1885	0.601	0.1319	0.001	0.3144	-0.1984	-0.16	0.3144	-0.1123	-0.0117
ELA	6	416075	0	A-C	2	7263	0.6573	0.1183	0.6573	0.1122	0.1106	0.0017	0.5018	-0.2411	0.5018	-0.2973	-0.2069	-0.0393
ELA	6	416077	0	A-C	2	7263	0.3541	0.2594	0.1576	0.2272	0.3541	0.0017	0.4051	-0.0964	-0.2611	-0.1317	0.4051	-0.028
ELA	6	416082	0	A-C	3	7263	0.4772	0.1293	0.1143	0.4772	0.2733	0.0059	0.3447	-0.22	-0.295	0.3447	-0.0013	-0.0511
ELA	6	416085	0	A-C	3	7263	0.536	0.2102	0.536	0.1314	0.1202	0.0022	0.4982	-0.2057	0.4982	-0.2842	-0.2075	-0.0248
ELA	6	497125	0	A-C	2	7263	0.5682	0.5682	0.1353	0.117	0.1779	0.0015	0.4517	0.4517	-0.1427	-0.2869	-0.213	-0.0324
ELA	6	497126	0	A-C	2	7263	0.6967	0.0536	0.6967	0.0693	0.1793	0.0012	0.3463	-0.2393	0.3463	-0.2559	-0.1043	-0.0089

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	6	416079	0	A-K	2	7263	0.3832	0.3047	0.2064	0.1013	0.3832	0.0044	0.3491	-0.076	-0.0998	-0.3028	0.3491	-0.0443
ELA	6	416083	0	A-K	2	7263	0.5304	0.1409	0.2173	0.5304	0.1067	0.0048	0.458	-0.2106	-0.2369	0.458	-0.1758	-0.0483
ELA	6	497127	0	A-K	2	7263	0.5331	0.0785	0.3139	0.0727	0.5331	0.0018	0.4965	-0.2934	-0.2128	-0.2633	0.4965	-0.0395
ELA	6	497128	0	A-K	3	7263	0.6285	0.0745	0.0713	0.2243	0.6285	0.0014	0.2968	-0.1979	-0.1955	-0.0998	0.2968	0.0131
ELA	6	416076	0	A-V	2	7263	0.4336	0.4336	0.1498	0.2167	0.1985	0.0014	0.42	0.42	-0.2131	-0.239	-0.0806	-0.0395
ELA	6	497132	0	A-V	2	7263	0.5006	0.2328	0.066	0.2001	0.5006	0.0006	0.47	-0.1761	-0.2045	-0.2744	0.47	-0.0022
ELA	6	404576	0	B-C	3	7263	0.4995	0.2065	0.4995	0.1448	0.1481	0.001	0.3218	-0.1254	0.3218	-0.2297	-0.0821	-0.0042
ELA	6	404577	0	B-C	2	7263	0.79	0.79	0.0688	0.0691	0.0697	0.0023	0.5414	0.5414	-0.3008	-0.3052	-0.2576	-0.0276
ELA	6	404579	0	B-C	2	7263	0.5024	0.1447	0.149	0.5024	0.1996	0.0043	0.3838	-0.219	-0.1856	0.3838	-0.1164	-0.0342
ELA	6	497114	0	B-C	3	7263	0.6094	0.6094	0.1096	0.0965	0.1816	0.0029	0.5273	0.5273	-0.2695	-0.3053	-0.2108	-0.0307
ELA	6	497115	0	B-C	3	7263	0.3519	0.3152	0.3519	0.1059	0.2254	0.0017	0.2245	-0.0009	0.2245	-0.2376	-0.0784	-0.0226
ELA	6	497116	0	B-C	2	7263	0.5466	0.0962	0.2287	0.1243	0.5466	0.0041	0.4971	-0.2333	-0.2134	-0.2618	0.4971	-0.042
ELA	6	497117	0	B-C	2	7263	0.5189	0.0764	0.1261	0.2767	0.5189	0.0018	0.3899	-0.2336	-0.1611	-0.1727	0.3899	-0.0476
ELA	6	404582	0	B-K	3	7263	0.4571	0.3022	0.4571	0.1378	0.1016	0.0012	0.444	-0.1334	0.444	-0.2467	-0.2456	-0.0192
ELA	6	404585	0	B-V	2	7263	0.6232	0.1417	0.1283	0.1029	0.6232	0.004	0.506	-0.1633	-0.2749	-0.3055	0.506	-0.0559
ELA	6	497121	0	B-V	2	7263	0.8103	0.0672	0.8103	0.0836	0.0366	0.0023	0.4973	-0.2698	0.4973	-0.2987	-0.2277	-0.0416
ELA	6	497122	0	B-V	2	7263	0.7142	0.0888	0.1256	0.7142	0.0684	0.003	0.4429	-0.2349	-0.205	0.4429	-0.2544	-0.0207
ELA	6	272269	0	D	2	7263	0.6912	0.0869	0.102	0.1172	0.6912	0.0028	0.3137	-0.1392	-0.1645	-0.1656	0.3137	-0.0512
ELA	6	275824	0	D	2	7263	0.4694	0.1092	0.2276	0.1929	0.4694	0.001	0.284	-0.1094	-0.1031	-0.1618	0.284	-0.018
ELA	6	279258	0	D	2	7263	0.7728	0.0372	0.7728	0.0175	0.1706	0.0019	0.3433	-0.1871	0.3433	-0.079	-0.2561	-0.04
ELA	6	341234	0	D	2	7263	0.37	0.1684	0.2694	0.37	0.1904	0.0018	0.3823	-0.277	-0.0568	0.3823	-0.1371	-0.044
ELA	6	412355	0	D	2	7263	0.2927	0.2017	0.2927	0.0987	0.4015	0.0054	0.4209	-0.3012	0.4209	-0.2702	0.0274	-0.0474
ELA	6	412356	0	D	2	7263	0.5275	0.5275	0.0636	0.2058	0.2018	0.0012	0.3525	0.3525	-0.2055	-0.0891	-0.2211	-0.0298
ELA	6	412402	0	D	2	7263	0.649	0.0748	0.1269	0.1486	0.649	0.0007	0.4465	-0.271	-0.0911	-0.3118	0.4465	-0.0232
ELA	6	412404	0	D	2	7263	0.3825	0.168	0.3825	0.2893	0.1592	0.0011	0.3563	-0.1743	0.3563	-0.1248	-0.1395	-0.0107
ELA	6	503921	0	D	2	7263	0.414	0.2543	0.1464	0.414	0.1816	0.0037	0.439	-0.159	-0.1261	0.439	-0.262	-0.0232
ELA	6	495897	1	A-C	2	7263	0.661	0.661	0.1152	0.0721	0.1501	0.0015	0.3021	0.3021	-0.1824	-0.1615	-0.1177	-0.025
ELA	6	499798	1	A-C	2	7263	0.5306	0.1483	0.5306	0.1921	0.1269	0.0021	0.286	-0.0375	0.286	-0.1771	-0.1746	-0.0332
ELA	6	495898	1	A-K	3	7263	0.4213	0.3182	0.1778	0.0793	0.4213	0.0034	0.4974	-0.1883	-0.2819	-0.1765	0.4974	-0.0418
ELA	6	495899	1	A-K	2	7263	0.4776	0.1746	0.1696	0.1766	0.4776	0.0015	0.4843	-0.1972	-0.2204	-0.2178	0.4843	-0.0321
ELA	6	495900	1	A-V	2	7263	0.7131	0.083	0.7131	0.0541	0.1497	0.0001	0.2515	-0.1963	0.2515	-0.1573	-0.0671	-0.0038
ELA	6	495902	1	A-V	2	7263	0.8506	0.0355	0.0398	0.8506	0.0723	0.0018	0.3412	-0.231	-0.2084	0.3412	-0.1437	-0.0224
ELA	6	579313	1	B-C	2	3304	0.5908	0.1404	0.5908	0.1189	0.1477	0.0021	0.455	-0.1919	0.455	-0.2693	-0.1919	-0.0384
ELA	6	579314	1	B-C	3	3304	0.5133	0.2082	0.1568	0.5133	0.1205	0.0012	0.4747	-0.2235	-0.1935	0.4747	-0.2306	-0.0317
ELA	6	579315	1	B-K	3	3304	0.5054	0.1659	0.5054	0.191	0.1368	0.0009	0.4896	-0.2506	0.4896	-0.1578	-0.2575	-0.0358
ELA	6	579316	1	B-K	2	3304	0.5841	0.5841	0.0575	0.099	0.2579	0.0015	0.4856	0.4856	-0.1866	-0.1839	-0.3204	-0.0205
ELA	6	579317	1	B-K	2	3304	0.5254	0.5254	0.1211	0.2079	0.1441	0.0015	0.5469	0.5469	-0.2713	-0.2703	-0.2101	-0.0282
ELA	6	579318	1	B-K	3	3304	0.2884	0.1099	0.2161	0.3844	0.2884	0.0012	0.2035	-0.145	-0.0507	-0.0507	0.2035	-0.0368
ELA	6	579296	1	B-V	2	3304	0.7297	0.0854	0.0639	0.1208	0.7297	0.0003	0.4924	-0.219	-0.2627	-0.2855	0.4924	-0.0133
ELA	6	579319	1	B-V	2	3304	0.4585	0.1792	0.4585	0.1619	0.1985	0.0018	0.3433	-0.1738	0.3433	-0.2413	-0.0361	-0.0262
ELA	6	503919	1	D	2	3304	0.5173	0.1528	0.207	0.5173	0.1214	0.0015	0.3317	-0.13	-0.1754	0.3317	-0.1473	0.0056
ELA	6	584194	1	D	2	3304	0.7518	0.0772	0.0947	0.0754	0.7518	0.0009	0.2376	-0.1331	-0.1132	-0.1264	0.2376	-0.019
ELA	6	584203	1	D	2	3304	0.4834	0.1171	0.1752	0.4834	0.2237	0.0006	0.2326	-0.1667	-0.1703	0.2326	0.0052	-0.0006
ELA	6	580593	2	B-C	3	1972	0.643	0.1531	0.643	0.0609	0.141	0.002	0.3983	-0.1495	0.3983	-0.2772	-0.2038	0.0045
ELA	6	580594	2	B-C	3	1972	0.678	0.0832	0.1765	0.678	0.0619	0.0005	0.3968	-0.1417	-0.2353	0.3968	-0.2319	-0.0302
ELA	6	580595	2	B-C	2	1972	0.7069	0.1161	0.1014	0.074	0.7069	0.0015	0.4405	-0.2229	-0.2031	-0.2576	0.4405	-0.0085
ELA	6	580596	2	B-C	3	1972	0.4914	0.0629	0.4914	0.2328	0.2089	0.0041	0.3513	-0.2278	0.3513	-0.1973	-0.0848	-0.0387
ELA	6	580597	2	B-K	3	1972	0.7667	0.7667	0.0502	0.0933	0.0857	0.0041	0.5238	0.5238	-0.2704	-0.3005	-0.256	-0.0535
ELA	6	580598	2	B-K	2	1972	0.4797	0.1202	0.073	0.3251	0.4797	0.002	0.3535	-0.1826	-0.2532	-0.1079	0.3535	-0.0188
ELA	6	580599	2	B-K	3	1972	0.6242	0.1678	0.0527	0.6242	0.1542	0.001	0.4003	-0.1817	-0.2125	0.4003	-0.2218	0.0509
ELA	6	580601	2	B-V	2	1972	0.5147	0.0335	0.5147	0.1395	0.3098	0.0025	0.3361	-0.1974	0.3361	-0.176	-0.1525	-0.0193
ELA	6	503918	2	D	2	1972	0.3433	0.3433	0.1344	0.0593	0.463		0.2107	0.2107	-0.1611	-0.206	0.0072	
ELA	6	584195	2	D	2	1972	0.6668	0.1648	0.6668	0.1029	0.0649	0.0005	0.2309	-0.0775	0.2309	-0.1531	-0.1361	-0.0008
ELA	6	584204	2	D	1	1972	0.6085	0.6085	0.1268	0.2099	0.0538	0.001	0.3863	0.3863	-0.2874	-0.1469	-0.1391	-0.0531

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	6	576358	3	B-C	2	1987	0.5742	0.0609	0.0845	0.2788	0.5742	0.0015	0.3073	-0.1751	-0.2672	-0.0787	0.3073	-0.0116
ELA	6	578140	3	B-C	2	1987	0.6311	0.1621	0.0689	0.1359	0.6311	0.002	0.3397	-0.0757	-0.1971	-0.2447	0.3397	-0.0486
ELA	6	576364	3	B-K	2	1987	0.6673	0.0574	0.6673	0.1389	0.1359	0.0005	0.4138	-0.2037	0.4138	-0.2159	-0.211	-0.0267
ELA	6	576365	3	B-K	2	1987	0.6281	0.6281	0.0871	0.2139	0.0705	0.0005	0.4407	0.4407	-0.2356	-0.2102	-0.2347	-0.0147
ELA	6	576366	3	B-K	2	1987	0.7111	0.0921	0.1273	0.7111	0.0674	0.002	0.5243	-0.2453	-0.3274	0.5243	-0.2263	-0.0186
ELA	6	576379	3	B-K	2	1987	0.6256	0.6256	0.1268	0.1485	0.0966	0.0025	0.4382	0.4382	-0.2353	-0.2246	-0.1766	-0.035
ELA	6	576367	3	B-V	2	1987	0.84	0.0845	0.0438	0.84	0.0297	0.002	0.3502	-0.2064	-0.2274	0.3502	-0.1363	-0.0294
ELA	6	576368	3	B-V	2	1987	0.8098	0.0609	0.8098	0.0775	0.0508	0.001	0.468	-0.2553	0.468	-0.2645	-0.2355	-0.0055
ELA	6	503920	3	D	2	1987	0.771	0.771	0.0825	0.1238	0.0196	0.003	0.4215	0.4215	-0.255	-0.2451	-0.1804	-0.0213
ELA	6	584196	3	D	2	1987	0.8873	0.0493	0.0468	0.8873	0.0156	0.001	0.2877	-0.1857	-0.1524	0.2877	-0.1478	-0.0089
ELA	6	584205	3	D	1	1987	0.8062	0.0644	0.0262	0.8062	0.1002	0.003	0.3987	-0.2489	-0.2142	0.3987	-0.2031	-0.0243
ELA	7	495922	0	A-C	2	7865	0.5229	0.2136	0.5229	0.1448	0.1172	0.0014	0.4331	-0.1744	0.4331	-0.2034	-0.2247	-0.0261
ELA	7	495924	0	A-C	2	7865	0.546	0.1008	0.1483	0.546	0.2025	0.0024	0.4406	-0.2212	-0.2014	0.4406	-0.1995	-0.0212
ELA	7	495926	0	A-C	3	7865	0.5469	0.1741	0.0899	0.1872	0.5469	0.002	0.4846	-0.226	-0.2848	-0.1846	0.4846	-0.0472
ELA	7	497095	0	A-C	2	7865	0.506	0.1156	0.2094	0.1663	0.506	0.0027	0.36	-0.1493	-0.179	-0.1569	0.36	-0.0192
ELA	7	497097	0	A-C	3	7865	0.4266	0.2295	0.4266	0.1756	0.1634	0.005	0.3123	-0.0601	0.3123	-0.2363	-0.0958	-0.0545
ELA	7	497100	0	A-K	2	7865	0.5753	0.5753	0.0577	0.2305	0.1322	0.0042	0.5379	0.5379	-0.2548	-0.3046	-0.2229	-0.0409
ELA	7	495928	0	A-V	2	7865	0.5265	0.5265	0.1653	0.2342	0.0716	0.0024	0.4199	0.4199	-0.1407	-0.2264	-0.2332	-0.0281
ELA	7	495929	0	A-V	2	7865	0.7814	0.052	0.0545	0.1079	0.7814	0.0041	0.5394	-0.2772	-0.2758	-0.3136	0.5394	-0.0226
ELA	7	495930	0	A-V	2	7865	0.5423	0.1008	0.5423	0.1348	0.2182	0.0039	0.2826	-0.2893	0.2826	-0.177	0.0224	-0.0395
ELA	7	495931	0	A-V	1	7865	0.5124	0.3659	0.0638	0.5124	0.0567	0.0011	0.2011	0.0314	-0.2446	0.2011	-0.2371	-0.0298
ELA	7	497101	0	A-V	2	7865	0.7738	0.0903	0.0622	0.7738	0.0723	0.0014	0.4879	-0.2613	-0.2622	0.4879	-0.2483	-0.0429
ELA	7	497102	0	A-V	2	7865	0.7673	0.7673	0.086	0.0873	0.0563	0.0031	0.3679	0.3679	-0.0798	-0.287	-0.2214	-0.018
ELA	7	406549	0	B-C	3	7865	0.6186	0.6186	0.1289	0.1171	0.1346	0.0008	0.4364	0.4364	-0.2389	-0.2647	-0.1366	-0.0068
ELA	7	406550	0	B-C	2	7865	0.5076	0.2071	0.5076	0.1975	0.0858	0.002	0.4526	-0.1484	0.4526	-0.2345	-0.2554	-0.0283
ELA	7	406552	0	B-C	2	7865	0.631	0.1402	0.1073	0.631	0.1194	0.002	0.4509	-0.1362	-0.2729	0.4509	-0.2597	-0.0348
ELA	7	406553	0	B-C	2	7865	0.261	0.1249	0.261	0.3439	0.269	0.0011	0.2821	-0.1094	0.2821	-0.2256	0.0457	-0.0242
ELA	7	495108	0	B-C	2	7865	0.3892	0.4039	0.1072	0.0984	0.3892	0.0013	0.3359	-0.0283	-0.2419	-0.2475	0.3359	-0.0383
ELA	7	406556	0	B-K	2	7865	0.5138	0.0898	0.2018	0.5138	0.1933	0.0014	0.4455	-0.2266	-0.2108	0.4455	-0.183	-0.028
ELA	7	495105	0	B-K	2	7865	0.4072	0.2637	0.4072	0.0886	0.2379	0.0025	0.2251	-0.0438	0.2251	-0.3049	-0.007	-0.0327
ELA	7	495110	0	B-K	2	7865	0.3723	0.3723	0.1893	0.1072	0.3302	0.001	0.2625	0.2625	-0.2265	-0.1632	0.0275	-0.0195
ELA	7	495112	0	B-K	2	7865	0.354	0.1086	0.3443	0.1921	0.354	0.001	0.3139	-0.2335	-0.0263	-0.1626	0.3139	-0.0287
ELA	7	406558	0	B-V	2	7865	0.8112	0.0702	0.0715	0.8112	0.0467	0.0005	0.4016	-0.1781	-0.2351	0.4016	-0.2384	-0.0366
ELA	7	495113	0	B-V	2	7865	0.7219	0.7219	0.1116	0.0651	0.0998	0.0015	0.5238	0.5238	-0.3068	-0.293	-0.2167	-0.0213
ELA	7	276099	0	D	2	7865	0.4095	0.3536	0.4095	0.0935	0.1416	0.0018	0.4878	-0.2269	0.4878	-0.2323	-0.1779	-0.0418
ELA	7	278231	0	D	2	7865	0.5727	0.1519	0.1092	0.1629	0.5727	0.0033	0.3299	-0.1943	-0.1767	-0.0985	0.3299	-0.0345
ELA	7	279150	0	D	2	7865	0.6592	0.1162	0.1425	0.0812	0.6592	0.0008	0.499	-0.245	-0.2866	-0.2099	0.499	-0.0148
ELA	7	341161	0	D	2	7865	0.5233	0.1012	0.5233	0.2496	0.1243	0.0015	0.3805	-0.1612	0.3805	-0.1874	-0.1794	-0.0292
ELA	7	341162	0	D	2	7865	0.3849	0.0895	0.3849	0.2998	0.2249	0.0009	0.2898	-0.1379	0.2898	-0.109	-0.1223	-0.0212
ELA	7	341167	0	D	2	7865	0.2657	0.2657	0.3675	0.2793	0.0862	0.0013	0.3404	0.3404	-0.1089	-0.0611	-0.2489	-0.0173
ELA	7	413189	0	D	3	7865	0.6913	0.6913	0.0648	0.0903	0.1504	0.0032	0.4577	0.4577	-0.2746	-0.2231	-0.2156	-0.0502
ELA	7	413191	0	D	2	7865	0.4905	0.1045	0.3307	0.4905	0.0731	0.0011	0.2609	-0.2372	0.0168	0.2609	-0.2494	-0.0242
ELA	7	413196	0	D	2	7865	0.5279	0.5279	0.2259	0.1233	0.1214	0.0014	0.248	0.248	-0.0098	-0.2587	-0.1033	-0.0237
ELA	7	578096	1	A-C	3	3433	0.5523	0.1037	0.1002	0.2415	0.5523	0.0023	0.2963	-0.0819	-0.2487	-0.1077	0.2963	-0.0326
ELA	7	578098	1	A-C	2	3433	0.5604	0.5604	0.1856	0.1893	0.0632	0.0015	0.3113	0.3113	-0.2246	-0.04	-0.2137	0.0127
ELA	7	578100	1	A-C	2	3433	0.4774	0.1978	0.4774	0.2228	0.0993	0.0026	0.3274	-0.1623	0.3274	-0.0864	-0.2066	-0.022
ELA	7	578071	1	A-K	3	3433	0.5829	0.0667	0.1159	0.2327	0.5829	0.0017	0.3039	-0.2158	-0.2787	-0.015	0.3039	-0.0101
ELA	7	578084	1	A-K	3	3433	0.4993	0.4993	0.1861	0.2348	0.076	0.0038	0.4182	0.4182	-0.2376	-0.1427	-0.2058	-0.0258
ELA	7	578103	1	A-K	2	3433	0.4771	0.1911	0.0897	0.4771	0.2406	0.0015	0.3339	-0.1879	-0.2106	0.3339	-0.0729	-0.0409
ELA	7	578073	1	A-V	1	3433	0.5613	0.0396	0.1777	0.5613	0.2193	0.002	0.397	-0.2006	-0.1038	0.397	-0.2841	-0.0141
ELA	7	578075	1	A-V	2	3433	0.6534	0.1255	0.6534	0.1465	0.0722	0.0023	0.3617	-0.1931	0.3617	-0.1612	-0.1958	-0.01
ELA	7	494379	1	B-C	2	7865	0.5369	0.1556	0.5369	0.1311	0.175	0.0014	0.3357	-0.0952	0.3357	-0.2623	-0.1154	-0.0143
ELA	7	494380	1	B-C	2	7865	0.527	0.2374	0.1358	0.099	0.527	0.0008	0.419	-0.1163	-0.232	-0.2663	0.419	-0.0222
ELA	7	494382	1	B-K	2	7865	0.3962	0.2688	0.3962	0.273	0.0601	0.0019	0.2806	-0.1469	0.2806	-0.0443	-0.215	-0.0285

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	7	494384	1	B-K	2	7865	0.4384	0.0982	0.2764	0.4384	0.1842	0.0028	0.3432	-0.1457	-0.1274	0.3432	-0.1791	-0.0105
ELA	7	494378	1	B-V	2	7865	0.741	0.1497	0.0798	0.741	0.0272	0.0023	0.4056	-0.2037	-0.2463	0.4056	-0.2261	-0.0306
ELA	7	494385	1	B-V	2	7865	0.6618	0.6618	0.1931	0.0575	0.0863	0.0013	0.4303	0.4303	-0.2238	-0.2333	-0.2135	-0.0272
ELA	7	503931	1	D	2	3433	0.6368	0.2435	0.0658	0.0527	0.6368	0.0012	0.1895	-0.0084	-0.1569	-0.2139	0.1895	-0.025
ELA	7	584045	1	D	2	3433	0.7818	0.7818	0.1302	0.0687	0.0189	0.0003	0.3663	0.3663	-0.1813	-0.2839	-0.1315	-0.0299
ELA	7	584072	1	D	2	3433	0.6854	0.0623	0.1649	0.0865	0.6854	0.0009	0.3506	-0.1894	-0.1011	-0.28	0.3506	-0.0272
ELA	7	578097	2	A-C	3	2192	0.4886	0.4886	0.2368	0.1332	0.141	0.0005	0.4003	0.4003	-0.2149	-0.2172	-0.1004	-0.0022
ELA	7	578099	2	A-C	2	2192	0.6369	0.156	0.1323	0.6369	0.0739	0.0009	0.3153	-0.141	-0.1786	0.3153	-0.1461	-0.0577
ELA	7	578072	2	A-K	3	2192	0.672	0.0693	0.1049	0.1524	0.672	0.0014	0.4428	-0.1395	-0.2455	-0.2665	0.4428	-0.0395
ELA	7	578082	2	A-K	2	2192	0.7035	0.7035	0.1054	0.0703	0.12	0.0009	0.3701	0.3701	-0.1027	-0.2279	-0.2438	-0.0014
ELA	7	578083	2	A-K	2	2192	0.4343	0.0721	0.2965	0.1953	0.4343	0.0018	0.4195	-0.1941	-0.2071	-0.1573	0.4195	-0.0186
ELA	7	578102	2	A-K	2	2192	0.2153	0.3618	0.3134	0.2153	0.1095		0.0399	0.0981	-0.1009	0.0399	-0.0536	
ELA	7	578074	2	A-V	1	2192	0.2181	0.5844	0.2181	0.1036	0.0912	0.0027	0.1093	0.103	0.1093	-0.0976	-0.2254	-0.0244
ELA	7	578076	2	A-V	1	2192	0.7308	0.0849	0.7308	0.0388	0.1442	0.0014	0.387	-0.1594	0.387	-0.1789	-0.2637	-0.0024
ELA	7	503932	2	D	2	2192	0.5734	0.2308	0.5734	0.1026	0.0912	0.0018	0.3902	-0.1951	0.3902	-0.2172	-0.1585	0.0187
ELA	7	584046	2	D	2	2192	0.578	0.0899	0.1711	0.578	0.1597	0.0014	0.4183	-0.2068	-0.1973	0.4183	-0.1938	-0.0588
ELA	7	584073	2	D	2	2192	0.4708	0.0967	0.1647	0.4708	0.2678		0.3377	-0.2447	-0.2397	0.3377	-0.0165	
ELA	7	576315	3	A-C	2	2240	0.6875	0.6875	0.0661	0.1009	0.1442	0.0013	0.4563	0.4563	-0.2677	-0.3201	-0.1321	-0.0605
ELA	7	576287	3	A-K	2	2240	0.8179	0.8179	0.0531	0.0759	0.0531		0.4459	0.4459	-0.2122	-0.293	-0.2091	
ELA	7	576288	3	A-K	2	2240	0.3991	0.1362	0.2692	0.192	0.3991	0.0036	0.1762	-0.0089	-0.1257	-0.0633	0.1762	-0.0436
ELA	7	576289	3	A-K	3	2240	0.8165	0.0638	0.0558	0.8165	0.0621	0.0018	0.4026	-0.1862	-0.209	0.4026	-0.251	-0.0417
ELA	7	576290	3	A-K	2	2240	0.7063	0.7063	0.2009	0.0348	0.0567	0.0013	0.3488	0.3488	-0.1393	-0.2229	-0.2652	-0.0236
ELA	7	576292	3	A-K	3	2240	0.4112	0.254	0.2719	0.0612	0.4112	0.0018	0.3638	-0.0515	-0.2017	-0.275	0.3638	-0.0225
ELA	7	576286	3	A-V	2	2240	0.4732	0.1696	0.2518	0.104	0.4732	0.0013	0.3492	-0.158	-0.1065	-0.2248	0.3492	-0.0058
ELA	7	576293	3	A-V	1	2240	0.3299	0.3299	0.0665	0.0982	0.5049	0.0004	0.3354	0.3354	-0.2642	-0.1588	-0.0885	-0.017
ELA	7	503933	3	D	2	2240	0.4272	0.4272	0.346	0.1308	0.0955	0.0004	0.3182	0.3182	-0.1481	-0.1141	-0.1643	-0.0068
ELA	7	584047	3	D	2	2240	0.458	0.458	0.3027	0.2027	0.0353	0.0013	0.3727	0.3727	-0.1855	-0.1528	-0.2065	-0.0265
ELA	7	584074	3	D	2	2240	0.6929	0.0661	0.6929	0.1219	0.1192		0.4109	-0.1777	0.4109	-0.2476	-0.1988	
ELA	8	411875	0	A-C	2	7625	0.3837	0.402	0.1243	0.3837	0.0868	0.0031	0.2459	0.023	-0.1926	0.2459	-0.2273	-0.0587
ELA	8	411877	0	A-C	2	7625	0.6765	0.6765	0.1228	0.1127	0.086	0.0021	0.5766	0.5766	-0.3192	-0.2924	-0.2518	-0.0422
ELA	8	497103	0	A-C	2	7625	0.5342	0.0593	0.2896	0.5342	0.1151	0.0018	0.4037	-0.3149	-0.1193	0.4037	-0.2231	-0.0397
ELA	8	497105	0	A-C	2	7625	0.6633	0.1298	0.6633	0.063	0.1418	0.0021	0.466	-0.2166	0.466	-0.3272	-0.1915	-0.0243
ELA	8	411872	0	A-K	2	7625	0.6922	0.0757	0.6922	0.1091	0.1212	0.0018	0.6282	-0.2661	0.6282	-0.3452	-0.34	-0.0242
ELA	8	411874	0	A-K	3	7625	0.5487	0.0778	0.1419	0.2299	0.5487	0.0017	0.5062	-0.3116	-0.3174	-0.1322	0.5062	-0.0496
ELA	8	411878	0	A-K	2	7625	0.7116	0.1028	0.112	0.0717	0.7116	0.0018	0.5639	-0.3235	-0.2548	-0.2915	0.5639	-0.0379
ELA	8	497108	0	A-K	2	7625	0.6532	0.6532	0.1018	0.0974	0.1445	0.003	0.4984	0.4984	-0.2735	-0.269	-0.2089	-0.0235
ELA	8	411879	0	A-V	2	7625	0.5592	0.5592	0.1226	0.1642	0.1521	0.0018	0.392	0.392	-0.2321	-0.2215	-0.096	-0.0466
ELA	8	497111	0	A-V	2	7625	0.6835	0.0351	0.1969	0.0828	0.6835	0.0017	0.3294	-0.2095	-0.0624	-0.3207	0.3294	-0.0351
ELA	8	497112	0	A-V	2	7625	0.6114	0.2157	0.0931	0.6114	0.0774	0.0024	0.3705	-0.1147	-0.309	0.3705	-0.1548	-0.0474
ELA	8	400773	0	B-C	2	7625	0.666	0.1587	0.1199	0.666	0.0525	0.003	0.569	-0.3067	-0.2731	0.569	-0.2904	-0.0525
ELA	8	400774	0	B-C	2	7625	0.752	0.752	0.0942	0.1033	0.0479	0.0026	0.4458	0.4458	-0.2856	-0.2131	-0.1991	-0.034
ELA	8	400776	0	B-C	3	7625	0.6963	0.6963	0.2058	0.065	0.0308	0.0021	0.4071	0.4071	-0.1592	-0.3211	-0.2401	-0.0474
ELA	8	400780	0	B-C	3	7625	0.6597	0.0576	0.2257	0.6597	0.0547	0.0024	0.4955	-0.2627	-0.2711	0.4955	-0.2548	-0.0474
ELA	8	494397	0	B-C	2	7625	0.7187	0.7187	0.1108	0.1116	0.0565	0.0024	0.5357	0.5357	-0.2831	-0.2722	-0.2758	-0.0533
ELA	8	494399	0	B-C	3	7625	0.3272	0.3881	0.159	0.1242	0.3272	0.0016	0.2515	0.0486	-0.1792	-0.2267	0.2515	-0.0344
ELA	8	400779	0	B-K	2	7625	0.6021	0.1285	0.6021	0.1832	0.0852	0.0009	0.3336	-0.2366	0.3336	-0.1726	-0.058	-0.0383
ELA	8	494401	0	B-K	2	7625	0.4243	0.2321	0.2058	0.4243	0.1348	0.003	0.4518	-0.1083	-0.2687	0.4518	-0.195	-0.0423
ELA	8	400781	0	B-V	2	7625	0.4014	0.1803	0.4014	0.1764	0.2388	0.003	0.3834	-0.0851	0.3834	-0.1971	-0.1806	-0.0568
ELA	8	494398	0	B-V	2	7625	0.5555	0.1166	0.1481	0.1788	0.5555	0.001	0.5952	-0.2786	-0.3063	-0.2523	0.5952	-0.0285
ELA	8	494400	0	B-V	2	7625	0.6039	0.0918	0.6039	0.0896	0.2119	0.0028	0.4921	-0.243	0.4921	-0.3348	-0.1766	-0.0517
ELA	8	494405	0	B-V	2	7625	0.5044	0.192	0.5044	0.1714	0.1311	0.001	0.4948	-0.2233	0.4948	-0.1847	-0.2634	-0.0281
ELA	8	272756	0	D	2	7625	0.5317	0.2968	0.083	0.0867	0.5317	0.0018	0.5131	-0.3533	-0.1955	-0.1396	0.5131	-0.0327
ELA	8	278200	0	D	2	7625	0.255	0.3782	0.255	0.1002	0.265	0.0016	0.1991	0.094	0.1991	-0.3139	-0.0866	0.0032
ELA	8	278241	0	D	2	7625	0.7664	0.0644	0.0724	0.7664	0.0947	0.0021	0.4621	-0.25	-0.2651	0.4621	-0.2175	-0.0395

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
ELA	8	341011	0	D	2	7625	0.5506	0.2754	0.0885	0.5506	0.0839	0.0016	0.3426	-0.0948	-0.2298	0.3426	-0.2214	-0.0347
ELA	8	341015	0	D	2	7625	0.3511	0.3183	0.175	0.3511	0.1553	0.0004	0.2608	-0.0697	-0.1119	0.2608	-0.1357	-0.0186
ELA	8	341253	0	D	2	7625	0.3795	0.1432	0.3795	0.2283	0.2476	0.0013	0.4016	-0.1707	0.4016	-0.1586	-0.1566	-0.0254
ELA	8	416449	0	D	2	7625	0.3654	0.1347	0.3654	0.3516	0.1441	0.0042	0.2143	-0.1296	0.2143	0.0306	-0.1983	-0.0609
ELA	8	416453	0	D	2	7625	0.8051	0.8051	0.0518	0.0513	0.0905	0.0013	0.3633	0.3633	-0.2627	-0.2728	-0.0835	-0.0429
ELA	8	416518	0	D	2	7625	0.4391	0.4391	0.0821	0.3272	0.1507	0.0009	0.5029	0.5029	-0.3059	-0.1891	-0.2116	-0.0387
ELA	8	497064	1	A-C	3	7625	0.6894	0.6894	0.1311	0.0669	0.1112	0.0013	0.3335	0.3335	-0.1216	-0.237	-0.1697	-0.0189
ELA	8	497065	1	A-C	2	7625	0.8386	0.0446	0.05	0.8386	0.0653	0.0016	0.3971	-0.2331	-0.202	0.3971	-0.2124	-0.0379
ELA	8	497069	1	A-K	2	7625	0.4237	0.334	0.1121	0.1283	0.4237	0.0018	0.2939	-0.0301	-0.241	-0.1626	0.2939	-0.0155
ELA	8	497063	1	A-V	2	7625	0.6837	0.6837	0.0973	0.1403	0.0783	0.0004	0.3093	0.3093	-0.0414	-0.2213	-0.2038	0.0033
ELA	8	497071	1	A-V	2	7625	0.2957	0.3726	0.2957	0.2119	0.119	0.0008	0.1537	0.0452	0.1537	-0.1094	-0.1447	-0.0157
ELA	8	497072	1	A-V	2	7625	0.5881	0.286	0.0653	0.0594	0.5881	0.0012	0.3117	-0.0521	-0.2792	-0.2548	0.3117	-0.0199
ELA	8	578039	1	B-C	2	3310	0.6115	0.6115	0.0988	0.1124	0.1746	0.0027	0.3993	0.3993	-0.2488	-0.2498	-0.1033	-0.0441
ELA	8	578040	1	B-C	2	3310	0.4668	0.1447	0.1429	0.2441	0.4668	0.0015	0.3415	-0.0922	-0.2579	-0.1079	0.3415	-0.034
ELA	8	578042	1	B-K	2	3310	0.5556	0.5556	0.0867	0.1906	0.1659	0.0012	0.4604	0.4604	-0.2283	-0.2868	-0.1369	-0.0281
ELA	8	578043	1	B-K	2	3310	0.2647	0.2668	0.3468	0.1187	0.2647	0.003	0.0243	-0.0288	0.1651	-0.2285	0.0243	-0.0482
ELA	8	578044	1	B-K	3	3310	0.5338	0.1598	0.5338	0.1202	0.1819	0.0042	0.3108	-0.1481	0.3108	-0.1681	-0.1141	-0.0315
ELA	8	578045	1	B-K	3	3310	0.4707	0.4707	0.0864	0.265	0.1758	0.0021	0.3489	0.3489	-0.2413	-0.1507	-0.0999	-0.0397
ELA	8	578038	1	B-V	2	3310	0.7115	0.0976	0.7115	0.1287	0.0598	0.0024	0.5165	-0.2538	0.5165	-0.2756	-0.2707	-0.0442
ELA	8	578046	1	B-V	2	3310	0.3441	0.2069	0.3441	0.3305	0.1178	0.0006	0.2265	-0.1633	0.2265	-0.1133	0.0387	-0.026
ELA	8	503809	1	D	2	3310	0.5601	0.5601	0.1982	0.1474	0.0934	0.0009	0.3133	0.3133	-0.1829	-0.0936	-0.1671	-0.0264
ELA	8	584076	1	D	2	3310	0.552	0.0813	0.552	0.1628	0.2027	0.0012	0.4091	-0.1771	0.4091	-0.2615	-0.1434	-0.0241
ELA	8	584085	1	D	2	3310	0.365	0.365	0.1767	0.1822	0.2746	0.0015	0.1182	0.1182	-0.0351	0.0096	-0.1034	-0.0276
ELA	8	574344	2	B-C	2	2133	0.7332	0.7332	0.1252	0.112	0.0286	0.0009	0.3845	0.3845	-0.1239	-0.2846	-0.2393	0.0204
ELA	8	574345	2	B-C	2	2133	0.6053	0.0713	0.6053	0.2147	0.1055	0.0033	0.4194	-0.2235	0.4194	-0.1641	-0.256	-0.0259
ELA	8	574346	2	B-C	3	2133	0.6301	0.158	0.143	0.0675	0.6301	0.0014	0.4763	-0.2511	-0.227	-0.2315	0.4763	-0.0214
ELA	8	574347	2	B-K	2	2133	0.556	0.1697	0.2232	0.556	0.0469	0.0042	0.3788	-0.2342	-0.1352	0.3788	-0.2	-0.0263
ELA	8	574348	2	B-K	2	2133	0.6029	0.6029	0.1378	0.0877	0.1711	0.0005	0.4699	0.4699	-0.3018	-0.2161	-0.1699	-0.0377
ELA	8	574349	2	B-K	2	2133	0.8111	0.0309	0.8111	0.0469	0.1092	0.0019	0.3417	-0.1814	0.3417	-0.2723	-0.1444	0.006
ELA	8	574350	2	B-K	2	2133	0.5706	0.0952	0.2278	0.105	0.5706	0.0014	0.3413	-0.1989	-0.0887	-0.2348	0.3413	-0.0377
ELA	8	574342	2	B-V	1	2133	0.6765	0.0628	0.1191	0.6765	0.1397	0.0019	0.3505	-0.1842	-0.2296	0.3505	-0.1278	-0.0135
ELA	8	503835	2	D	2	2133	0.6329	0.0783	0.1885	0.6329	0.0994	0.0009	0.3501	-0.1438	-0.2488	0.3501	-0.1085	-0.0119
ELA	8	584077	2	D	2	2133	0.5073	0.0619	0.3	0.5073	0.1294	0.0014	0.3587	-0.1955	-0.2326	0.3587	-0.0718	-0.0415
ELA	8	584086	2	D	2	2133	0.5274	0.1505	0.5274	0.1739	0.1477	0.0005	0.2549	-0.1054	0.2549	-0.0978	-0.1464	-0.0247
ELA	8	578049	3	B-C	2	2182	0.5935	0.2113	0.0472	0.1476	0.5935	0.0005	0.398	-0.2548	-0.2517	-0.1047	0.398	-0.0438
ELA	8	578050	3	B-C	3	2182	0.3272	0.3272	0.1031	0.4913	0.0752	0.0032	0.2193	0.2193	-0.2159	0.0657	-0.2562	-0.0447
ELA	8	578078	3	B-C	2	2182	0.5037	0.1027	0.5037	0.2846	0.1077	0.0014	0.3007	-0.2145	0.3007	-0.0743	-0.1638	-0.0265
ELA	8	578047	3	B-K	2	2182	0.6421	0.1865	0.1224	0.6421	0.0467	0.0023	0.2943	-0.099	-0.1609	0.2943	-0.2307	-0.0235
ELA	8	578051	3	B-K	2	2182	0.429	0.3717	0.0976	0.429	0.1008	0.0009	0.2782	-0.0454	-0.2127	0.2782	-0.1773	0.0249
ELA	8	578052	3	B-K	2	2182	0.1696	0.4574	0.1696	0.1856	0.187	0.0005	-0.0385	0.181	-0.0385	-0.1445	-0.0496	-0.0109
ELA	8	578048	3	B-V	2	2182	0.3286	0.3286	0.0907	0.3034	0.2764	0.0009	0.1978	0.1978	-0.2652	-0.1164	0.0836	-0.0201
ELA	8	578054	3	B-V	2	2182	0.7855	0.0935	0.7855	0.0532	0.0669	0.0009	0.5393	-0.3353	0.5393	-0.2634	-0.2591	0.0032
ELA	8	503810	3	D	2	2182	0.5289	0.5289	0.1224	0.2663	0.0816	0.0009	0.2408	0.2408	-0.2568	-0.0054	-0.1249	0.0171
ELA	8	584078	3	D	2	2182	0.7576	0.0463	0.7576	0.1453	0.0486	0.0023	0.3738	-0.2248	0.3738	-0.213	-0.1704	-0.0264
ELA	8	584087	3	D	2	2182	0.3891	0.0247	0.3891	0.5596	0.0266		0.0738	-0.2343	0.0738	0.0752	-0.2295	
MATH	3	394375	0	A-F	1	4185	0.4698	0.4698	0.0748	0.3871	0.065	0.0033	0.4507	0.4507	-0.1067	-0.2822	-0.2325	-0.0359
MATH	3	408678	0	A-F	2	4185	0.7314	0.0514	0.1063	0.1092	0.7314	0.0017	0.3874	-0.1769	-0.1085	-0.3137	0.3874	-0.0335
MATH	3	495180	0	A-F	2	4185	0.4313	0.4313	0.217	0.2131	0.1367	0.0019	0.3809	0.3809	-0.043	-0.2156	-0.2356	-0.0388
MATH	3	299547	0	A-T	1	4185	0.7505	0.0311	0.0657	0.7505	0.1513	0.0014	0.5566	-0.188	-0.2862	0.5566	-0.38	-0.0307
MATH	3	313993	0	A-T	1	4185	0.7943	0.0263	0.7943	0.0664	0.1106	0.0024	0.5482	-0.1868	0.5482	-0.284	-0.3776	-0.0522
MATH	3	314962	0	A-T	2	4185	0.5608	0.1513	0.5608	0.1438	0.1419	0.0022	0.5531	-0.1787	0.5531	-0.2543	-0.3457	-0.0125
MATH	3	408662	0	A-T	2	4185	0.4076	0.1859	0.4076	0.286	0.1161	0.0043	0.3483	-0.2989	0.3483	-0.0732	-0.0594	-0.0422
MATH	3	408683	0	A-T	2	4185	0.4784	0.3047	0.1159	0.0937	0.4784	0.0074	0.5159	-0.2215	-0.299	-0.1931	0.5159	-0.044
MATH	3	408684	0	A-T	1	4185	0.5799	0.2041	0.0894	0.5799	0.1235	0.0031	0.4778	-0.2694	-0.2379	0.4778	-0.1702	-0.0602

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	3	408847	0	A-T	2	4185	0.7106	0.064	0.1539	0.0679	0.7106	0.0036	0.4558	-0.2397	-0.2324	-0.2425	0.4558	-0.0532
MATH	3	265191	0	B-O	2	4185	0.4174	0.4174	0.3524	0.1238	0.1006	0.0057	0.3489	0.3489	-0.125	-0.1242	-0.2275	-0.0398
MATH	3	300096	0	B-O	1	4185	0.7087	0.1013	0.1121	0.7087	0.0734	0.0045	0.5204	-0.2874	-0.2742	0.5204	-0.2387	-0.0147
MATH	3	313277	0	B-O	2	4185	0.5857	0.5857	0.1486	0.1754	0.0858	0.0045	0.4339	0.4339	-0.2078	-0.19	-0.2242	-0.0715
MATH	3	313470	0	B-O	2	4185	0.5823	0.2691	0.5823	0.1054	0.0418	0.0014	0.5042	-0.3008	0.5042	-0.247	-0.187	-0.0518
MATH	3	314720	0	B-O	2	4185	0.6325	0.0705	0.0937	0.6325	0.1995	0.0038	0.5619	-0.2618	-0.0657	0.5619	-0.4531	-0.0598
MATH	3	314725	0	B-O	2	4185	0.5434	0.5434	0.1534	0.0984	0.1993	0.0055	0.4652	0.4652	-0.2882	-0.1904	-0.1627	-0.083
MATH	3	314970	0	B-O	1	4185	0.6153	0.076	0.0244	0.6153	0.2808	0.0036	0.3486	-0.2811	-0.1583	0.3486	-0.1486	-0.0653
MATH	3	394379	0	B-O	1	4185	0.6671	0.6671	0.0934	0.0961	0.1405	0.0029	0.5009	0.5009	-0.2462	-0.2372	-0.2698	-0.0135
MATH	3	408687	0	B-O	2	4185	0.6229	0.6229	0.1572	0.1517	0.0657	0.0024	0.4941	0.4941	-0.1985	-0.2871	-0.2484	-0.0546
MATH	3	408707	0	B-O	2	4185	0.6282	0.1324	0.6282	0.1207	0.1166	0.0022	0.5001	-0.1749	0.5001	-0.2468	-0.3142	-0.0255
MATH	3	408845	0	B-O	2	4185	0.3935	0.3188	0.3935	0.2086	0.0757	0.0033	0.3941	-0.1489	0.3941	-0.1647	-0.2056	-0.0311
MATH	3	299414	0	C-G	1	4185	0.7493	0.1013	0.0798	0.0667	0.7493	0.0029	0.5396	-0.2992	-0.2649	-0.2777	0.5396	-0.0472
MATH	3	314132	0	C-G	1	4185	0.6602	0.6602	0.194	0.0815	0.0638	0.0005	0.514	0.514	-0.3216	-0.2265	-0.2189	-0.0372
MATH	3	314752	0	C-G	1	4185	0.5231	0.1047	0.1613	0.5231	0.206	0.005	0.3096	-0.0301	-0.1533	0.3096	-0.2125	-0.0436
MATH	3	408537	0	C-G	2	4185	0.4714	0.2387	0.4714	0.0879	0.2	0.0019	0.3964	-0.2396	0.3964	-0.1508	-0.1274	-0.0479
MATH	3	408539	0	C-G	1	4185	0.4315	0.1634	0.1438	0.2578	0.4315	0.0033	0.305	-0.1031	-0.2222	-0.0751	0.305	-0.037
MATH	3	408542	0	C-G	1	4185	0.6996	0.1474	0.0903	0.0576	0.6996	0.005	0.4588	-0.248	-0.2571	-0.1862	0.4588	-0.075
MATH	3	479183	0	C-G	1	4185	0.5441	0.1393	0.5441	0.082	0.2296	0.005	0.3746	-0.1326	0.3746	-0.1547	-0.2229	-0.0626
MATH	3	299422	0	D-M	1	4185	0.6841	0.0205	0.0896	0.6841	0.2041	0.0017	0.3801	-0.1521	-0.3174	0.3801	-0.1565	-0.0335
MATH	3	302218	0	D-M	2	4185	0.562	0.3701	0.0284	0.0373	0.562	0.0022	0.5776	-0.5096	-0.0713	-0.1497	0.5776	-0.0061
MATH	3	314246	0	D-M	2	4185	0.7319	0.1016	0.7319	0.0774	0.0858	0.0033	0.5272	-0.272	0.5272	-0.2993	-0.2457	-0.0449
MATH	3	314412	0	D-M	2	4185	0.8079	0.0769	0.0545	0.8079	0.0597	0.001	0.5159	-0.2497	-0.29	0.5159	-0.2944	-0.0358
MATH	3	315858	0	D-M	2	4185	0.4659	0.1159	0.2789	0.4659	0.1376	0.0017	0.5374	-0.1993	-0.1779	0.5374	-0.3558	-0.0467
MATH	3	408717	0	D-M	1	4185	0.4891	0.1854	0.216	0.1063	0.4891	0.0031	0.3798	-0.1858	-0.1985	-0.1109	0.3798	-0.0321
MATH	3	408718	0	D-M	2	4185	0.5235	0.1223	0.146	0.2057	0.5235	0.0024	0.4821	-0.159	-0.1801	-0.3034	0.4821	-0.0501
MATH	3	408720	0	D-M	1	4185	0.5025	0.183	0.1056	0.2031	0.5025	0.0057	0.5497	-0.2473	-0.249	-0.2399	0.5497	-0.0821
MATH	3	408726	0	D-M	1	4185	0.6136	0.6136	0.055	0.1668	0.1622	0.0024	0.6502	0.6502	-0.1781	-0.3131	-0.4268	-0.0399
MATH	3	408731	0	D-M	2	4185	0.7711	0.0664	0.0554	0.7711	0.1023	0.0048	0.3787	-0.2185	-0.0879	0.3787	-0.259	-0.0887
MATH	3	408733	0	D-M	1	4185	0.4194	0.2344	0.4194	0.2375	0.1051	0.0036	0.4406	-0.2489	0.4406	-0.1268	-0.1854	-0.0194
MATH	3	479189	0	D-M	1	4185	0.3575	0.3845	0.1188	0.3575	0.136	0.0033	0.3773	-0.1722	-0.2262	0.3773	-0.0604	-0.0546
MATH	3	479164	1	A-F	1	2013	0.531	0.531	0.2221	0.0959	0.1426	0.0084	0.3056	0.3056	-0.2107	-0.1928	-0.0099	-0.0512
MATH	3	566158	1	A-F	2	2013	0.1143	0.1143	0.226	0.2285	0.4277	0.0035	-0.0465	-0.0465	0.0666	-0.1399	0.1016	-0.0777
MATH	3	579688	1	A-T	2	2013	0.5494	0.1937	0.5494	0.1669	0.081	0.0089	0.5106	-0.2232	0.5106	-0.2681	-0.214	-0.0795
MATH	3	495209	1	B-O	2	2013	0.3373	0.2802	0.1346	0.3373	0.2439	0.004	0.3259	0.0138	-0.1896	0.3259	-0.214	-0.0588
MATH	3	495213	1	B-O	2	2013	0.6011	0.6011	0.1207	0.1704	0.0929	0.0149	0.401	0.401	-0.1683	-0.2798	-0.0896	-0.0853
MATH	3	579669	1	B-O	2	2013	0.5191	0.2583	0.1311	0.5191	0.0864	0.005	0.4222	-0.1514	-0.2061	0.4222	-0.2545	-0.0515
MATH	3	565996	1	C-G	2	2013	0.3651	0.3294	0.3651	0.1749	0.1227	0.0079	0.4108	-0.1445	0.4108	-0.1087	-0.2621	-0.029
MATH	3	408730	1	D-M	1	2013	0.3875	0.2643	0.1997	0.3875	0.1406	0.0079	0.4773	-0.2122	-0.1274	0.4773	-0.2479	-0.0212
MATH	3	579684	2	A-F	1	1094	0.4122	0.1353	0.3391	0.4122	0.1051	0.0082	0.4236	-0.2483	-0.1608	0.4236	-0.1401	-0.0497
MATH	3	493229	2	A-T	2	1094	0.7413	0.7413	0.1755	0.0439	0.0375	0.0018	0.4786	0.4786	-0.2721	-0.2472	-0.2873	-0.0207
MATH	3	394378	2	B-O	2	1094	0.7806	0.0229	0.0576	0.7806	0.1335	0.0055	0.5177	-0.2194	-0.1443	0.5177	-0.4211	-0.0625
MATH	3	497737	2	B-O	2	1094	0.5384	0.5384	0.2761	0.1234	0.0576	0.0046	0.3475	0.3475	-0.1191	-0.2114	-0.2039	-0.0441
MATH	3	497739	2	B-O	2	1094	0.7441	0.0512	0.0887	0.7441	0.1106	0.0055	0.4617	-0.2361	-0.2142	0.4617	-0.2636	-0.0799
MATH	3	479184	2	C-G	2	1094	0.6115	0.6115	0.1353	0.1225	0.1261	0.0046	0.4664	0.4664	-0.219	-0.1736	-0.2784	-0.0454
MATH	3	497746	2	C-G	2	1094	0.3501	0.1225	0.4808	0.043	0.3501	0.0037	0.392	-0.287	-0.1279	-0.1192	0.392	-0.0803
MATH	3	579661	2	D-M	2	1094	0.8565	0.0384	0.8565	0.0411	0.0594	0.0046	0.5349	-0.2204	0.5349	-0.2751	-0.376	-0.0251
MATH	3	579683	3	A-F	2	1078	0.6262	0.6262	0.1549	0.1438	0.0724	0.0028	0.3464	0.3464	-0.2545	-0.1481	-0.0873	-0.0176
MATH	3	566160	3	A-T	1	1078	0.5955	0.0668	0.1716	0.1623	0.5955	0.0037	0.4529	-0.2773	-0.1951	-0.2075	0.4529	-0.0493
MATH	3	579674	3	B-O	2	1078	0.5306	0.1716	0.5306	0.1391	0.1586		0.3945	-0.1598	0.3945	-0.2087	-0.1762	
MATH	3	579679	3	B-O	2	1078	0.2672	0.2365	0.2941	0.2672	0.1948	0.0074	0.2086	-0.1658	-0.0367	0.2086	-0.0025	-0.0483
MATH	3	497754	3	C-G	2	1078	0.2245	0.2811	0.166	0.3256	0.2245	0.0028	0.1289	-0.1683	-0.1681	0.1753	0.1289	0.0425
MATH	3	497823	3	C-G	2	1078	0.603	0.0983	0.0353	0.603	0.2635		0.4338	-0.2746	-0.0885	0.4338	-0.2592	
MATH	3	493237	3	D-M	1	1078	0.4991	0.2226	0.4991	0.1141	0.1633	0.0009	0.4214	-0.1432	0.4214	-0.1362	-0.2926	0.0101

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	3	493241	3	D-M	1	1078	0.7653	0.051	0.1364	0.7653	0.0473		0.3161	-0.1976	-0.2111	0.3161	-0.085	
MATH	4	299445	0	A-F	2	4748	0.456	0.456	0.1535	0.1914	0.1971	0.0019	0.4928	0.4928	-0.1323	-0.3753	-0.1259	0.0003
MATH	4	303498	0	A-F	2	4748	0.4659	0.2378	0.4659	0.1672	0.1243	0.0048	0.3032	-0.0615	0.3032	-0.1195	-0.235	-0.0428
MATH	4	313017	0	A-F	2	4748	0.531	0.1508	0.531	0.1369	0.1786	0.0027	0.5854	-0.3428	0.5854	-0.1766	-0.2831	-0.0073
MATH	4	313756	0	A-F	1	4748	0.7506	0.1476	0.0588	0.7506	0.0364	0.0065	0.448	-0.254	-0.2817	0.448	-0.1856	-0.0337
MATH	4	314532	0	A-F	1	4748	0.6965	0.0663	0.0893	0.1439	0.6965	0.004	0.5173	-0.261	-0.2301	-0.2966	0.5173	-0.0497
MATH	4	315528	0	A-F	1	4748	0.5124	0.2664	0.1	0.1165	0.5124	0.0046	0.433	-0.1815	-0.2274	-0.2032	0.433	-0.0412
MATH	4	394384	0	A-F	2	4748	0.5177	0.5177	0.1767	0.2087	0.0933	0.0036	0.2692	0.2692	-0.1019	-0.1299	-0.1454	-0.0089
MATH	4	408559	0	A-F	2	4748	0.286	0.1302	0.3669	0.215	0.286	0.0019	0.2235	-0.2033	0.0407	-0.1245	0.2235	-0.0249
MATH	4	408561	0	A-F	2	4748	0.3802	0.3191	0.2028	0.3802	0.0969	0.0011	0.5857	-0.3846	-0.2355	0.5857	-0.034	-0.0093
MATH	4	408636	0	A-F	2	4748	0.5558	0.5558	0.1944	0.0468	0.199	0.004	0.614	0.614	-0.2409	-0.2494	-0.3837	-0.0617
MATH	4	497770	0	A-F	1	4748	0.8875	0.0465	0.8875	0.035	0.0263	0.0046	0.4013	-0.2695	0.4013	-0.2241	-0.1665	-0.0327
MATH	4	299449	0	A-T	2	4748	0.3243	0.2466	0.2268	0.3243	0.1982	0.004	0.3109	-0.0774	-0.1127	0.3109	-0.1597	-0.0215
MATH	4	314214	0	A-T	2	4748	0.4044	0.1386	0.0975	0.4044	0.3568	0.0027	0.3564	0.0405	-0.0724	0.3564	-0.3468	-0.0246
MATH	4	314643	0	A-T	2	4748	0.6213	0.096	0.6213	0.1933	0.0853	0.004	0.4102	-0.1665	0.4102	-0.1979	-0.2472	-0.0435
MATH	4	408571	0	A-T	2	4748	0.6312	0.6312	0.1076	0.1618	0.0939	0.0055	0.5009	0.5009	-0.2669	-0.2367	-0.236	-0.0399
MATH	4	495203	0	A-T	1	4748	0.5232	0.3469	0.0554	0.0733	0.5232	0.0013	0.4718	-0.2741	-0.1943	-0.2311	0.4718	-0.0144
MATH	4	495206	0	A-T	1	4748	0.5971	0.0689	0.158	0.1628	0.5971	0.0133	0.394	-0.1736	-0.1756	-0.2167	0.394	-0.046
MATH	4	299446	0	B-O	2	4748	0.5876	0.119	0.5876	0.2066	0.0849	0.0019	0.4615	-0.2988	0.4615	-0.217	-0.1511	-0.0113
MATH	4	300091	0	B-O	2	4748	0.5861	0.0472	0.5861	0.1995	0.1641	0.0032	0.5503	-0.1487	0.5503	-0.2344	-0.3909	-0.0195
MATH	4	302978	0	B-O	2	4748	0.7247	0.7247	0.0899	0.0495	0.1352	0.0006	0.5451	0.5451	-0.2305	-0.2059	-0.3887	0.0016
MATH	4	313458	0	B-O	1	4748	0.35	0.215	0.2428	0.35	0.1912	0.0008	0.5361	-0.3707	-0.1375	0.5361	-0.1114	-0.0218
MATH	4	313460	0	B-O	2	4748	0.4524	0.1289	0.4524	0.1851	0.2304	0.0032	0.4769	-0.2136	0.4769	-0.1064	-0.2922	-0.0251
MATH	4	313732	0	B-O	2	4748	0.448	0.0512	0.448	0.2121	0.2854	0.0034	0.5741	-0.1664	0.5741	-0.2037	-0.3638	-0.0212
MATH	4	314144	0	B-O	2	4748	0.3635	0.0598	0.3751	0.2003	0.3635	0.0013	0.4882	-0.2779	-0.3478	0.0028	0.4882	-0.0473
MATH	4	314218	0	B-O	2	4748	0.3477	0.2713	0.2056	0.1729	0.3477	0.0025	0.5135	-0.2198	-0.2014	-0.1689	0.5135	-0.0315
MATH	4	408758	0	B-O	1	4748	0.6026	0.6026	0.2365	0.1003	0.059	0.0017	0.4984	0.4984	-0.3899	-0.1151	-0.1874	0.0126
MATH	4	313075	0	C-G	2	4748	0.7879	0.7879	0.1407	0.0236	0.0455	0.0023	0.3729	0.3729	-0.2325	-0.1632	-0.218	-0.0293
MATH	4	314148	0	C-G	2	4748	0.4212	0.1297	0.2397	0.2077	0.4212	0.0017	0.3377	-0.1364	-0.1456	-0.143	0.3377	-0.0186
MATH	4	315522	0	C-G	1	4748	0.7039	0.7039	0.0727	0.1019	0.1203	0.0013	0.4897	0.4897	-0.2773	-0.2757	-0.2068	-0.0259
MATH	4	497759	0	C-G	1	4748	0.7565	0.1123	0.0436	0.7565	0.0857	0.0019	0.4272	-0.3083	-0.2271	0.4272	-0.1365	-0.033
MATH	4	302972	0	D-M	1	4748	0.5628	0.5628	0.2378	0.1356	0.0615	0.0023	0.4753	0.4753	-0.2473	-0.2317	-0.2051	-0.0397
MATH	4	313463	0	D-M	1	4748	0.6554	0.2032	0.6554	0.0765	0.0628	0.0021	0.5682	-0.3971	0.5682	-0.2259	-0.2051	-0.0104
MATH	4	313736	0	D-M	1	4748	0.5765	0.1384	0.1245	0.1586	0.5765	0.0021	0.6059	-0.3283	-0.2284	-0.2965	0.6059	-0.0516
MATH	4	314151	0	D-M	1	4748	0.5	0.1487	0.1698	0.1784	0.5	0.0032	0.4962	-0.255	-0.2283	-0.1837	0.4962	-0.0238
MATH	4	314173	0	D-M	2	4748	0.5762	0.096	0.096	0.5762	0.2296	0.0021	0.4423	-0.2213	-0.1139	0.4423	-0.2836	-0.0108
MATH	4	314536	0	D-M	2	4748	0.8557	0.0558	0.0438	0.8557	0.0436	0.0011	0.445	-0.2541	-0.2363	0.445	-0.2426	-0.0036
MATH	4	408564	0	D-M	2	4748	0.7315	0.1483	0.0712	0.7315	0.0451	0.004	0.3666	-0.2989	-0.101	0.3666	-0.1409	-0.0171
MATH	4	408784	0	D-M	1	4748	0.5836	0.2736	0.079	0.0613	0.5836	0.0025	0.582	-0.3803	-0.2494	-0.2051	0.582	-0.0182
MATH	4	408786	0	D-M	1	4748	0.3924	0.3924	0.2011	0.219	0.1845	0.0029	0.397	0.397	-0.1377	-0.1406	-0.2049	-0.0184
MATH	4	495236	0	D-M	2	4748	0.4084	0.0792	0.2117	0.4084	0.2987	0.0021	0.4652	-0.1816	-0.3221	0.4652	-0.1041	-0.0084
MATH	4	493273	1	A-F	2	2375	0.3996	0.1811	0.1718	0.2446	0.3996	0.0029	0.4741	-0.1713	-0.1937	-0.2126	0.4741	-0.0334
MATH	4	493262	1	A-T	2	2375	0.3284	0.1272	0.3436	0.3284	0.1987	0.0021	0.2278	-0.1767	0.0139	0.2278	-0.1325	-0.0411
MATH	4	314170	1	B-O	2	2375	0.3735	0.3284	0.1486	0.1469	0.3735	0.0025	0.3922	-0.1483	-0.1498	-0.1863	0.3922	-0.0166
MATH	4	566156	1	B-O	2	2375	0.4307	0.1406	0.4307	0.3187	0.1069	0.0029	0.3815	-0.1891	0.3815	-0.174	-0.1322	-0.023
MATH	4	479178	1	C-G	2	2375	0.4909	0.3221	0.4909	0.0354	0.1495	0.0021	0.4546	-0.341	0.4546	-0.146	-0.1084	-0.0509
MATH	4	497765	1	C-G	1	2375	0.1992	0.4872	0.1457	0.1992	0.1634	0.0046	-0.0061	0.2246	-0.1334	-0.0061	-0.1659	-0.0213
MATH	4	497740	1	D-M	1	2375	0.6109	0.1693	0.6109	0.1162	0.0998	0.0038	0.3653	-0.1476	0.3653	-0.2358	-0.1515	-0.0295
MATH	4	574175	1	D-M	2	2375	0.4244	0.4244	0.1848	0.2581	0.1293	0.0034	0.1505	0.1505	-0.132	-0.0363	-0.0177	-0.0229
MATH	4	493256	2	A-F	2	1175	0.503	0.1694	0.503	0.223	0.1004	0.0043	0.4005	-0.2418	0.4005	-0.1833	-0.1107	0.0009
MATH	4	493267	2	A-T	2	1175	0.2102	0.206	0.4536	0.2102	0.1277	0.0026	0.0389	-0.0051	0.1119	0.0389	-0.1981	-0.0673
MATH	4	575715	2	A-T	1	1175	0.7847	0.0655	0.0723	0.074	0.7847	0.0034	0.4879	-0.2474	-0.2532	-0.266	0.4879	-0.0705
MATH	4	493290	2	B-O	2	1175	0.4204	0.2264	0.4204	0.1081	0.2434	0.0017	0.3434	-0.2822	0.3434	-0.2231	0.0442	-0.0265
MATH	4	495233	2	B-O	2	1175	0.3047	0.3047	0.1157	0.1515	0.4281		-0.0696	-0.0696	-0.149	-0.151	0.2705	

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	4	565997	2	C-G	2	1175	0.337	0.1481	0.2247	0.337	0.2894	0.0009	0.213	-0.2301	-0.0833	0.213	0.0379	-0.0461
MATH	4	495229	2	D-M	2	1175	0.4672	0.177	0.1464	0.2043	0.4672	0.0051	0.4789	-0.2553	-0.2365	-0.1351	0.4789	-0.0483
MATH	4	575726	2	D-M	2	1175	0.5209	0.1643	0.0919	0.5209	0.2204	0.0026	0.3829	-0.2424	-0.1769	0.3829	-0.1178	-0.0309
MATH	4	575742	3	A-F	2	1198	0.5042	0.1995	0.1987	0.0968	0.5042	0.0008	0.2761	-0.137	-0.0846	-0.1684	0.2761	0.0079
MATH	4	493261	3	A-T	1	1198	0.899	0.0301	0.899	0.0334	0.0334	0.0042	0.3465	-0.1778	0.3465	-0.1968	-0.191	-0.0679
MATH	4	495200	3	A-T	1	1198	0.672	0.1628	0.672	0.1068	0.0551	0.0033	0.4536	-0.2299	0.4536	-0.2698	-0.1808	-0.0605
MATH	4	408750	3	B-O	1	1198	0.3005	0.3139	0.1937	0.3005	0.1903	0.0017	0.2234	-0.189	-0.1886	0.2234	0.1504	0.0191
MATH	4	493288	3	B-O	2	1198	0.7454	0.7454	0.0751	0.1102	0.0676	0.0017	0.3246	0.3246	-0.1511	-0.177	-0.1732	-0.0653
MATH	4	408775	3	C-G	1	1198	0.4349	0.4349	0.0977	0.2579	0.2037	0.0058	0.3412	0.3412	-0.1764	-0.0977	-0.183	-0.0041
MATH	4	495227	3	D-M	2	1198	0.7379	0.076	0.0701	0.1144	0.7379	0.0017	0.36	-0.1888	-0.1953	-0.1816	0.36	-0.0162
MATH	4	566042	3	D-M	2	1198	0.2095	0.1586	0.5033	0.2095	0.1277	0.0008	0.1984	-0.1383	0.0425	0.1984	-0.1547	0.0052
MATH	5	300531	0	A-F	2	6871	0.6824	0.6824	0.1054	0.1467	0.0645	0.001	0.5721	0.5721	-0.2522	-0.3724	-0.2279	-0.0368
MATH	5	301855	0	A-F	2	6871	0.5797	0.1639	0.5797	0.1096	0.1432	0.0036	0.4604	-0.2425	0.4604	-0.1996	-0.2082	-0.0365
MATH	5	301856	0	A-F	1	6871	0.6778	0.0397	0.1729	0.6778	0.1065	0.0031	0.5164	-0.1552	-0.3761	0.5164	-0.2161	-0.0388
MATH	5	303006	0	A-F	1	6871	0.535	0.2182	0.1688	0.535	0.0768	0.0012	0.4591	-0.2515	-0.2766	0.4591	-0.0766	-0.0321
MATH	5	313775	0	A-F	1	6871	0.3788	0.1543	0.394	0.0639	0.3788	0.009	0.5124	-0.189	-0.2906	-0.1338	0.5124	-0.0589
MATH	5	313918	0	A-F	2	6871	0.5293	0.2214	0.5293	0.17	0.0766	0.0028	0.4443	-0.1383	0.4443	-0.271	-0.2298	-0.0283
MATH	5	314764	0	A-F	1	6871	0.6865	0.1368	0.095	0.6865	0.0789	0.0028	0.4638	-0.2375	-0.2515	0.4638	-0.214	-0.0401
MATH	5	408577	0	A-F	1	6871	0.7433	0.0639	0.0888	0.1017	0.7433	0.0023	0.4991	-0.2392	-0.2571	-0.2801	0.4991	-0.0363
MATH	5	408584	0	A-F	2	6871	0.3289	0.3171	0.3289	0.1774	0.1742	0.0023	0.4386	-0.22	0.4386	-0.1323	-0.1379	-0.0176
MATH	5	408592	0	A-F	1	6871	0.3701	0.3701	0.1802	0.3723	0.0747	0.0028	0.3669	0.3669	-0.2196	-0.1592	-0.0542	-0.0295
MATH	5	300469	0	A-T	2	6871	0.3959	0.2912	0.3959	0.1947	0.1156	0.0026	0.3588	-0.0874	0.3588	-0.2289	-0.1353	-0.0367
MATH	5	301854	0	A-T	2	6871	0.5324	0.1365	0.138	0.1911	0.5324	0.002	0.5691	-0.2016	-0.2658	-0.3095	0.5691	-0.0306
MATH	5	313896	0	A-T	1	6871	0.5852	0.2362	0.1207	0.5852	0.0502	0.0077	0.4516	-0.2463	-0.2229	0.4516	-0.1787	-0.072
MATH	5	408601	0	A-T	2	6871	0.4263	0.4263	0.1191	0.1454	0.3068	0.0025	0.4767	0.4767	-0.2469	-0.2354	-0.1559	-0.0185
MATH	5	408607	0	A-T	1	6871	0.4488	0.2269	0.4488	0.1949	0.125	0.0044	0.4659	-0.2038	0.4659	-0.2399	-0.1445	-0.0539
MATH	5	408633	0	A-T	2	6871	0.3819	0.2281	0.1562	0.2327	0.3819	0.0012	0.477	-0.1859	-0.1629	-0.2228	0.477	-0.0154
MATH	5	408646	0	A-T	1	6871	0.4467	0.4467	0.2826	0.1843	0.0832	0.0032	0.5431	0.5431	-0.2338	-0.3224	-0.1337	-0.0495
MATH	5	493287	0	A-T	1	6871	0.6162	0.6162	0.0608	0.2708	0.048	0.0041	0.4655	0.4655	-0.1946	-0.2885	-0.2255	-0.0536
MATH	5	497776	0	A-T	2	6871	0.3467	0.1828	0.1966	0.3467	0.2706	0.0033	0.1701	-0.0505	-0.1671	0.1701	0.0161	-0.0372
MATH	5	275681	0	B-O	1	6871	0.5389	0.0665	0.0729	0.5389	0.3189	0.0028	0.3464	-0.2638	-0.2378	0.3464	-0.0937	-0.0271
MATH	5	301912	0	B-O	2	6871	0.5223	0.1492	0.5223	0.2323	0.094	0.0022	0.3815	-0.1727	0.3815	-0.1336	-0.2432	-0.035
MATH	5	301927	0	B-O	2	6871	0.403	0.1633	0.403	0.2561	0.1749	0.0026	0.2736	-0.0286	0.2736	-0.1416	-0.1594	-0.0248
MATH	5	314030	0	B-O	1	6871	0.7008	0.0594	0.7008	0.1282	0.1087	0.0029	0.4063	-0.1851	0.4063	-0.2053	-0.23	-0.0378
MATH	5	408791	0	B-O	2	6871	0.5443	0.1706	0.1877	0.0949	0.5443	0.0025	0.5232	-0.2921	-0.2474	-0.1811	0.5232	-0.0198
MATH	5	408796	0	B-O	2	6871	0.5804	0.2054	0.083	0.5804	0.1304	0.0009	0.4207	-0.2764	-0.1426	0.4207	-0.1662	-0.021
MATH	5	408802	0	B-O	2	6871	0.357	0.1671	0.1387	0.357	0.3328	0.0044	0.328	-0.1826	-0.2556	0.328	0.0013	-0.0195
MATH	5	497779	0	B-O	1	6871	0.6177	0.092	0.6177	0.2652	0.023	0.0022	0.2377	-0.317	0.2377	0.0043	-0.1648	-0.024
MATH	5	303066	0	C-G	1	6871	0.4123	0.4123	0.077	0.226	0.2805	0.0042	0.2899	0.2899	-0.2063	-0.1176	-0.0802	-0.0379
MATH	5	314909	0	C-G	1	6871	0.5932	0.5932	0.18	0.147	0.0761	0.0036	0.4754	0.4754	-0.2301	-0.2172	-0.2481	-0.0406
MATH	5	408806	0	C-G	2	6871	0.4883	0.2024	0.1717	0.1361	0.4883	0.0015	0.402	-0.1257	-0.1853	-0.2321	0.402	-0.0256
MATH	5	408812	0	C-G	1	6871	0.7035	0.0761	0.0945	0.1225	0.7035	0.0033	0.3609	-0.2248	-0.1398	-0.1893	0.3609	-0.0381
MATH	5	313763	0	D-M	2	6871	0.6255	0.0988	0.1351	0.6255	0.1394	0.0012	0.464	-0.128	-0.3271	0.464	-0.2134	-0.0196
MATH	5	314037	0	D-M	2	6871	0.4605	0.2978	0.0751	0.1649	0.4605	0.0017	0.5603	-0.435	-0.1276	-0.1248	0.5603	-0.0099
MATH	5	314038	0	D-M	2	6871	0.3638	0.3053	0.3638	0.2135	0.1157	0.0016	0.5287	-0.4445	0.5287	-0.0331	-0.1124	-0.0036
MATH	5	314401	0	D-M	2	6871	0.3721	0.3502	0.2182	0.0584	0.3721	0.0012	0.6331	-0.3368	-0.2562	-0.1648	0.6331	-0.0268
MATH	5	408814	0	D-M	2	6871	0.3882	0.056	0.3882	0.2187	0.335	0.002	0.3628	-0.1275	0.3628	-0.158	-0.1703	-0.04
MATH	5	408815	0	D-M	2	6871	0.3197	0.2317	0.2017	0.3197	0.2441	0.0028	0.3825	-0.1541	-0.0832	0.3825	-0.1808	-0.0433
MATH	5	408816	0	D-M	2	6871	0.502	0.502	0.1141	0.1372	0.2431	0.0036	0.3554	0.3554	-0.1695	-0.2999	-0.0428	-0.0376
MATH	5	408821	0	D-M	2	6871	0.4778	0.1221	0.1611	0.2332	0.4778	0.0058	0.4219	-0.1179	-0.1886	-0.235	0.4219	-0.0451
MATH	5	497852	0	D-M	1	6871	0.3246	0.3246	0.0958	0.2954	0.2813	0.0029	0.448	0.448	-0.2058	-0.0131	-0.315	-0.0302
MATH	5	408590	1	A-F	1	3294	0.354	0.1636	0.354	0.225	0.2556	0.0018	0.1447	-0.2414	0.1447	-0.1953	0.2353	-0.0233
MATH	5	495253	1	A-F	2	3294	0.534	0.1035	0.1779	0.1815	0.534	0.003	0.5244	-0.1622	-0.2541	-0.2951	0.5244	-0.0229
MATH	5	566344	1	A-F	1	3294	0.3254	0.2453	0.3254	0.2517	0.1691	0.0085	0.1257	0.0054	0.1257	-0.0721	-0.0678	-0.0491

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	5	497844	1	A-T	1	3294	0.4906	0.0798	0.241	0.4906	0.1849	0.0036	0.4786	-0.1763	-0.2842	0.4786	-0.1718	-0.054
MATH	5	566348	1	A-T	1	3294	0.262	0.2225	0.35	0.1636	0.262	0.0018	0.3039	-0.0994	-0.1376	-0.0708	0.3039	-0.0097
MATH	5	574141	1	B-O	2	3294	0.2216	0.1776	0.1129	0.2216	0.4848	0.003	-0.0115	-0.2341	-0.2287	-0.0115	0.3358	-0.0219
MATH	5	408809	1	C-G	1	3294	0.5783	0.0668	0.5783	0.1475	0.2034	0.0039	0.4617	-0.1998	0.4617	-0.3035	-0.1696	-0.0355
MATH	5	497787	1	D-M	2	3294	0.4845	0.1396	0.1661	0.4845	0.2073	0.0024	0.4544	-0.2184	-0.2416	0.4544	-0.1481	-0.0299
MATH	5	574135	2	A-F	1	1792	0.7478	0.0564	0.7478	0.1295	0.0636	0.0028	0.3743	-0.15	0.3743	-0.1987	-0.2493	-0.0075
MATH	5	575692	2	A-F	2	1792	0.3817	0.3817	0.3041	0.1395	0.1713	0.0033	0.2981	0.2981	-0.2127	-0.0767	-0.0512	-0.0183
MATH	5	497841	2	A-T	2	1792	0.6373	0.1819	0.077	0.1027	0.6373	0.0011	0.4389	-0.2406	-0.2281	-0.185	0.4389	-0.0362
MATH	5	575698	2	A-T	2	1792	0.2533	0.2706	0.2533	0.3583	0.1161	0.0017	0.1417	-0.094	0.1417	0.0746	-0.1738	0.0006
MATH	5	574139	2	B-O	2	1792	0.1847	0.3599	0.2958	0.1585	0.1847	0.0011	0.3179	-0.182	-0.0661	-0.0134	0.3179	-0.0268
MATH	5	479170	2	C-G	2	1792	0.49	0.2946	0.106	0.49	0.1094		0.3684	-0.1282	-0.1836	0.3684	-0.2217	
MATH	5	495267	2	C-G	2	1792	0.4888	0.2115	0.1691	0.4888	0.13	0.0006	0.2204	-0.0094	-0.1396	0.2204	-0.1623	0.0256
MATH	5	497789	2	D-M	2	1792	0.423	0.1049	0.3426	0.423	0.1278	0.0017	0.3046	-0.053	-0.1753	0.3046	-0.156	0.025
MATH	5	495239	3	A-F	2	1785	0.2022	0.4773	0.2263	0.2022	0.093	0.0011	0.1625	-0.0647	0.0327	0.1625	-0.1588	-0.0172
MATH	5	575697	3	A-F	1	1785	0.4476	0.4269	0.0812	0.4476	0.0443		0.356	-0.1603	-0.2824	0.356	-0.1001	
MATH	5	497836	3	A-T	2	1785	0.488	0.2129	0.488	0.084	0.2123	0.0028	0.4066	-0.2376	0.4066	-0.2835	-0.0613	-0.0425
MATH	5	566349	3	A-T	1	1785	0.6045	0.1087	0.1625	0.1238	0.6045	0.0006	0.4419	-0.2524	-0.1823	-0.212	0.4419	-0.0199
MATH	5	493297	3	B-O	2	1785	0.3378	0.2246	0.2179	0.2185	0.3378	0.0011	0.4289	-0.163	-0.1971	-0.1283	0.4289	-0.0125
MATH	5	495261	3	C-G	2	1785	0.4448	0.1647	0.1793	0.4448	0.209	0.0022	0.3514	-0.2035	-0.2007	0.3514	-0.0473	-0.0617
MATH	5	479171	3	D-M	2	1785	0.191	0.2846	0.1148	0.4073	0.191	0.0022	0.3115	-0.2566	-0.1421	0.0815	0.3115	-0.0287
MATH	5	497853	3	D-M	2	1785	0.4801	0.0661	0.1585	0.2941	0.4801	0.0011	0.515	-0.2373	-0.2557	-0.228	0.515	-0.0327
MATH	6	314895	0	A-N	1	6953	0.4597	0.2517	0.1581	0.1267	0.4597	0.0039	0.5393	-0.2077	-0.2808	-0.2224	0.5393	-0.0351
MATH	6	319274	0	A-N	1	6953	0.5763	0.0742	0.1434	0.5763	0.1992	0.0069	0.4272	-0.2109	-0.211	0.4272	-0.1907	-0.069
MATH	6	319302	0	A-N	1	6953	0.5088	0.0715	0.5088	0.2682	0.1453	0.0062	0.5153	-0.1732	0.5153	-0.3359	-0.1702	-0.0536
MATH	6	398627	0	A-N	2	6953	0.61	0.1297	0.1496	0.61	0.1092	0.0016	0.4632	-0.1493	-0.2859	0.4632	-0.2339	-0.0212
MATH	6	401961	0	A-N	2	6953	0.7252	0.0598	0.0945	0.7252	0.1165	0.004	0.2902	-0.1103	-0.1402	0.2902	-0.1839	-0.0535
MATH	6	401963	0	A-N	1	6953	0.7614	0.0744	0.0798	0.0805	0.7614	0.0039	0.5261	-0.2562	-0.2853	-0.28	0.5261	-0.0566
MATH	6	417165	0	A-N	1	6953	0.7874	0.7874	0.1783	0.0158	0.0161	0.0023	0.4314	0.4314	-0.3598	-0.1509	-0.1435	-0.0392
MATH	6	335192	0	A-R	2	6953	0.6954	0.131	0.0879	0.6954	0.0828	0.0029	0.4612	-0.2672	-0.2417	0.4612	-0.1877	-0.0365
MATH	6	399241	0	A-R	2	6953	0.4641	0.208	0.1142	0.2113	0.4641	0.0024	0.4761	-0.0838	-0.2428	-0.3045	0.4761	-0.0386
MATH	6	401965	0	A-R	2	6953	0.5157	0.257	0.0751	0.5157	0.1496	0.0026	0.3864	-0.079	-0.2497	0.3864	-0.2549	-0.0372
MATH	6	411363	0	A-R	2	6953	0.5468	0.1526	0.5468	0.1966	0.1028	0.0012	0.4569	-0.1235	0.4569	-0.3364	-0.1602	-0.0202
MATH	6	412064	0	A-R	2	6953	0.6013	0.1038	0.6013	0.0547	0.2359	0.0043	0.5893	-0.3011	0.5893	-0.2377	-0.3256	-0.0675
MATH	6	412552	0	A-R	2	6953	0.5779	0.0969	0.5779	0.2169	0.1057	0.0026	0.4413	-0.2388	0.4413	-0.1984	-0.2087	-0.0269
MATH	6	413103	0	A-R	2	6953	0.3516	0.1699	0.1402	0.3353	0.3516	0.003	0.44	-0.1622	-0.2397	-0.1368	0.44	-0.0254
MATH	6	492758	0	A-R	2	6953	0.6203	0.6203	0.0559	0.0624	0.2589	0.0024	0.5721	0.5721	-0.2051	-0.2332	-0.3925	-0.0442
MATH	6	496604	0	A-R	2	6953	0.3601	0.1319	0.3026	0.3601	0.2035	0.0019	0.5438	-0.1269	-0.2744	0.5438	-0.2237	-0.0465
MATH	6	301819	0	B-E	2	6953	0.5129	0.5129	0.3128	0.1235	0.0467	0.004	0.5637	0.5637	-0.3297	-0.2559	-0.1979	-0.0459
MATH	6	312501	0	B-E	2	6953	0.5497	0.165	0.1805	0.5497	0.1007	0.0042	0.4246	-0.1475	-0.2758	0.4246	-0.1546	-0.0605
MATH	6	314873	0	B-E	2	6953	0.4844	0.4844	0.1988	0.1716	0.1412	0.004	0.4095	0.4095	-0.1874	-0.2097	-0.1396	-0.0343
MATH	6	319256	0	B-E	2	6953	0.3225	0.1595	0.3225	0.283	0.2321	0.0029	0.2855	0.0062	0.2855	-0.145	-0.1628	-0.0314
MATH	6	319286	0	B-E	2	6953	0.3108	0.3108	0.0682	0.5021	0.1161	0.0029	0.479	0.479	-0.1346	-0.3046	-0.1034	-0.0437
MATH	6	401319	0	B-E	1	6953	0.8819	0.0587	0.8819	0.0329	0.0247	0.0017	0.3279	-0.1751	0.3279	-0.1979	-0.1806	-0.0315
MATH	6	411362	0	B-E	2	6953	0.3785	0.3785	0.206	0.1237	0.2884	0.0035	0.3322	0.3322	-0.2247	-0.2133	0.0057	-0.045
MATH	6	412558	0	B-E	2	6953	0.4493	0.2861	0.4493	0.196	0.0663	0.0023	0.4114	-0.2368	0.4114	-0.1636	-0.1231	-0.0432
MATH	6	412559	0	B-E	2	6953	0.3823	0.104	0.1231	0.3886	0.3823	0.002	0.4441	-0.1685	-0.2327	-0.1759	0.4441	-0.0482
MATH	6	413714	0	B-E	1	6953	0.5165	0.5165	0.1077	0.2034	0.1706	0.0019	0.4944	0.4944	-0.25	-0.2765	-0.1493	-0.0496
MATH	6	416037	0	B-E	2	6953	0.666	0.0646	0.666	0.128	0.1379	0.0035	0.4193	-0.1417	0.4193	-0.2892	-0.1844	-0.0468
MATH	6	411369	0	C-G	2	6953	0.3916	0.2704	0.1909	0.1417	0.3916	0.0055	0.4673	-0.1985	-0.2027	-0.164	0.4673	-0.042
MATH	6	412560	0	C-G	2	6953	0.3059	0.3239	0.3059	0.1345	0.2337	0.002	0.5683	-0.4883	0.5683	0.0073	-0.0816	-0.0293
MATH	6	416042	0	C-G	2	6953	0.5582	0.5582	0.2012	0.1678	0.0709	0.0019	0.3959	0.3959	-0.2508	-0.1316	-0.1781	-0.0273
MATH	6	497312	0	C-G	2	6953	0.4237	0.2514	0.2221	0.1008	0.4237	0.002	0.5849	-0.2433	-0.3334	-0.1448	0.5849	-0.0288
MATH	6	303087	0	D-S	2	6953	0.3545	0.2288	0.2173	0.1944	0.3545	0.0049	0.3025	-0.1132	-0.2121	-0.0156	0.3025	-0.0504
MATH	6	314821	0	D-S	1	6953	0.5864	0.5864	0.0981	0.1919	0.1202	0.0035	0.5887	0.5887	-0.2273	-0.3679	-0.2317	-0.0353

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	6	314827	0	D-S	2	6953	0.5573	0.1949	0.5573	0.1211	0.1218	0.0049	0.4574	-0.3091	0.4574	-0.1403	-0.1671	-0.0618
MATH	6	314830	0	D-S	2	6953	0.7378	0.0439	0.1441	0.0726	0.7378	0.0016	0.4213	-0.1366	-0.2739	-0.2298	0.4213	-0.0373
MATH	6	411366	0	D-S	2	6953	0.419	0.1486	0.1624	0.2687	0.419	0.0014	0.4556	-0.1948	-0.2223	-0.1632	0.4556	-0.032
MATH	6	412561	0	D-S	2	6953	0.3803	0.1192	0.3803	0.2025	0.2947	0.0033	0.4057	-0.1471	0.4057	-0.2765	-0.0792	-0.036
MATH	6	413111	0	D-S	2	6953	0.7916	0.0706	0.0918	0.0437	0.7916	0.0023	0.4137	-0.1433	-0.3122	-0.1964	0.4137	-0.0211
MATH	6	496611	0	D-S	2	6953	0.7224	0.1533	0.0595	0.7224	0.0623	0.0024	0.4651	-0.2855	-0.2488	0.4651	-0.1889	-0.0184
MATH	6	497315	0	D-S	1	6953	0.3462	0.3462	0.131	0.0946	0.426	0.0022	0.387	0.387	-0.1938	-0.1055	-0.1733	-0.0469
MATH	6	491797	1	A-N	2	3338	0.3475	0.1579	0.1923	0.2999	0.3475	0.0024	0.3993	-0.2149	-0.112	-0.1424	0.3993	-0.0488
MATH	6	492759	1	A-N	2	3338	0.3331	0.2397	0.2274	0.1971	0.3331	0.0027	0.2637	0.1432	-0.2614	-0.1851	0.2637	-0.0432
MATH	6	574783	1	A-R	2	3338	0.6549	0.6549	0.0755	0.1108	0.1549	0.0039	0.565	0.565	-0.208	-0.3113	-0.3093	-0.0645
MATH	6	478720	1	B-E	2	3338	0.4428	0.2109	0.4428	0.2037	0.1405	0.0021	0.4093	-0.0186	0.4093	-0.2899	-0.2218	-0.0406
MATH	6	560216	1	B-E	2	3338	0.509	0.2364	0.142	0.509	0.1111	0.0015	0.4938	-0.2006	-0.2523	0.4938	-0.2289	-0.0422
MATH	6	500418	1	C-G	2	3338	0.2451	0.3247	0.3274	0.2451	0.098	0.0048	0.1109	-0.0992	0.0103	0.1109	-0.0085	-0.0514
MATH	6	500419	1	D-S	2	3338	0.5494	0.5494	0.1279	0.115	0.2052	0.0024	0.484	0.484	-0.2587	-0.2147	-0.2075	-0.043
MATH	6	582439	1	D-S	2	3338	0.3256	0.3256	0.1513	0.2747	0.2466	0.0018	0.2939	0.2939	-0.2471	-0.0711	-0.0365	-0.0418
MATH	6	413712	2	A-N	2	1807	0.3747	0.2474	0.3099	0.3747	0.0675	0.0006	0.1433	0.007	-0.1133	0.1433	-0.0753	-0.046
MATH	6	579578	2	A-N	2	1807	0.4444	0.4444	0.1406	0.1273	0.2861	0.0017	0.2063	0.2063	-0.1533	-0.1141	-0.0193	-0.0609
MATH	6	497307	2	A-R	2	1807	0.8301	0.0614	0.0858	0.8301	0.0221	0.0006	0.4277	-0.2469	-0.2873	0.4277	-0.1346	-0.046
MATH	6	582619	2	A-R	2	1807	0.4986	0.0808	0.1345	0.285	0.4986	0.0011	0.5359	-0.249	-0.2058	-0.2846	0.5359	-0.042
MATH	6	478721	2	B-E	2	1807	0.3403	0.1909	0.2319	0.2357	0.3403	0.0011	0.4393	-0.2059	-0.2066	-0.0919	0.4393	-0.0304
MATH	6	581393	2	B-E	1	1807	0.4986	0.197	0.1721	0.4986	0.1295	0.0028	0.4434	-0.1745	-0.2685	0.4434	-0.1462	-0.0353
MATH	6	496951	2	C-G	1	1807	0.793	0.088	0.793	0.0924	0.0238	0.0028	0.4347	-0.3055	0.4347	-0.2307	-0.1342	-0.0436
MATH	6	492764	2	D-S	1	1807	0.7128	0.0537	0.7128	0.1483	0.0808	0.0044	0.4086	-0.1996	0.4086	-0.2426	-0.1839	-0.053
MATH	6	501390	3	A-N	2	1808	0.3357	0.2317	0.2378	0.3357	0.193	0.0017	0.2289	-0.0483	-0.1673	0.2289	-0.0375	-0.0421
MATH	6	566982	3	A-N	2	1808	0.5299	0.1798	0.1233	0.1659	0.5299	0.0011	0.4759	-0.2685	-0.2558	-0.1305	0.4759	-0.0533
MATH	6	496955	3	A-R	2	1808	0.3933	0.3933	0.2207	0.255	0.1294	0.0017	0.3682	0.3682	-0.117	-0.1745	-0.1577	-0.0572
MATH	6	496958	3	B-E	2	1808	0.646	0.1117	0.646	0.1709	0.0686	0.0028	0.461	-0.2397	0.461	-0.2554	-0.1797	-0.0646
MATH	6	501396	3	B-E	2	1808	0.6399	0.0841	0.6399	0.1587	0.115	0.0022	0.4739	-0.2114	0.4739	-0.3281	-0.1465	-0.0463
MATH	6	500169	3	C-G	2	1808	0.3717	0.2306	0.3717	0.3567	0.0382	0.0028	0.2232	-0.3349	0.2232	0.1202	-0.13	0.01
MATH	6	492765	3	D-S	2	1808	0.5929	0.1056	0.1117	0.1886	0.5929	0.0011	0.419	-0.1785	-0.1884	-0.2344	0.419	0.0021
MATH	6	574853	3	D-S	1	1808	0.4408	0.0332	0.2395	0.4408	0.2837	0.0028	0.425	-0.2144	-0.2107	0.425	-0.1768	-0.0565
MATH	7	300508	0	A-N	1	7304	0.6818	0.0794	0.1517	0.6818	0.0838	0.0033	0.4908	-0.2103	-0.2984	0.4908	-0.2291	-0.0213
MATH	7	335229	0	A-N	1	7304	0.44	0.44	0.1672	0.1323	0.2567	0.0038	0.2897	0.2897	-0.2734	-0.1748	0.0472	-0.0511
MATH	7	335231	0	A-N	2	7304	0.4419	0.1288	0.4419	0.3398	0.0868	0.0026	0.5213	-0.1977	0.5213	-0.3287	-0.1278	-0.0193
MATH	7	398630	0	A-N	2	7304	0.5782	0.1328	0.5782	0.1396	0.1469	0.0025	0.5382	-0.2287	0.5382	-0.2515	-0.2797	-0.0395
MATH	7	489967	0	A-N	1	7304	0.4519	0.0752	0.372	0.4519	0.095	0.0059	0.5856	-0.1284	-0.5004	0.5856	-0.0369	-0.0643
MATH	7	266580	0	A-R	2	7304	0.5134	0.1472	0.5134	0.1955	0.1413	0.0026	0.4539	-0.1616	0.4539	-0.2108	-0.2426	-0.0301
MATH	7	312488	0	A-R	2	7304	0.3238	0.3712	0.3238	0.1695	0.1309	0.0047	0.2603	-0.0606	0.2603	-0.1816	-0.0643	-0.0395
MATH	7	335200	0	A-R	2	7304	0.3724	0.3724	0.2392	0.274	0.1124	0.0021	0.375	0.375	-0.1761	-0.1497	-0.1205	-0.0296
MATH	7	401318	0	A-R	2	7304	0.53	0.53	0.2623	0.1105	0.095	0.0022	0.6216	0.6216	-0.389	-0.2316	-0.2216	-0.0327
MATH	7	412771	0	A-R	2	7304	0.8453	0.0444	0.0504	0.0571	0.8453	0.0029	0.3962	-0.1947	-0.2152	-0.231	0.3962	-0.0472
MATH	7	412779	0	A-R	2	7304	0.55	0.1731	0.1139	0.55	0.1588	0.0042	0.4838	-0.1776	-0.2975	0.4838	-0.2063	-0.0548
MATH	7	415626	0	A-R	2	7304	0.5355	0.07	0.3022	0.091	0.5355	0.0014	0.614	-0.2238	-0.3961	-0.2297	0.614	-0.0314
MATH	7	415640	0	A-R	2	7304	0.4454	0.2281	0.149	0.1725	0.4454	0.0051	0.6435	-0.225	-0.3348	-0.2703	0.6435	-0.0569
MATH	7	416190	0	A-R	2	7304	0.5342	0.2251	0.5342	0.1087	0.1288	0.0031	0.4697	-0.2488	0.4697	-0.1087	-0.281	-0.0432
MATH	7	417800	0	A-R	2	7304	0.5272	0.1082	0.5272	0.1453	0.2158	0.0036	0.4028	-0.2154	0.4028	-0.2888	-0.0736	-0.0364
MATH	7	478167	0	A-R	2	7304	0.6625	0.0743	0.6625	0.1098	0.1503	0.003	0.4519	-0.166	0.4519	-0.235	-0.2624	-0.0521
MATH	7	480344	0	A-R	2	7304	0.432	0.261	0.432	0.1946	0.1094	0.0031	0.2783	-0.2866	0.2783	-0.1364	0.1367	-0.0118
MATH	7	401981	0	B-E	2	7304	0.6334	0.0935	0.1685	0.6334	0.1006	0.004	0.4303	-0.1377	-0.2709	0.4303	-0.2118	-0.0337
MATH	7	404812	0	B-E	1	7304	0.4921	0.1959	0.0768	0.4921	0.2345	0.0007	0.4339	-0.3108	-0.1777	0.4339	-0.1095	0.005
MATH	7	412663	0	B-E	2	7304	0.7003	0.1045	0.7003	0.0936	0.0987	0.0029	0.5075	-0.2705	0.5075	-0.2754	-0.2239	-0.0517
MATH	7	412773	0	B-E	1	7304	0.6867	0.0883	0.1443	0.6867	0.0786	0.0021	0.4494	-0.2203	-0.25	0.4494	-0.2102	-0.0333
MATH	7	412780	0	B-E	2	7304	0.4759	0.2221	0.1023	0.1977	0.4759	0.0021	0.4017	-0.1417	-0.1732	-0.2219	0.4017	-0.0197
MATH	7	413352	0	B-E	1	7304	0.8112	0.0314	0.1082	0.0475	0.8112	0.0018	0.3788	-0.1689	-0.2417	-0.2023	0.3788	-0.0167

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	7	415642	0	B-E	2	7304	0.394	0.394	0.2656	0.174	0.1643	0.0021	0.4416	0.4416	-0.1857	-0.2631	-0.0885	-0.0268
MATH	7	415661	0	B-E	2	7304	0.5368	0.5368	0.2504	0.144	0.0663	0.0025	0.46	0.46	-0.1471	-0.3113	-0.2198	-0.0333
MATH	7	416186	0	B-E	2	7304	0.4781	0.1039	0.2266	0.4781	0.1891	0.0023	0.2943	-0.1926	-0.0958	0.2943	-0.1193	-0.0301
MATH	7	490973	0	B-E	1	7304	0.3855	0.3191	0.3855	0.181	0.1099	0.0044	0.3962	-0.1148	0.3962	-0.1864	-0.2067	-0.0434
MATH	7	314836	0	C-G	2	7304	0.4002	0.4454	0.4002	0.1024	0.0496	0.0025	0.479	-0.3832	0.479	-0.1082	-0.0435	-0.0405
MATH	7	398632	0	C-G	2	7304	0.34	0.34	0.1557	0.1517	0.3504	0.0023	0.5319	0.5319	-0.1167	-0.1147	-0.3501	-0.0303
MATH	7	404814	0	C-G	2	7304	0.3316	0.2118	0.227	0.2271	0.3316	0.0025	0.3078	-0.0778	-0.0822	-0.1834	0.3078	-0.038
MATH	7	412667	0	C-G	1	7304	0.3499	0.1558	0.2897	0.3499	0.2024	0.0022	0.2339	-0.0595	0.0217	0.2339	-0.2424	-0.0525
MATH	7	417807	0	C-G	2	7304	0.3928	0.3928	0.1559	0.3026	0.1446	0.0041	0.2463	0.2463	-0.1715	-0.1003	-0.028	-0.0337
MATH	7	278660	0	D-S	2	7304	0.6034	0.0872	0.2562	0.6034	0.0509	0.0023	0.5166	-0.2031	-0.3377	0.5166	-0.2093	-0.0412
MATH	7	296710	0	D-S	1	7304	0.5842	0.1361	0.0886	0.1878	0.5842	0.0033	0.4936	-0.2545	-0.2191	-0.2342	0.4936	-0.0395
MATH	7	399242	0	D-S	2	7304	0.3345	0.1624	0.3345	0.2882	0.2125	0.0025	0.2432	-0.1515	0.2432	-0.1143	-0.0125	-0.04
MATH	7	404819	0	D-S	2	7304	0.382	0.1424	0.1663	0.3065	0.382	0.0027	0.2679	-0.0795	-0.164	-0.0871	0.2679	-0.0219
MATH	7	415647	0	D-S	2	7304	0.4696	0.1655	0.2152	0.4696	0.1484	0.0012	0.5472	-0.3324	-0.1863	0.5472	-0.2026	-0.0274
MATH	7	415665	0	D-S	2	7304	0.7056	0.1104	0.063	0.7056	0.1191	0.0019	0.5219	-0.2571	-0.2494	0.5219	-0.295	-0.0272
MATH	7	416195	0	D-S	2	7304	0.3836	0.3836	0.2735	0.154	0.1858	0.003	0.4001	0.4001	-0.091	-0.2914	-0.119	-0.0461
MATH	7	493188	0	D-S	2	7304	0.3369	0.254	0.2515	0.3369	0.1544	0.0031	0.3264	-0.1219	-0.3073	0.3264	0.0926	-0.0242
MATH	7	565301	1	A-N	1	3309	0.4639	0.1565	0.4639	0.2109	0.1671	0.0015	0.4818	-0.1456	0.4818	-0.2271	-0.2499	-0.0376
MATH	7	502804	1	A-R	2	3309	0.2548	0.1611	0.4056	0.1756	0.2548	0.003	0.2021	-0.1931	0.1587	-0.2463	0.2021	-0.0235
MATH	7	581341	1	A-R	2	3309	0.4766	0.2523	0.1493	0.4766	0.1188	0.003	0.3467	-0.0368	-0.1969	0.3467	-0.2606	-0.0495
MATH	7	493993	1	B-E	1	3309	0.3729	0.1127	0.3729	0.4098	0.1	0.0045	0.2953	-0.1369	0.2953	-0.1053	-0.1543	-0.0216
MATH	7	565886	1	B-E	2	3309	0.4594	0.1263	0.1584	0.2523	0.4594	0.0036	0.4541	-0.142	-0.2074	-0.2369	0.4541	-0.0084
MATH	7	500372	1	C-G	2	3309	0.3992	0.3992	0.2448	0.2575	0.0961	0.0024	0.4299	0.4299	-0.1859	-0.1647	-0.1933	-0.032
MATH	7	567235	1	C-G	1	3309	0.3859	0.1148	0.1874	0.3101	0.3859	0.0018	0.3846	-0.226	-0.2089	-0.0709	0.3846	-0.0206
MATH	7	567238	1	D-S	2	3309	0.2557	0.2557	0.469	0.1677	0.1055	0.0021	0.1842	0.1842	-0.0146	-0.1628	-0.0335	-0.0438
MATH	7	477761	2	A-N	1	1984	0.7475	0.7475	0.0741	0.1099	0.066	0.0025	0.5263	0.5263	-0.2519	-0.3031	-0.2621	-0.0561
MATH	7	493184	2	A-R	2	1984	0.3659	0.3165	0.3659	0.2107	0.1023	0.0045	0.1277	0.2524	0.1277	-0.2424	-0.2544	-0.0437
MATH	7	575221	2	A-R	2	1984	0.2611	0.1744	0.2611	0.1845	0.3785	0.0015	-0.0226	-0.1349	-0.0226	-0.1694	0.2646	-0.0386
MATH	7	478169	2	B-E	2	1984	0.5207	0.1043	0.1381	0.2349	0.5207	0.002	0.6061	-0.2699	-0.2667	-0.2995	0.6061	-0.0291
MATH	7	575223	2	B-E	2	1984	0.3725	0.0968	0.3196	0.3725	0.2097	0.0015	0.198	-0.211	-0.0522	0.198	-0.0196	-0.0252
MATH	7	477770	2	C-G	2	1984	0.4052	0.1462	0.2853	0.4052	0.1593	0.004	0.3371	-0.2142	-0.141	0.3371	-0.0683	-0.0182
MATH	7	503044	2	C-G	2	1984	0.4047	0.3296	0.4047	0.119	0.1447	0.002	0.1759	0.0947	0.1759	-0.2458	-0.1421	-0.0291
MATH	7	565889	2	D-S	2	1984	0.5922	0.1013	0.2172	0.5922	0.0857	0.0035	0.2781	-0.1885	-0.0991	0.2781	-0.132	-0.0338
MATH	7	565849	3	A-N	2	2011	0.4361	0.2665	0.1726	0.4361	0.1223	0.0025	0.2851	-0.0454	-0.1797	0.2851	-0.1549	-0.0527
MATH	7	496114	3	A-R	2	2011	0.6539	0.097	0.6539	0.2059	0.0418	0.0015	0.3245	-0.1927	0.3245	-0.1403	-0.2051	0.0107
MATH	7	560205	3	A-R	1	2011	0.4132	0.4132	0.1114	0.187	0.2839	0.0045	0.3179	0.3179	-0.1548	-0.3485	0.0688	-0.0443
MATH	7	581347	3	A-R	2	2011	0.5172	0.5172	0.2382	0.1417	0.099	0.004	0.5389	0.5389	-0.2864	-0.273	-0.1705	-0.0187
MATH	7	502402	3	B-E	2	2011	0.3526	0.1328	0.2601	0.2526	0.3526	0.002	0.314	-0.2141	-0.1719	0.0004	0.314	-0.0476
MATH	7	503046	3	B-E	1	2011	0.5594	0.0751	0.2292	0.1358	0.5594	0.0005	0.5167	-0.2453	-0.2929	-0.2002	0.5167	-0.0079
MATH	7	574900	3	C-G	1	2011	0.5624	0.2466	0.1129	0.5624	0.0756	0.0025	0.3025	-0.1532	-0.206	0.3025	-0.0704	-0.0045
MATH	7	574904	3	D-S	2	2011	0.3729	0.0706	0.3824	0.1726	0.3729	0.0015	0.4394	-0.1407	-0.133	-0.2955	0.4394	-0.0039
MATH	8	300428	0	A-N	1	7242	0.6697	0.0719	0.1301	0.6697	0.1257	0.0026	0.4425	-0.2575	-0.1916	0.4425	-0.2282	-0.0292
MATH	8	301917	0	A-N	1	7242	0.351	0.1766	0.351	0.2567	0.2129	0.0028	0.2661	-0.0788	0.2661	-0.1572	-0.0641	-0.0395
MATH	8	312493	0	A-N	2	7242	0.5231	0.5231	0.2346	0.1537	0.0862	0.0025	0.5171	0.5171	-0.2809	-0.2317	-0.1931	-0.0299
MATH	8	319315	0	A-N	1	7242	0.4598	0.4598	0.2084	0.0939	0.2364	0.0015	0.4912	0.4912	-0.325	-0.2945	-0.0615	-0.0204
MATH	8	335255	0	A-N	2	7242	0.4056	0.4056	0.3568	0.1426	0.0924	0.0026	0.5138	0.5138	-0.1862	-0.2728	-0.2299	-0.0221
MATH	8	398631	0	A-N	2	7242	0.427	0.1841	0.1476	0.427	0.2382	0.0032	0.3368	-0.1875	-0.2032	0.3368	-0.0452	-0.047
MATH	8	489965	0	A-N	1	7242	0.3567	0.2049	0.3567	0.2882	0.1454	0.0048	0.1375	-0.0433	0.1375	-0.1105	0.0124	-0.0394
MATH	8	265669	0	B-E	2	7242	0.5823	0.1141	0.2078	0.5823	0.0928	0.003	0.5361	-0.2773	-0.292	0.5361	-0.1928	-0.0337
MATH	8	303001	0	B-E	2	7242	0.4434	0.2022	0.1642	0.4434	0.1893	0.001	0.382	-0.1302	-0.2392	0.382	-0.1227	-0.0244
MATH	8	303120	0	B-E	1	7242	0.3503	0.0985	0.3503	0.3307	0.2189	0.0017	0.2892	-0.0577	0.2892	-0.2132	-0.0475	-0.0214
MATH	8	319322	0	B-E	2	7242	0.3663	0.1486	0.3093	0.1736	0.3663	0.0022	0.2702	-0.1064	-0.1492	-0.06	0.2702	-0.0147
MATH	8	335215	0	B-E	2	7242	0.5695	0.5695	0.1787	0.1803	0.0681	0.0035	0.4546	0.4546	-0.285	-0.1871	-0.1645	-0.0441
MATH	8	335252	0	B-E	1	7242	0.3571	0.3571	0.1462	0.3579	0.1356	0.0032	0.4379	0.4379	-0.2261	-0.1452	-0.1685	-0.0466

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
MATH	8	412783	0	B-E	2	7242	0.5779	0.0569	0.1555	0.2078	0.5779	0.0019	0.4061	-0.2032	-0.1812	-0.2136	0.4061	-0.0273
MATH	8	412785	0	B-E	2	7242	0.5695	0.1334	0.1378	0.5695	0.1571	0.0022	0.4802	-0.2082	-0.228	0.4802	-0.2381	-0.0369
MATH	8	412792	0	B-E	2	7242	0.5967	0.179	0.5967	0.1378	0.0846	0.0019	0.4078	-0.0896	0.4078	-0.2951	-0.2258	-0.0262
MATH	8	413594	0	B-E	2	7242	0.5115	0.5115	0.1596	0.2469	0.0791	0.0029	0.4505	0.4505	-0.23	-0.2129	-0.1782	-0.0201
MATH	8	413597	0	B-E	2	7242	0.5012	0.2566	0.1146	0.1243	0.5012	0.0033	0.4726	-0.1497	-0.285	-0.2352	0.4726	-0.0434
MATH	8	415799	0	B-E	2	7242	0.7585	0.0447	0.7585	0.146	0.0475	0.0033	0.5239	-0.2185	0.5239	-0.3661	-0.229	-0.0192
MATH	8	479834	0	B-E	1	7242	0.6435	0.2164	0.0856	0.6435	0.0512	0.0033	0.5165	-0.4082	-0.2129	0.5165	-0.0741	-0.0594
MATH	8	314886	0	B-F	2	7242	0.5337	0.5337	0.1555	0.1629	0.1454	0.0025	0.4938	0.4938	-0.2449	-0.265	-0.1641	-0.0384
MATH	8	404826	0	B-F	1	7242	0.5468	0.1143	0.5468	0.1425	0.193	0.0033	0.4554	-0.1882	0.4554	-0.268	-0.1794	-0.0402
MATH	8	404827	0	B-F	2	7242	0.604	0.604	0.1366	0.1295	0.1254	0.0046	0.5571	0.5571	-0.234	-0.3053	-0.2655	-0.0258
MATH	8	413596	0	B-F	2	7242	0.3948	0.1723	0.1748	0.2559	0.3948	0.0022	0.4087	-0.0735	-0.2812	-0.1462	0.4087	-0.0299
MATH	8	416553	0	B-F	2	7242	0.6147	0.1534	0.6147	0.1363	0.0944	0.0011	0.483	-0.1706	0.483	-0.2961	-0.2452	-0.0098
MATH	8	497302	0	B-F	2	7242	0.5222	0.0409	0.3543	0.0813	0.5222	0.0012	0.5186	-0.2132	-0.2988	-0.2664	0.5186	-0.0304
MATH	8	503515	0	B-F	2	7242	0.7277	0.7277	0.0863	0.1138	0.0704	0.0018	0.5641	0.5641	-0.2331	-0.3523	-0.2824	-0.0359
MATH	8	301844	0	C-G	2	7242	0.4593	0.1787	0.1824	0.4593	0.1769	0.0028	0.3911	-0.1745	-0.2453	0.3911	-0.0816	-0.0422
MATH	8	324086	0	C-G	2	7242	0.5059	0.1014	0.1501	0.2411	0.5059	0.0015	0.3385	-0.1584	-0.0814	-0.2138	0.3385	-0.0241
MATH	8	399397	0	C-G	2	7242	0.5655	0.1138	0.2089	0.1102	0.5655	0.0017	0.2589	-0.1717	-0.0316	-0.1917	0.2589	-0.0235
MATH	8	404816	0	C-G	2	7242	0.5893	0.2252	0.5893	0.1377	0.0453	0.0025	0.3619	-0.2507	0.3619	-0.1366	-0.1171	-0.0377
MATH	8	405680	0	C-G	2	7242	0.5055	0.1828	0.5055	0.1827	0.1259	0.003	0.3958	-0.097	0.3958	-0.2381	-0.2007	-0.033
MATH	8	412656	0	C-G	2	7242	0.311	0.2416	0.2411	0.311	0.2046	0.0017	0.2139	-0.0792	-0.1339	0.2139	-0.0157	-0.0369
MATH	8	301824	0	D-S	2	7242	0.3569	0.1979	0.2009	0.2426	0.3569	0.0017	0.3596	-0.1197	-0.2187	-0.0827	0.3596	-0.0378
MATH	8	335870	0	D-S	2	7242	0.4227	0.227	0.2303	0.4227	0.1176	0.0023	0.3774	-0.1792	-0.2139	0.3774	-0.0634	-0.0186
MATH	8	335871	0	D-S	2	7242	0.5028	0.2149	0.1998	0.5028	0.0793	0.0033	0.5135	-0.2459	-0.2622	0.5135	-0.1833	-0.0234
MATH	8	399393	0	D-S	2	7242	0.6236	0.0888	0.1567	0.1286	0.6236	0.0023	0.4395	-0.0954	-0.2471	-0.2847	0.4395	-0.0139
MATH	8	404817	0	D-S	2	7242	0.8434	0.0222	0.8434	0.0795	0.051	0.0039	0.4259	-0.1564	0.4259	-0.2766	-0.2482	-0.0373
MATH	8	416590	0	D-S	2	7242	0.521	0.1611	0.1995	0.521	0.1168	0.0015	0.5618	-0.2262	-0.3387	0.5618	-0.1899	-0.0291
MATH	8	494643	0	D-S	1	7242	0.3598	0.099	0.3529	0.1864	0.3598	0.0018	0.5126	-0.2316	-0.1472	-0.2691	0.5126	-0.0405
MATH	8	566689	1	A-N	2	3177	0.249	0.249	0.2068	0.2735	0.2679	0.0028	0.1117	0.1117	-0.2096	-0.0887	0.1715	0.0037
MATH	8	569266	1	B-E	1	3177	0.5247	0.1259	0.5247	0.1549	0.1907	0.0038	0.4501	-0.1839	0.4501	-0.2723	-0.1595	-0.042
MATH	8	574410	1	B-E	2	3177	0.2052	0.3009	0.2052	0.2842	0.2074	0.0022	0.077	0.119	0.077	-0.1178	-0.078	-0.0187
MATH	8	502450	1	B-F	2	3177	0.4684	0.1624	0.1885	0.4684	0.1782	0.0025	0.3369	-0.1287	-0.215	0.3369	-0.0915	-0.0304
MATH	8	574592	1	B-F	1	3177	0.1848	0.1766	0.0944	0.5404	0.1848	0.0038	0.0912	-0.0941	-0.1755	0.1074	0.0912	-0.0287
MATH	8	569269	1	C-G	1	3177	0.5042	0.5042	0.1483	0.1898	0.1517	0.006	0.4107	0.4107	-0.2239	-0.1619	-0.1653	-0.0379
MATH	8	480712	1	D-S	2	3177	0.4589	0.0944	0.3387	0.4589	0.1048	0.0031	0.3202	-0.2542	-0.062	0.3202	-0.1745	-0.0426
MATH	8	488719	1	D-S	1	3177	0.4954	0.2206	0.1014	0.18	0.4954	0.0025	0.3522	-0.1026	-0.1247	-0.2456	0.3522	-0.0309
MATH	8	495718	2	A-N	1	2037	0.4885	0.3643	0.4885	0.0707	0.0736	0.0029	0.4876	-0.3484	0.4876	-0.2738	-0.01	-0.0608
MATH	8	499241	2	A-N	1	2037	0.46	0.2533	0.2199	0.0663	0.46	0.0005	0.4458	-0.344	-0.0627	-0.1847	0.4458	-0.0291
MATH	8	488714	2	B-E	2	2037	0.3967	0.3967	0.1929	0.2622	0.1453	0.0029	0.4164	0.4164	-0.1608	-0.1283	-0.2347	-0.0201
MATH	8	565842	2	B-E	1	2037	0.6097	0.1944	0.108	0.6097	0.0844	0.0034	0.4452	-0.1256	-0.3046	0.4452	-0.2443	-0.0854
MATH	8	565843	2	B-F	2	2037	0.6726	0.1296	0.6726	0.0962	0.0977	0.0039	0.4386	-0.1853	0.4386	-0.2747	-0.2066	-0.0197
MATH	8	575464	2	B-F	2	2037	0.5268	0.5268	0.2288	0.1512	0.0913	0.002	0.5004	0.5004	-0.2289	-0.2882	-0.1694	-0.0363
MATH	8	574589	2	C-G	2	2037	0.5611	0.0889	0.1861	0.1625	0.5611	0.0015	0.4538	-0.1955	-0.1625	-0.2842	0.4538	-0.0389
MATH	8	574972	2	D-S	2	2037	0.4315	0.2234	0.1473	0.4315	0.1964	0.0015	0.2092	-0.069	-0.2417	0.2092	0.0312	-0.0424
MATH	8	574395	3	A-N	2	2028	0.3274	0.3195	0.1494	0.3274	0.2022	0.0015	0.147	0.0616	-0.235	0.147	-0.0303	-0.0453
MATH	8	499243	3	B-E	2	2028	0.4852	0.0636	0.4852	0.2549	0.1923	0.0039	0.5149	-0.108	0.5149	-0.2999	-0.2463	-0.0513
MATH	8	502445	3	B-E	2	2028	0.3028	0.1376	0.1524	0.4063	0.3028	0.001	0.3906	-0.1245	-0.2022	-0.1285	0.3906	-0.0267
MATH	8	495725	3	B-F	2	2028	0.6336	0.18	0.6336	0.0912	0.0897	0.0054	0.4933	-0.2258	0.4933	-0.3084	-0.2115	-0.0234
MATH	8	499245	3	B-F	1	2028	0.2791	0.1953	0.2791	0.4566	0.0641	0.0049	0.1693	-0.1547	0.1693	0.0546	-0.1567	-0.049
MATH	8	575470	3	C-G	2	2028	0.2032	0.2032	0.466	0.1662	0.1622	0.0025	0.1085	0.1085	0.1711	-0.2598	-0.0835	-0.0306
MATH	8	487620	3	D-S	2	2028	0.3358	0.18	0.3358	0.2796	0.2017	0.003	0.2581	-0.0795	0.2581	-0.0393	-0.176	-0.0568
MATH	8	569270	3	D-S	1	2028	0.5957	0.0676	0.2056	0.1277	0.5957	0.0035	0.5789	-0.2372	-0.2942	-0.3116	0.5789	-0.028
SCIENCE	4	252203	0	A	2	5919	0.5513	0.0503	0.5513	0.1135	0.2835	0.0014	0.4869	-0.1696	0.4869	-0.1517	-0.3462	-0.0258
SCIENCE	4	270395	0	A	3	5919	0.4594	0.4594	0.2137	0.1429	0.182	0.002	0.3017	0.3017	-0.0958	-0.1404	-0.1566	-0.034
SCIENCE	4	270396	0	A	2	5919	0.508	0.2408	0.1654	0.508	0.0841	0.0017	0.4596	-0.2872	-0.1181	0.4596	-0.2214	-0.0408

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
SCIENCE	4	270399	0	A	2	5919	0.5026	0.0607	0.3134	0.1193	0.5026	0.0041	0.3801	-0.2669	-0.1323	-0.1888	0.3801	-0.0596
SCIENCE	4	270400	0	A	2	5919	0.6814	0.1292	0.6814	0.071	0.1139	0.0046	0.5163	-0.2582	0.5163	-0.2985	-0.2319	-0.0542
SCIENCE	4	304880	0	A	2	5919	0.6819	0.1581	0.6819	0.0764	0.0799	0.0037	0.4554	-0.2474	0.4554	-0.2036	-0.2402	-0.0433
SCIENCE	4	304887	0	A	2	5919	0.5589	0.5589	0.1096	0.1309	0.199	0.0015	0.4291	0.4291	-0.2208	-0.2414	-0.1537	-0.0323
SCIENCE	4	409030	0	A	2	5919	0.6602	0.0483	0.237	0.6602	0.0524	0.002	0.3126	-0.2034	-0.1425	0.3126	-0.1928	-0.0194
SCIENCE	4	411193	0	A	2	5919	0.5276	0.1499	0.0777	0.5276	0.2436	0.0012	0.3418	-0.2266	-0.2858	0.3418	-0.0283	-0.0321
SCIENCE	4	411757	0	A	2	5919	0.542	0.1012	0.542	0.2173	0.1372	0.0024	0.4867	-0.2252	0.4867	-0.2597	-0.1903	-0.0413
SCIENCE	4	494423	0	A	3	5919	0.7057	0.7057	0.1073	0.1309	0.0532	0.0029	0.4676	0.4676	-0.2991	-0.2401	-0.1629	-0.0555
SCIENCE	4	494806	0	A	2	5919	0.6077	0.074	0.6077	0.0914	0.2244	0.0025	0.3474	-0.2671	0.3474	-0.2042	-0.0938	-0.0341
SCIENCE	4	494812	0	A	2	5919	0.6719	0.1755	0.0811	0.6719	0.0703	0.0012	0.4884	-0.2175	-0.2935	0.4884	-0.2566	-0.0258
SCIENCE	4	494815	0	A	2	5919	0.3284	0.2455	0.2244	0.3284	0.2005	0.0012	0.2117	-0.1539	-0.1406	0.2117	0.0674	-0.0434
SCIENCE	4	494822	0	A	2	5919	0.8267	0.0515	0.0269	0.0933	0.8267	0.0017	0.3756	-0.1868	-0.2005	-0.2331	0.3756	-0.0166
SCIENCE	4	494827	0	A	3	5919	0.3825	0.0958	0.1605	0.3566	0.3825	0.0046	0.3232	-0.2703	-0.2149	0.0109	0.3232	-0.0571
SCIENCE	4	494837	0	A	2	5919	0.6133	0.1683	0.0752	0.6133	0.1412	0.002	0.5336	-0.3205	-0.2295	0.5336	-0.2239	-0.032
SCIENCE	4	495282	0	A	2	5919	0.5835	0.5835	0.11	0.2119	0.0931	0.0015	0.2679	0.2679	-0.0734	-0.0902	-0.2445	-0.0309
SCIENCE	4	495283	0	A	2	5919	0.7937	0.0608	0.7937	0.0588	0.085	0.0017	0.56	-0.2715	0.56	-0.2851	-0.3371	-0.0161
SCIENCE	4	298762	0	B	2	5919	0.7868	0.7868	0.0586	0.0677	0.0846	0.0022	0.5012	0.5012	-0.2767	-0.2599	-0.2626	-0.0401
SCIENCE	4	409070	0	B	2	5919	0.7337	0.0546	0.7337	0.1465	0.064	0.0012	0.3888	-0.2651	0.3888	-0.1507	-0.2345	-0.0269
SCIENCE	4	411344	0	B	2	5919	0.3712	0.1206	0.2014	0.3053	0.3712	0.0015	0.4608	-0.1732	-0.3647	-0.0402	0.4608	-0.0364
SCIENCE	4	411527	0	B	2	5919	0.5384	0.5384	0.1374	0.0944	0.2281	0.0017	0.5089	0.5089	-0.2822	-0.2438	-0.2004	-0.0274
SCIENCE	4	496710	0	B	2	5919	0.7439	0.7439	0.0568	0.1536	0.0446	0.0012	0.4086	0.4086	-0.2312	-0.2178	-0.2198	-0.0284
SCIENCE	4	496717	0	B	2	5919	0.3305	0.1419	0.3305	0.3195	0.207	0.0012	0.2681	-0.1737	0.2681	-0.007	-0.1514	-0.0253
SCIENCE	4	498446	0	B	2	5919	0.6613	0.0639	0.6613	0.1181	0.1551	0.0017	0.41	-0.2149	0.41	-0.223	-0.1886	-0.03
SCIENCE	4	272640	0	C	2	5919	0.5611	0.2058	0.0968	0.1341	0.5611	0.0022	0.4534	-0.2643	-0.144	-0.2169	0.4534	-0.0355
SCIENCE	4	272642	0	C	2	5919	0.4852	0.2423	0.1509	0.4852	0.1184	0.0032	0.3412	-0.195	-0.1554	0.3412	-0.0924	-0.0267
SCIENCE	4	496495	0	C	2	5919	0.3164	0.3164	0.1438	0.4528	0.086	0.001	0.2379	0.2379	-0.0592	-0.1119	-0.1189	-0.0266
SCIENCE	4	496496	0	C	2	5919	0.4839	0.1632	0.4839	0.1286	0.2223	0.002	0.3738	-0.1613	0.3738	-0.1685	-0.169	-0.0107
SCIENCE	4	496504	0	C	2	5919	0.67	0.0987	0.67	0.0933	0.1336	0.0044	0.5295	-0.283	0.5295	-0.2881	-0.2304	-0.0363
SCIENCE	4	496876	0	C	2	5919	0.5624	0.5624	0.0907	0.237	0.1095	0.0003	0.3955	0.3955	-0.3018	-0.1166	-0.1918	-0.0028
SCIENCE	4	279554	0	D	2	5919	0.3186	0.3186	0.2051	0.2735	0.201	0.0017	0.2678	0.2678	-0.1404	0.0113	-0.1792	-0.0313
SCIENCE	4	299622	0	D	2	5919	0.3729	0.2399	0.2087	0.1767	0.3729	0.0019	0.3102	-0.1904	-0.0275	-0.1489	0.3102	-0.0176
SCIENCE	4	305000	0	D	2	5919	0.4259	0.2364	0.4259	0.1747	0.1593	0.0037	0.4092	-0.0996	0.4092	-0.2194	-0.2036	-0.0366
SCIENCE	4	496519	0	D	2	5919	0.6989	0.6989	0.0818	0.1059	0.1129	0.0005	0.4196	0.4196	-0.1714	-0.2974	-0.1693	-0.0184
SCIENCE	4	496522	0	D	3	5919	0.62	0.62	0.0824	0.0779	0.2171	0.0025	0.394	0.394	-0.2749	-0.2349	-0.1238	-0.0327
SCIENCE	4	498458	0	D	2	5919	0.7854	0.051	0.0438	0.7854	0.1188	0.001	0.4914	-0.2782	-0.2493	0.4914	-0.2724	-0.0439
SCIENCE	4	494810	1	A	2	2833	0.671	0.0854	0.671	0.1091	0.1295	0.0049	0.552	-0.2075	0.552	-0.2774	-0.3333	-0.0426
SCIENCE	4	565987	1	A	2	2833	0.5517	0.0858	0.5517	0.221	0.1398	0.0018	0.4309	-0.148	0.4309	-0.2274	-0.2229	-0.029
SCIENCE	4	574831	1	A	2	2833	0.6107	0.1175	0.1207	0.1483	0.6107	0.0028	0.4905	-0.1581	-0.2609	-0.2866	0.4905	-0.0265
SCIENCE	4	574878	1	A	2	2833	0.5602	0.1984	0.1253	0.1101	0.5602	0.006	0.3507	-0.0869	-0.2166	-0.2082	0.3507	-0.0331
SCIENCE	4	496706	1	B	1	2833	0.4208	0.0717	0.2298	0.4208	0.2757	0.0021	0.3044	-0.1848	-0.0425	0.3044	-0.1854	-0.0416
SCIENCE	4	566203	1	B	2	2833	0.6273	0.6273	0.161	0.1359	0.0731	0.0028	0.457	0.457	-0.1961	-0.2883	-0.1847	-0.0389
SCIENCE	4	566164	1	C	2	2833	0.5111	0.1228	0.5111	0.1306	0.2309	0.0046	0.4317	-0.2093	0.4317	-0.2657	-0.1318	-0.0301
SCIENCE	4	565986	1	D	2	2833	0.372	0.2369	0.1493	0.2376	0.372	0.0042	0.357	-0.0991	-0.2102	-0.1238	0.357	-0.0426
SCIENCE	4	494808	2	A	2	1549	0.5345	0.0607	0.1033	0.5345	0.2995	0.0019	0.2367	-0.1183	-0.0415	0.2367	-0.1635	-0.0525
SCIENCE	4	565988	2	A	2	1549	0.4906	0.2485	0.0749	0.1808	0.4906	0.0052	0.4012	-0.0851	-0.2477	-0.2476	0.4012	-0.0459
SCIENCE	4	566170	2	A	2	1549	0.8057	0.0478	0.8057	0.1104	0.0342	0.0019	0.3667	-0.2594	0.3667	-0.163	-0.1954	-0.072
SCIENCE	4	574877	2	A	2	1549	0.417	0.1859	0.2705	0.1252	0.417	0.0013	0.3337	-0.2175	-0.0269	-0.2052	0.3337	-0.001
SCIENCE	4	479683	2	B	2	1549	0.7147	0.1369	0.7147	0.0568	0.0904	0.0013	0.4341	-0.2218	0.4341	-0.2366	-0.2224	-0.0348
SCIENCE	4	578732	2	B	2	1549	0.417	0.417	0.244	0.1007	0.2356	0.0026	0.1318	0.1318	0.0376	-0.2021	-0.0434	-0.038
SCIENCE	4	566165	2	C	2	1549	0.7876	0.7876	0.0581	0.0755	0.0762	0.0026	0.4883	0.4883	-0.2337	-0.3036	-0.2389	-0.0282
SCIENCE	4	579535	2	D	2	1549	0.4674	0.1291	0.2034	0.4674	0.1988	0.0013	0.2194	-0.1343	-0.0925	0.2194	-0.066	-0.0249
SCIENCE	4	408836	3	A	2	1537	0.5719	0.1334	0.0774	0.216	0.5719	0.0013	0.3849	-0.1727	-0.3238	-0.1064	0.3849	-0.0396
SCIENCE	4	574815	3	A	2	1537	0.823	0.0573	0.0462	0.0683	0.823	0.0052	0.4309	-0.253	-0.1936	-0.2506	0.4309	-0.0249
SCIENCE	4	574825	3	A	2	1537	0.7111	0.093	0.0644	0.7111	0.1308	0.0007	0.3931	-0.1791	-0.2785	0.3931	-0.1701	-0.0162

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
SCIENCE	4	576373	3	A	2	1537	0.65	0.0215	0.65	0.2921	0.0351	0.0013	0.0958	-0.1707	0.0958	0.0206	-0.1659	0.0064
SCIENCE	4	495291	3	B	2	1537	0.6799	0.0774	0.1451	0.6799	0.095	0.0026	0.3709	-0.2889	-0.1696	0.3709	-0.1172	-0.0338
SCIENCE	4	579571	3	B	2	1537	0.7619	0.0449	0.1386	0.7619	0.0527	0.002	0.3458	-0.181	-0.1949	0.3458	-0.1818	-0.0417
SCIENCE	4	579554	3	C	2	1537	0.7235	0.0312	0.7235	0.1984	0.0429	0.0039	0.4131	-0.1735	0.4131	-0.266	-0.2244	-0.0481
SCIENCE	4	566167	3	D	2	1537	0.3826	0.2687	0.1919	0.1535	0.3826	0.0033	0.2517	-0.0926	-0.0955	-0.115	0.2517	-0.0388
SCIENCE	8	273251	0	A	2	8715	0.3601	0.1925	0.1149	0.33	0.3601	0.0025	0.2834	-0.0428	-0.2322	-0.0916	0.2834	-0.0421
SCIENCE	8	277778	0	A	2	8715	0.5193	0.1922	0.2246	0.5193	0.0622	0.0017	0.2803	-0.1086	-0.0964	0.2803	-0.2318	-0.0259
SCIENCE	8	300194	0	A	2	8715	0.5175	0.1059	0.2098	0.1655	0.5175	0.0014	0.4539	-0.0873	-0.2184	-0.2952	0.4539	-0.0349
SCIENCE	8	303675	0	A	2	8715	0.6777	0.0561	0.102	0.1612	0.6777	0.003	0.48	-0.2299	-0.239	-0.2618	0.48	-0.0519
SCIENCE	8	305026	0	A	2	8715	0.7385	0.099	0.0723	0.7385	0.0885	0.0017	0.4552	-0.167	-0.2765	0.4552	-0.2707	-0.0399
SCIENCE	8	315480	0	A	2	8715	0.347	0.21	0.246	0.347	0.1951	0.002	0.2368	-0.1565	-0.1255	0.2368	0.0179	-0.0462
SCIENCE	8	330232	0	A	3	8715	0.4442	0.0858	0.2138	0.2545	0.4442	0.0017	0.2792	-0.2708	-0.1198	-0.0294	0.2792	-0.0231
SCIENCE	8	401685	0	A	2	8715	0.6812	0.6812	0.0923	0.125	0.0981	0.0034	0.4669	0.4669	-0.2374	-0.2893	-0.1675	-0.0581
SCIENCE	8	405216	0	A	2	8715	0.5644	0.5644	0.1056	0.1076	0.2199	0.0025	0.4021	0.4021	-0.2551	-0.2849	-0.0726	-0.0518
SCIENCE	8	405217	0	A	2	8715	0.3473	0.2654	0.3473	0.2172	0.1668	0.0032	0.2788	-0.0678	0.2788	-0.2003	-0.0458	-0.0557
SCIENCE	8	409110	0	A	2	8715	0.687	0.2071	0.0359	0.0678	0.687	0.0022	0.3494	-0.1168	-0.2456	-0.2654	0.3494	-0.0486
SCIENCE	8	410886	0	A	2	8715	0.6589	0.0695	0.1583	0.1113	0.6589	0.002	0.5159	-0.2415	-0.2292	-0.3134	0.5159	-0.0205
SCIENCE	8	410888	0	A	1	8715	0.46	0.2266	0.46	0.1297	0.1821	0.0016	0.409	-0.1507	0.409	-0.1893	-0.1987	-0.0113
SCIENCE	8	411451	0	A	2	8715	0.6855	0.084	0.1177	0.6855	0.1112	0.0016	0.3058	-0.2012	-0.1404	0.3058	-0.1254	-0.0373
SCIENCE	8	412142	0	A	2	8715	0.5994	0.5994	0.1223	0.1836	0.0931	0.0016	0.5031	0.5031	-0.2133	-0.2894	-0.2156	-0.0485
SCIENCE	8	493912	0	A	2	8715	0.5861	0.5861	0.3704	0.0188	0.0242	0.0005	0.2649	0.2649	-0.1843	-0.149	-0.1339	-0.0286
SCIENCE	8	493918	0	A	3	8715	0.8368	0.0283	0.8368	0.0491	0.0847	0.001	0.3954	-0.2287	0.3954	-0.2571	-0.1831	-0.0492
SCIENCE	8	494453	0	A	2	8715	0.6787	0.0954	0.129	0.6787	0.096	0.0009	0.5693	-0.3003	-0.3208	0.5693	-0.2346	-0.0334
SCIENCE	8	494458	0	A	2	8715	0.5462	0.5462	0.1168	0.2654	0.069	0.0026	0.465	0.465	-0.3214	-0.1677	-0.204	-0.0502
SCIENCE	8	494524	0	A	2	8715	0.2954	0.1341	0.1865	0.3823	0.2954	0.0017	0.2156	-0.1405	-0.0661	-0.0477	0.2156	-0.038
SCIENCE	8	496708	0	A	2	8715	0.6935	0.0627	0.6935	0.0886	0.1538	0.0015	0.4313	-0.2198	0.4313	-0.2943	-0.1678	-0.0363
SCIENCE	8	405213	0	B	2	8715	0.6031	0.0958	0.0976	0.201	0.6031	0.0024	0.4014	-0.1609	-0.2344	-0.1917	0.4014	-0.0528
SCIENCE	8	410869	0	B	2	8715	0.7445	0.0577	0.7445	0.0762	0.1205	0.0011	0.4569	-0.186	0.4569	-0.334	-0.2043	-0.023
SCIENCE	8	412458	0	B	3	8715	0.5186	0.0768	0.235	0.5186	0.1678	0.0018	0.3218	-0.2031	-0.115	0.3218	-0.1509	-0.0372
SCIENCE	8	498027	0	B	2	8715	0.5106	0.5106	0.1434	0.1774	0.1673	0.0013	0.4865	0.4865	-0.2246	-0.2795	-0.1495	-0.0535
SCIENCE	8	401747	0	C	2	8715	0.7348	0.1225	0.0962	0.0451	0.7348	0.0014	0.3592	-0.1562	-0.2177	-0.2039	0.3592	-0.0239
SCIENCE	8	405211	0	C	2	8715	0.7396	0.073	0.7396	0.0505	0.1341	0.0028	0.5808	-0.2954	0.5808	-0.2787	-0.3371	-0.0404
SCIENCE	8	410875	0	C	2	8715	0.5474	0.188	0.1429	0.5474	0.1188	0.003	0.4021	-0.1273	-0.2158	0.4021	-0.2209	-0.0628
SCIENCE	8	494464	0	C	2	8715	0.6132	0.2496	0.6132	0.0612	0.0745	0.0016	0.4818	-0.2701	0.4818	-0.2476	-0.2166	-0.0387
SCIENCE	8	496017	0	C	2	8715	0.5199	0.5199	0.1116	0.2854	0.0801	0.003	0.4079	0.4079	-0.2862	-0.1113	-0.2257	-0.0391
SCIENCE	8	496714	0	C	2	8715	0.4514	0.166	0.1245	0.2568	0.4514	0.0013	0.3154	-0.2343	-0.2008	-0.0052	0.3154	-0.0346
SCIENCE	8	278324	0	D	2	8715	0.4054	0.0862	0.4054	0.2965	0.2108	0.0011	0.3089	-0.1598	0.3089	-0.1237	-0.1202	-0.0386
SCIENCE	8	278461	0	D	2	8715	0.2707	0.1678	0.2884	0.2713	0.2707	0.002	0.2246	0.0077	-0.1697	-0.0535	0.2246	-0.0456
SCIENCE	8	336927	0	D	2	8715	0.5165	0.0644	0.1262	0.5165	0.2904	0.0025	0.2905	-0.2488	-0.241	0.2905	-0.0057	-0.0298
SCIENCE	8	339836	0	D	2	8715	0.5028	0.5028	0.1021	0.3344	0.0592	0.0015	0.4112	0.4112	-0.2823	-0.1587	-0.1882	-0.0223
SCIENCE	8	339840	0	D	2	8715	0.4649	0.4649	0.2	0.245	0.0886	0.0015	0.3464	0.3464	-0.122	-0.1823	-0.1572	-0.0223
SCIENCE	8	413673	0	D	2	8715	0.48	0.1323	0.31	0.0764	0.48	0.0013	0.3371	-0.1092	-0.1714	-0.1956	0.3371	-0.0041
SCIENCE	8	496022	0	D	2	8715	0.8508	0.0419	0.8508	0.055	0.0511	0.0013	0.4754	-0.2751	0.4754	-0.2943	-0.208	-0.0402
SCIENCE	8	494430	1	A	2	3748	0.5283	0.0904	0.5283	0.2156	0.1641	0.0016	0.299	-0.213	0.299	-0.0873	-0.1358	-0.0488
SCIENCE	8	560311	1	A	2	3748	0.5136	0.1886	0.1137	0.1806	0.5136	0.0035	0.3853	-0.0598	-0.243	-0.2355	0.3853	-0.0246
SCIENCE	8	560335	1	A	2	3748	0.5966	0.1118	0.5966	0.1065	0.1793	0.0059	0.4177	-0.1845	0.4177	-0.2855	-0.1481	-0.0252
SCIENCE	8	566178	1	A	2	3748	0.567	0.0832	0.2033	0.1433	0.567	0.0032	0.4785	-0.2405	-0.1714	-0.2816	0.4785	-0.0537
SCIENCE	8	498038	1	B	2	3748	0.4031	0.1281	0.4031	0.2721	0.1926	0.004	0.2273	-0.1541	0.2273	-0.103	-0.0276	-0.0518
SCIENCE	8	560315	1	B	2	3748	0.3941	0.1214	0.1446	0.3941	0.3343	0.0056	0.225	-0.195	-0.2021	0.225	0.0597	-0.0446
SCIENCE	8	580791	1	C	2	3748	0.6806	0.0584	0.1238	0.1342	0.6806	0.0029	0.518	-0.2441	-0.3038	-0.2399	0.518	-0.0448
SCIENCE	8	496719	1	D	2	3748	0.5144	0.2804	0.5144	0.1027	0.1009	0.0016	0.2951	-0.0481	0.2951	-0.2346	-0.1778	-0.0285
SCIENCE	8	560316	1	D	2	3748	0.3813	0.3813	0.1761	0.2118	0.2273	0.0035	0.3982	0.3982	-0.1953	-0.1774	-0.1067	-0.0308
SCIENCE	8	577967	1	D	2	3748	0.4229	0.2065	0.2038	0.4229	0.1633	0.0035	0.2045	0.0215	-0.0795	0.2045	-0.2063	-0.0246
SCIENCE	8	493907	2	A	2	2485	0.6241	0.1992	0.0584	0.6241	0.1183		0.3657	-0.1324	-0.3127	0.3657	-0.1579	

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	PValue	ProportionA	ProportionB	ProportionC	ProportionD	ProportionOMITS	PtBiserial	CorrelationA	CorrelationB	CorrelationC	CorrelationD	CorrelationOMITS
SCIENCE	8	560312	2	A	2	2485	0.4897	0.4897	0.2254	0.1819	0.1022	0.0008	0.4854	0.4854	-0.1352	-0.3092	-0.2213	0.004
SCIENCE	8	560313	2	A	2	2485	0.604	0.1412	0.202	0.604	0.0507	0.002	0.4355	-0.2125	-0.2406	0.4355	-0.1859	-0.0358
SCIENCE	8	566171	2	A	2	2485	0.5155	0.0539	0.1239	0.5155	0.3038	0.0028	0.1596	-0.1712	-0.3011	0.1596	0.1286	-0.02
SCIENCE	8	578780	2	A	3	2485	0.3372	0.2443	0.3372	0.1581	0.2596	0.0008	0.2017	-0.0478	0.2017	-0.2082	0.0016	0.0158
SCIENCE	8	580790	2	A	2	2485	0.6913	0.0443	0.2012	0.6913	0.0616	0.0016	0.3591	-0.1825	-0.188	0.3591	-0.2151	-0.0325
SCIENCE	8	496028	2	B	2	2485	0.5815	0.1654	0.1449	0.5815	0.1082		0.4422	-0.1878	-0.2671	0.4422	-0.175	
SCIENCE	8	560314	2	B	2	2485	0.497	0.1678	0.2197	0.497	0.1123	0.0032	0.3679	-0.1091	-0.1684	0.3679	-0.2243	-0.0468
SCIENCE	8	560317	2	C	2	2485	0.5686	0.126	0.1928	0.1119	0.5686	0.0008	0.3444	-0.1423	-0.0935	-0.2755	0.3444	0.0124
SCIENCE	8	413214	2	D	3	2485	0.4076	0.4076	0.3594	0.1549	0.0773	0.0008	0.3485	0.3485	-0.1299	-0.1408	-0.213	-0.0398
SCIENCE	8	413674	3	A	2	2482	0.4625	0.4625	0.1334	0.2881	0.1124	0.0036	0.3744	0.3744	-0.1134	-0.2301	-0.1318	-0.0377
SCIENCE	8	560292	3	A	2	2482	0.6708	0.0653	0.6708	0.2099	0.0528	0.0012	0.3593	-0.2069	0.3593	-0.1544	-0.2401	-0.0335
SCIENCE	8	560294	3	A	3	2482	0.5105	0.195	0.0685	0.2216	0.5105	0.0044	0.3467	-0.1341	-0.1785	-0.1767	0.3467	-0.026
SCIENCE	8	574819	3	A	2	2482	0.8928	0.0189	0.027	0.0604	0.8928	0.0008	0.3765	-0.1959	-0.2048	-0.2341	0.3765	-0.0279
SCIENCE	8	579567	3	A	2	2482	0.7224	0.1648	0.7224	0.0886	0.0222	0.002	0.342	-0.1057	0.342	-0.2925	-0.2029	-0.0217
SCIENCE	8	412459	3	B	2	2482	0.473	0.473	0.2349	0.1313	0.1591	0.0016	0.3196	0.3196	-0.1378	-0.2767	-0.0147	-0.0579
SCIENCE	8	560299	3	B	2	2482	0.415	0.2675	0.1015	0.2127	0.415	0.0032	0.1804	0.0257	-0.2315	-0.069	0.1804	-0.0368
SCIENCE	8	496874	3	D	3	2482	0.3392	0.2429	0.2204	0.195	0.3392	0.0024	0.095	0.0137	-0.0765	-0.0465	0.095	-0.0134
SCIENCE	8	560298	3	D	2	2482	0.3666	0.3666	0.2776	0.1164	0.2357	0.0036	0.4093	0.4093	-0.1038	-0.157	-0.2324	-0.0295
SCIENCE	8	577686	3	D	2	2482	0.4327	0.4327	0.0999	0.1301	0.3356	0.0016	0.2687	0.2687	-0.2493	-0.1861	0.0133	-0.0505

Evidence-Based Selected Response Paper/Pencil Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PubID	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
Mean	Mean Score
Proportion0	Proportion 0 Points
Proportion1	Proportion 1 Point
Proportion2	Proportion 2 Points
Proportion3	Proportion 3 Points
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
Correlation0	Correlation 0 Points
Correlation1	Correlation 1 Point
Correlation2	Correlation 2 Points
Correlation3	Correlation 3 Points
CorrelationINV	Correlation Invalid Responses
FinalB	IRT Difficulty Estimate
FinalBErr	IRT Difficulty Error
Infit	Infit Standardized
InfitMnSq	Infit Mean Square
Outfit	Outfit Standardized
OutfitMnSq	Outfit Mean Square
BiasCodeMALEFEMALE	Male/Female DIF Code
BiasCodeWHITEBLACK	White/Black DIF Code
BiasCodeWHITEHISPANIC	White/Hispanic DIF Code

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	3	400684		0 A-C	3	116915	1.1003	0.2695	0.3528	0.3738		0.0039	0.5015	-0.3257	-0.2149	0.5198		-0.0686	0.5026	0.0074	9.9012	1.1548	9.9012	1.2101	A+	A+	A+
ELA	3	478863		0 A-K	3	116915	1.8109	0.0861	0.2726	0.3689	0.2669	0.0055	0.6634	-0.3559	-0.3911	0.0958	0.528	-0.0774	0.176	0.0109	-9.8991	0.921	-9.8991	0.9211	A+	A+	A+
ELA	3	495035		0 B-C	3	116915	1.1386	0.2653	0.3188	0.4099		0.006	0.6003	-0.449	-0.1742	0.5791		-0.0702	0.418	0.0075	-6.889	0.9763	-6.479	0.9721	A+	A+	A+
ELA	3	271992		0 B-K	3	116915	1.7901	0.1273	0.2662	0.2542	0.3385	0.0138	0.5625	-0.2441	-0.3111	-0.0733	0.5621	-0.1304	0.2551	0.0094	9.9013	1.2768	9.9013	1.3372	A-	A+	A+
ELA	3	579126		1 B-K	3	13045	2.0629	0.0859	0.2016	0.2538	0.4512	0.0074	0.5658	-0.2463	-0.3688	-0.1269	0.5563	-0.0536	-0.1679	0.0309	2.031	1.023	4.0511	1.0591	A+	A-	A+
ELA	3	579128		1 B-K	3	13045	1.3127	0.229	0.2153	0.5487		0.0071	0.4767	-0.3005	-0.3246	0.531		-0.0544	0.0629	0.0225	9.3211	1.1028	9.9012	1.2168	A-	A-	A-
ELA	3	576348		2 B-K	3	13008	1.407	0.1672	0.2426	0.5822		0.008	0.5434	-0.3905	-0.2753	0.5434		-0.0482	-0.195	0.0255	-8.5391	0.9063	-2.219	0.9599	A+	A-	A-
ELA	3	576351		2 B-K	3	13008	1.4227	0.1351	0.3961	0.3565	0.1046	0.0077	0.3782	-0.1613	-0.2729	0.2523	0.2363	-0.0518	0.9108	0.0266	9.9013	1.2764	9.9013	1.2696	A-	A-	A-
ELA	3	574370		3 B-K	3	12983	0.6103	0.5479	0.2836	0.1634		0.0051	0.1871	-0.0883	-0.0982	0.2501		-0.0591	1.6418	0.0195	9.9015	1.4704	9.9017	1.6941	A-	A-	A+
ELA	3	574389		3 B-K	3	12983	1.5195	0.1024	0.4104	0.3353	0.1462	0.0058	0.4382	-0.2251	-0.2289	0.118	0.3611	-0.0322	0.6504	0.0292	9.9011	1.1446	9.9011	1.1454	A+	A-	A-
ELA	3	579351		4 B-K	3	12977	1.4321	0.1862	0.3579	0.2833	0.1692	0.0035	0.4881	-0.2121	-0.2893	0.123	0.4506	-0.0527	0.842	0.0252	9.9011	1.1495	9.9012	1.1501	A-	A-	A-
ELA	3	579353		4 B-K	3	12977	1.3251	0.1369	0.3939	0.4656		0.0036	0.5174	-0.3315	-0.2692	0.4987		-0.0544	-0.1015	0.0277	-5.0291	0.9453	-5.2391	0.932	A-	A+	A+
ELA	3	580248		5 B-C	3	13015	0.9129	0.3921	0.2937	0.3096		0.0046	0.5037	-0.3755	-0.1063	0.5078		-0.0444	0.9405	0.0211	3.351	1.0362	3.621	1.0494	A-	A-	A-
ELA	3	579144		5 B-K	3	13015	1.8245	0.1186	0.2619	0.2844	0.3313	0.0039	0.628	-0.3105	-0.4185	0.0771	0.5372	-0.0527	0.2143	0.0297	-9.1791	0.8982	-9.3891	0.8813	A-	A-	A-
ELA	3	576338		6 A-K	3	13020	1.3748	0.1717	0.2728	0.551		0.0045	0.6296	-0.4803	-0.2485	0.5961		-0.0697	-0.1302	0.0263	-9.8992	0.7827	-9.8993	0.7413	A+	A-	A+
ELA	3	576340		6 A-K	3	13020	2.068	0.0662	0.2044	0.3073	0.4164	0.0058	0.6523	-0.3021	-0.4317	-0.0729	0.5826	-0.0573	-0.2311	0.037	-9.8992	0.8193	-9.8992	0.8027	A+	A-	A-
ELA	3	578137		7 A-K	3	12933	1.7435	0.1342	0.2848	0.265	0.3096	0.0065	0.49	-0.1784	-0.3344	-0.0235	0.4928	-0.0715	0.3071	0.0285	9.9012	1.2079	9.9012	1.2311	A+	A-	A-
ELA	3	579575		7 A-K	3	12933	1.3884	0.1711	0.2561	0.5661		0.0066	0.5812	-0.3991	-0.3083	0.5873		-0.0764	-0.1548	0.0263	-9.8991	0.8591	-8.5591	0.8536	A+	A-	A-
ELA	3	578117		8 A-C	3	12962	0.983	0.3251	0.3581	0.3125		0.0043	0.4501	-0.3086	-0.1312	0.4568		-0.065	0.782	0.0213	6.9111	1.0728	7.2411	1.0884	A+	A+	A+
ELA	3	578122		8 A-K	3	12962	1.4223	0.2142	0.3311	0.2537	0.1946	0.0063	0.4238	-0.1553	-0.2758	0.0547	0.439	-0.0517	0.8385	0.024	9.9013	1.2515	9.9013	1.2559	A+	A+	A+
ELA	3	574378		9 A-K	3	12972	0.6273	0.5494	0.2596	0.1839		0.0072	0.3118	-0.1995	-0.0818	0.3584		-0.0443	1.5487	0.0205	9.9013	1.2683	9.9015	1.476	A-	A-	A-
ELA	3	574379		9 A-K	3	12972	1.4827	0.1392	0.3834	0.3094	0.1601	0.0078	0.3253	-0.1287	-0.1989	0.0904	0.2868	-0.0646	0.715	0.0273	9.9014	1.3988	9.9014	1.4325	A-	A-	A-
ELA	4	494337		0 A-C	3	119055	2.2476	0.0585	0.1317	0.3091	0.4992	0.0015	0.6686	-0.3749	-0.4278	-0.0922	0.5543	-0.0496	-0.488	0.0135	-9.8991	0.8882	-9.8991	0.917	A+	A-	A-
ELA	4	494340		0 A-K	3	119055	1.4522	0.1703	0.2018	0.6252		0.0027	0.6729	-0.5227	-0.2969	0.6587		-0.0617	-0.2503	0.0089	-9.8992	0.844	-9.8992	0.8232	A+	A+	A+
ELA	4	495068		0 A-K	3	119055	1.372	0.1899	0.242	0.565		0.0031	0.616	-0.465	-0.2603	0.6015		-0.0772	-0.0707	0.0085	-0.869	0.9966	3.761	1.0223	A-	A+	A+
ELA	4	339688		0 B-C	3	119055	1.7401	0.1686	0.2318	0.2803	0.3159	0.0034	0.5842	-0.2795	-0.3812	0.0394	0.5428	-0.0769	0.4121	0.0089	9.9013	1.303	9.9013	1.3385	A-	A-	A+
ELA	4	495050		0 B-K	3	119055	1.0864	0.3518	0.2037	0.4414		0.0032	0.438	-0.2531	-0.3461	0.532		-0.0703	0.6063	0.0073	9.9015	1.453	9.9019	1.8612	A-	A+	A+
ELA	4	495051		0 B-K	3	119055	1.7877	0.0875	0.2754	0.3925	0.2424	0.0022	0.6405	-0.3696	-0.384	0.1656	0.4619	-0.0612	0.2363	0.0111	5.501	1.0206	5.961	1.0227	A-	A+	A+
ELA	4	579105		1 A-K	3	13278	1.8451	0.0999	0.2322	0.3871	0.2796	0.0012	0.4736	-0.2181	-0.3246	0.0594	0.3911	-0.0573	0.1503	0.0293	9.9012	1.2362	9.9013	1.2674	A+	A-	A-
ELA	4	579117		1 A-K	3	13278	1.4446	0.113	0.3235	0.5606		0.0029	0.6041	-0.4462	-0.2765	0.5514		-0.0568	-0.3953	0.0269	-9.8992	0.8334	-9.8992	0.8306	A+	A-	A-
ELA	4	580549		2 A-K	3	13227	1.5026	0.1728	0.1467	0.6779		0.0025	0.6051	-0.4564	-0.3363	0.6291		-0.0485	-0.2999	0.0263	-8.9691	0.8884	-2.8191	0.9312	A+	A+	A+
ELA	4	580638		2 A-K	3	13227	1.9735	0.0814	0.2038	0.3673	0.3451	0.0024	0.6208	-0.3063	-0.4148	0.021	0.5121	-0.0547	-0.0139	0.0339	-4.369	0.9516	-4.3791	0.9483	A-	A-	A-
ELA	4	579415		3 A-K	3	13209	2.2981	0.0431	0.1171	0.3364	0.5028	0.0007	0.5132	-0.2066	-0.401	-0.0951	0.4334	-0.0323	-0.6306	0.0448	4.6811	1.0603	9.9012	1.1802	A-	A-	A-
ELA	4	581308		3 A-K	3	13209	1.1435	0.2724	0.3073	0.4181		0.0022	0.4799	-0.3671	-0.1344	0.4616		-0.0484	0.4486	0.0222	9.9012	1.1566	9.9012	1.2382	A-	A-	A-
ELA	4	579109		4 A-K	3	13241	1.0454	0.3304	0.2894	0.378		0.0022	0.4355	-0.2853	-0.202	0.4725		-0.0709	0.6983	0.0219	9.9012	1.2369	9.9013	1.3405	A+	A+	A-
ELA	4	579343		4 A-K	3	13241	1.9503	0.1098	0.2158	0.2858	0.3877	0.001	0.5145	-0.2293	-0.3529	-0.0357	0.481	-0.0445	0.0655	0.0314	9.9012	1.2168	9.9014	1.3519	A+	A-	A+
ELA	4	576333		5 A-C	3	13258	1.4843	0.1466	0.3467	0.3658	0.1353	0.0056	0.4628	-0.2863	-0.2445	0.2628	0.2763	-0.0464	0.8071	0.0272	9.9012	1.1766	9.9012	1.1842	A-	A-	A+
ELA	4	576318		5 A-K	3	13258	0.8178	0.4449	0.2869	0.2654		0.0028	0.3278	-0.169	-0.2125	0.415		-0.0589	1.1661	0.0205	9.9013	1.3055	9.9015	1.4661	A-	A+	A-
ELA	4	579150		6 B-C	3	13165	0.4476	0.5774	0.3931	0.0273		0.0022	0.2025	-0.2442	0.2771	-0.0739		-0.0575	2.8439	0.0199	9.9013	1.2615	9.9016	1.6191	A-	A-	A-
ELA	4	579162		6 B-K	3	13165	2.1082	0.0614	0.1834	0.3365	0.4172	0.0014	0.6155	-0.3039	-0.4332	-0.0114	0.502	-0.0408	-0.2957	0.0395	-3.689	0.9557	-1.829	0.9745	A-	A-	A-
ELA	4	579149		7 B-C	3	13191	1.5061	0.1741	0.1405	0.6828		0.0027	0.5634	-0.4259	-0.3135	0.5872		-0.0556	-0.3266	0.0273	-3.639	0.9522	1.181	1.0333	A-	A-	A-
ELA	4	579153		7 B-K	3	13191	1.5268	0.1332	0.3545	0.3601	0.1507	0.0015	0.2953	-0.1701	-0.1611	0.1289	0.2057	-0.0146	0.7325	0.0286	9.9016	1.5584	9.9016	1.5922	A+	A-	A-
ELA	4	577414		8 B-C	3	13219	1.5233	0.1293	0.3813	0.3232	0.1652	0.0011	0.5096	-0.2677	-0.2964	0.2003	0.3804	-0.0353	0.7084	0.0288	9.9011	1.12	9.9011	1.1201	A-	A-	A-
ELA	4	574559		8 B-K	3	13219	0.5765	0.5736	0.2707	0.1529		0.0027	0.1528	-0.0797	-0.067	0.1988		-0.0447	1.8257	0.0206	9.9015	1.5448	9.9022	2.2284	A-	A-	A-
ELA	4	579409		9 B-C	3	13267	1.8127	0.1079	0.253	0.3398	0.2934	0.0059	0.4918	-0.2255	-0.3262	0.037	0.4321	-0.0328	0.2451	0.0309	9.9012	1.2442	9.9013	1.328	A+	A-	A-
ELA	4	579413		9 B-K	3	13267	1.2392	0.2722	0.2133	0.5129		0.0016	0.5265	-0.3712	-0.2803	0.5647		-0.0546	0.278	0.0236	9.1711	1.1086	8.8312	1.1669	A-	A-	A+
ELA	5	493346		0 A-K	3	120995	1.498	0.1598	0.1793	0.6594		0.0015	0.49	-0.3163	-0.3503	0.533		-0.0591	-0.4274	0.0087	9.9011	1.0857	9.9016	1.5709	A+	A+	A+
ELA	5	493350		0 A-K	3	120995	1.3564	0.2108	0.3177	0.3711	0.0989	0.0016	0.5751	-0.3237	-0.3308	0.3734	0.3619	-0.0594	1.026	0.0078	9.9011	1.1307	9.9011	1.1423	A+	A-	A+
ELA	5	495886		0 A-K	3	120995	1.86	0.088	0.2542	0.3615	0.2943	0.002	0.6026	-0.2981	-0.3654	0.0145	0.5218	-0.0268	0.0303	0.0107	9.9011	1.0621	9.9011	1.0992	A+	A+	A+
ELA	5	341020		0 B-C	3	120995	0.7822	0.4749	0.2633	0.2594		0.0023	0.4749	-0.3148	-0.1672	0.5337		-0.0646	1.1304	0.0066	9.9012	1.2339	9.9013	1.3442	A-	A+	A+
ELA	5	341094		0 B-K	3	120995	1.4121	0.1967	0.3579	0.274	0.1687	0.0027	0.637	-0.3785	-0.2764	0.2158	0.5074	-0.0643	0.7818	0.008	8.391	1.0305	9.901	1.0429	A-	A-	A-
ELA	5	409607		0 B-K	3	120995	1.1095	0.2427	0.4026	0.3534		0.0012	0.5646	-0.4083	-0.1609	0.5344		-0.0429	0.3898	0.0074	7.081	1.0239	9.901	1.0428	A-	A+	A+
ELA	5	566398		1 A-C	3	13497	1.6784	0.1063	0.3321	0.3364	0.2245	0.0007	0.5131	-0.2553	-0.3361	0.1549	0.3943	-0.027	0.2862	0.0268	9.9011	1.1177	9.9011	1.1408	A-	A-	A-
ELA	5	566390		1 A-K	3	13497	1.2333	0.2202	0.3235	0.4549		0.0014	0.4891	-0.3408	-0.2162	0.4889		-0.0298	0.1248	0.021	5.3511	1.0519	9.9012	1.1759	A+	A-	A-
ELA	5	576323		2 A-K	3	13393	1.3459	0.2682	0.1157	0.6151		0.001	0.5029	-0.3823	-0.3101	0.5539		-0.0303	0.0039	0.0222	5.5311	1.0617	9.5412	1.2428	A+	A+	A-
ELA	5	576325		2 A-K	3	13393	1.179	0.2739	0.3918	0.2123	0.1208	0.001	0.2566	-0.0714	-0.1487	-0.0131	0.3395	-0.0252	1.1648	0.0208	9.9016	1.5922	9.9017	1.682	A-	A-	A-
ELA	5	579328		3 A-K	3	13460	1.3363	0.2375	0.1874	0.5744		0.0006	0.5971	-0.4718	-0.2467	0.6024		-0.0305	-0.0564	0.0228	-9.8991	0.8877	-8.7292	0.8391	A+	A-	A-
ELA	5	579336		3 A-K	3	13460	2.2142	0.0639	0.1321	0.3279	0.4754	0.0007	0.5771	-0.2799	-0.4022	-0.0932	0.4981	-0.0136	-0.4675	0.0361	-5.7391	0.9332	-3.059	0.9562	A+	A-	A-
ELA	5	580580		4 A-C	2	13456	1.5927	0.1235	0.1585	0.7171		0.0009	0.4477	-0.3036	-0.3043	0.4713		-0.0425	-0.7025	0.0299	0.131	1.0018	9.9014	1.4155	A+	A+	A+
ELA	5	580587		4 A-K	3	13456	2.1588	0.0637	0.1539	0.3376	0.4432	0.0016	0.617	-0.3065	-0.3752	-0.1327	0.5529	-0.0422	-0.4395	0.0385	-9.8991	0.8581	-9.8991	0.8523	A+	A-	A-
ELA	5	579327		5 A-C	3	13486	1.1788	0.3077	0.2028	0.488		0.0016	0.3326	-0.1952	-0.2688	0.3992		-0.0351	0.3056	0.0222	9.9014	1.3938	9.9018	1.7624	A-	A-	A-
ELA	5	579329		5 A-K	3	13486	1.5264	0.2116	0.2741	0.2876	0.2257	0.001	0.2883	-0.1557	-0.1066	-0.0398	0.3106	-0.0212	0.6301	0.0243	9.9017	1.6593	9.9018	1.8194	A+	A-	A-
ELA	5	580455		6 B-K	3	13503	1.1984	0.3006	0.1982	0.5001		0.0011	0.5316	-0.3941	-0.2541	0.5655		-0.0226	0.2593	0.0224	2.971	1.0322	6.5511	1.1216	A+	A-	A-
ELA	5	582577		6 B-K	3	13503	2.0992	0.0653	0.1845	0.3334	0.416	0.0008	0.57	-0.2723	-0.3643	-0.0855	0.5066	-0.0277	-0.3409	0.0377	-3.729	0.9562	2.701	1.0386	A+	A-	A-
ELA	5	574356		7 B-K	3	13377	1.4369	0.1533	0.4206	0.2563	0.1679	0.0019	0.5436	-0.2671	-0.3008	0.1707	0.4574	-0.0177	0.6852	0.0263	3.211	1.0366	2.831	1.0336	A+	A-	A-
ELA	5	577504		7 B-K	3	13377	1.1062	0.2817	0.3281	0.389		0.0012	0.3467	-0.2231	-0.1681	0.37		-0.031	0.4182	0.0221	9.9013	1.3084	9.9014	1.4471	A+	A+	A+
ELA	5	582570		8 B-C	3	13386	0.755	0.5636	0.1155	0.3197		0.0012	0.3311	-0.2024	-0.3051	0.4268		-0.0331	1.1156	0.0215	9.9014	1.4354	9.902	2.0043	A+	A-	A-
ELA	5	580470		8 B-K	3	13386	1.3949	0.128	0.4343	0.348	0.0882	0.0015	0.4062	-0.2688	-0.1645	0.214	0.2483	-0.0265	0.8687	0.0281	9.9012	1.2021	9.9012	1.2146	A+	A-	A-
ELA	5	580463		9 B-K	3	13437	1.7504	0.1151	0.3088	0.2843	0.291	0.0007	0.5927	-0.2999	-0.331	0.0032	0.5453	-0.0169	0.2025	0.0297	-2.549	0.9719	-2.379	0.9707	A+	A-	A-
ELA	5	582425		9 B-K	3	13437	1.3173	0.2207	0.2374	0.5399		0.002	0.5492	-0.3688	-0.3232	0.5862		-0.0384	-0.0148	0.024	-4.549	0.9507	-3.0091	0.9483	A+	A+	A-
ELA	6	416084		0 A-C	3	120683	1.8459	0.1486	0.2348	0.2334	0.3814	0.0017	0.6115	-0.2648	-0.4069	-0.0773	0.6218	-0.0638	0.4537	0.0089	9.9011	1.1323	9.9012	1.2186	A+	A+	A+
ELA	6	416078		0 A-K	3	120683	0.9142	0.4492	0.1841	0.365		0.0016	0.4296	-0.3253	-0.1493	0.4613		-0.0597	1.1241	0.0067	9.9014	1.3544	9.9015	1.5485	A-	A+	A+
ELA	6	499921		0 A-K	3	120683	2.1388	0.0587	0.1748	0.3317	0.4335	0.0012	0.6348	-0.3306	-0.3893	-0.0964	0.5493	-0.0343	-0.0832	0.0128	-9.8991	0.9069	-9.8991	0.9261	A+	A-	A-
ELA	6	404580		0 B-C	3	120683	0.8361	0.4687	0.2218	0.3071		0.0023	0.4891	-0.2965	-0.2935	0.5916		-0.0633	1.283	0.0066	9.9012	1.1709	9.9013	1.2945	A-	A+	A+
ELA	6	404583		0 B-K	3	120683	1.5832	0.1936	0.304	0.2207	0.2793	0.0025	0.5546	-0.2904	-0.2949	0.0453	0.523	-0.062	0.7998	0.008	9.9013	1.2558	9.9013	1.3273	A-	A-	A+
ELA	6	497118		0 B-K	3	120683	1.2613	0.2767	0.184	0.5387		0.0007	0.4314	-0.2931	-0.2813	0.4835		-0.0338	0.4529	0.0074	9.9013	1.2972	9.9018	1.816	A-	A+	A+
ELA	6	579311		1 B-C	3	13484	1.8865	0.1037	0.2454	0.3086	0.3413	0.001	0.601	-0.3172	-0.3412	-0.0264	0.5414	-0.0295	0.3415	0.0268	-5.4991	0.9456	-4.279	0.952	A-	A-	A-
ELA	6	579312		1 B-C	3	13484	1.0756	0.2824	0.3584	0.3586		0.0006	0.4909	-0.3946	-0.0734	0.4448		-0.0217	0.7711	0.0195	5.6311	1.0525	6.4711	1.0705	A+	A+	A+
ELA	6	583786		2 B-C	3	13431	1.9137	0.1354	0.1827	0.3114	0.3694	0.001	0.5794	-0.3252	-0.3402	-0.0144	0.5179	-0.0175	0.374	0.0271	-0.359	0.9961	1.611	1.0204	A-	A-	A-
ELA	6	580600		2 B-K	3	13431	0.8833	0.4584	0.1982	0.3426		0.0008	0.2898	-0.1428	-0.285	0.3907		-0.0233	1.1864	0.0192	9.9014	1.4278	9.9017	1.7168	A+	A+	A-
ELA	6	578625		3 B-C	3	13422	0.974	0.291	0.4416	0.2662		0.0012	0.3398	-0.2555	-0.0386	0.3088		-0.0369	1.0489	0.02	9.9012	1.215	9.9013	1.2554	A+	A+	A+
ELA	6	578626		3 B-K	3	13422	1.3702	0.1546	0.4121	0.3369	0.0948	0.0016	0.5208	-0.3476	-0.1958	0.2702	0.3271	-0.0377	1.2281	0.0248	2.221	1.0236	3.421	1.0363	A-	A-	A-
ELA	6	578671		4 B-C	3	13375	1.5407	0.1501	0.1571	0.6918		0.001	0.5493	-0.4292	-0.2734	0.5491		-0.023	-0.1649	0.0276	-9.8992	0.8486	-6.2591	0.8563	A-	A-	A-
ELA	6	576382		4 B-K	3	13375	1.8385	0.1536	0.2439	0.2108	0.391	0.0007	0.5781	-0.287	-0.3313	-0.1072	0.5942	-0.0175	0.4684	0.0274	4.7111	1.0545	3.8411	1.0557	A-	A-	A-
ELA	6	574577		5 B-C	3	13410	0.9122	0.3392	0.4069	0.2526		0.0013	0.3263	-0.2502	-0.0203	0.2987		-0.0393	1.1745	0.0206	9.9012	1.2306	9.9013	1.2821	A-	A+	A-
ELA	6	574580		5 B-C	3	13410	1.9122	0.1679	0.1726	0.237	0.4218	0.0006	0.5602	-0.2229	-0.411	-0.1577	0.62	-0.0179	0.4287	0.0269	8.6011	1.1039	6.9811	1.1113	A-	A-	A-
ELA	6	579169		6 A-C	3	13409	1.1888	0.3033	0.2029	0.493		0.0008	0.4552	-0.3267	-0.2357	0.4921		-0.0353	0.5909	0.0221	9.9011	1.1233	9.9013	1.2792	A+	A+	A+
ELA	6	579180		6 A-K	3	13409	2.2343	0.0744	0.1124	0.3158	0.4968	0.0006	0.5278	-0.187	-0.3885	-0.1994	0.5306	-0.0346	-0.107	0.0366	-0.319	0.9959	4.8211	1.0779	A+	A-	A-

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	6	580793	7	A-K	3	13381	0.876	0.3304	0.4614	0.2073		0.0009	0.3878	-0.3997	0.1947	0.2262		-0.0254	1.2851	0.0205	9.9011	1.1144	9.9011	1.1243	A-	A+	A+
ELA	6	579194	7	A-V	3	13381	1.9701	0.1055	0.2064	0.2989	0.3886	0.0005	0.5441	-0.2695	-0.3396	-0.0519	0.502	-0.0284	0.2627	0.0313	3.611	1.0421	5.1011	1.0701	A-	A-	A-
ELA	6	579321	8	A-K	3	13360	0.9975	0.3068	0.3868	0.3053		0.001	0.5073	-0.3837	-0.0868	0.4772		-0.0168	0.9811	0.0213	-0.819	0.9916	0.861	1.0097	A+	A-	A-
ELA	6	581448	8	A-K	3	13360	1.9817	0.0863	0.2416	0.2739	0.3975	0.0007	0.6379	-0.2663	-0.4621	-0.0254	0.5818	-0.0293	0.1738	0.0337	-9.8991	0.8632	-9.8992	0.8257	A+	A-	A-
ELA	6	579182	9	A-K	3	13411	2.0483	0.0797	0.1807	0.3494	0.3896	0.0006	0.5465	-0.2607	-0.3392	-0.0864	0.4977	-0.0176	0.1093	0.0352	-1.499	0.9824	2.311	1.0304	A+	A-	A-
ELA	6	579185	9	A-K	3	13411	1.7067	0.0824	0.1278	0.7894		0.0004	0.4602	-0.3203	-0.3111	0.472		-0.0261	-0.673	0.0348	-8.7191	0.863	-2.6091	0.9197	A+	A+	A+
ELA	7	497093	0	A-C	3	118588	1.8475	0.0628	0.2893	0.3833	0.2638	0.0007	0.5617	-0.3206	-0.3397	0.0962	0.422	-0.0328	0.1665	0.0123	9.9011	1.0514	9.9011	1.0609	A+	A+	A-
ELA	7	495927	0	A-K	3	118588	0.6763	0.522	0.2747	0.2008		0.0026	0.4721	-0.3509	-0.0338	0.483		-0.0617	1.5249	0.0064	9.9011	1.0661	9.9012	1.2443	A-	A+	A+
ELA	7	497098	0	A-K	3	118588	1.0209	0.2689	0.4397	0.2906		0.0008	0.317	-0.2229	-0.0755	0.3025		-0.0353	0.7896	0.0071	9.9013	1.3407	9.9014	1.3845	A+	A+	A+
ELA	7	495109	0	B-C	3	118588	0.7698	0.5292	0.1701	0.2998		0.0009	0.3667	-0.2461	-0.2013	0.4353		-0.0329	1.2677	0.0066	9.9014	1.352	9.9018	1.7779	A-	A+	A+
ELA	7	406555	0	B-K	3	118588	1.5492	0.0846	0.3664	0.4597	0.0878	0.0015	0.5079	-0.384	-0.2356	0.3262	0.2123	-0.0595	0.8029	0.0107	9.9011	1.0633	9.9011	1.0601	A+	A-	A-
ELA	7	495111	0	B-K	3	118588	1.9315	0.0577	0.2372	0.4172	0.2867	0.0013	0.4884	-0.354	-0.2731	0.1206	0.3107	-0.0366	0.0612	0.0127	9.9011	1.1366	9.9012	1.1737	A-	A-	A-
ELA	7	578081	1	A-K	3	13287	1.4835	0.1357	0.2441	0.6197		0.0005	0.5519	-0.4027	-0.2861	0.5373		-0.0028	-0.1838	0.0241	-9.8992	0.8414	-9.8992	0.7952	A+	A+	A-
ELA	7	578101	1	A-K	3	13287	1.8577	0.066	0.2853	0.3694	0.2779	0.0014	0.5	-0.2913	-0.2854	0.0554	0.3915	-0.0245	0.1713	0.0316	2.541	1.0253	4.191	1.043	A-	A-	A-
ELA	7	578077	2	A-K	3	13114	1.2535	0.1941	0.3548	0.4494		0.0018	0.5044	-0.356	-0.2078	0.4863		-0.0406	0.2391	0.0229	-2.449	0.9762	-2.729	0.9684	A+	A+	A+
ELA	7	579770	2	A-K	3	13114	1.5716	0.1652	0.3251	0.2803	0.2286	0.0007	0.482	-0.182	-0.357	0.1079	0.4448	-0.0184	0.7221	0.0241	9.9011	1.1449	9.9012	1.1668	A-	A-	A-
ELA	7	576291	3	A-K	3	13219	1.5301	0.1167	0.235	0.6476		0.0007	0.5994	-0.3957	-0.381	0.6055		-0.0246	-0.3849	0.0278	-9.8992	0.7832	-9.8993	0.7016	A+	A+	A+
ELA	7	578918	3	A-K	3	13219	1.5866	0.1063	0.2929	0.5058	0.094	0.001	0.5312	-0.3319	-0.3231	0.3533	0.2518	-0.0247	0.8281	0.0285	-4.129	0.9554	-4.9591	0.9452	A-	A-	A-
ELA	7	574366	4	A-K	3	13186	1.8322	0.1294	0.226	0.3217	0.3209	0.002	0.4951	-0.2578	-0.3031	0.0202	0.4382	-0.017	0.3802	0.0291	6.8711	1.0787	7.8811	1.0989	A+	A-	A-
ELA	7	577667	4	A-K	3	13186	1.285	0.2093	0.295	0.495		0.0007	0.4498	-0.3342	-0.1788	0.4368		-0.0338	0.2563	0.0241	3.521	1.0377	2.231	1.0299	A+	A-	A-
ELA	7	580606	5	A-K	3	13183	2.0048	0.0888	0.2096	0.3034	0.3961	0.002	0.5935	-0.312	-0.3401	-0.0842	0.5453	-0.0182	0.0476	0.0337	-5.6091	0.9358	-5.7191	0.9251	A+	A-	A-
ELA	7	580608	5	A-K	3	13183	1.1691	0.1711	0.4876	0.3407		0.0006	0.4836	-0.3829	-0.0961	0.4056		0.0008	0.3776	0.0253	-4.439	0.9539	-3.789	0.9597	A+	A-	A-
ELA	7	579273	6	B-C	3	13101	1.7411	0.0843	0.2633	0.4783	0.1737	0.0003	0.478	-0.3028	-0.258	0.1568	0.3161	-0.0189	0.4794	0.034	1.341	1.0157	1.041	1.0122	A+	A-	A-
ELA	7	579274	6	B-K	3	13101	1.1093	0.3566	0.173	0.4681		0.0022	0.3947	-0.2792	-0.2311	0.4447		-0.0155	0.6656	0.0215	9.9012	1.1951	9.9013	1.348	A-	A-	A-
ELA	7	566578	7	B-C	3	13191	1.9629	0.0914	0.1775	0.4065	0.3242	0.0005	0.5913	-0.3293	-0.404	0.0896	0.4395	-0.0206	0.1429	0.0338	-8.8891	0.8982	-8.9291	0.8926	A+	A-	A-
ELA	7	566575	7	B-K	3	13191	1.2571	0.2203	0.3016	0.4777		0.0004	0.4279	-0.3628	-0.0856	0.3799		-0.0063	0.2902	0.024	9.9011	1.111	9.9011	1.1434	A-	A-	A-
ELA	7	574336	8	B-C	3	13184	0.9416	0.3804	0.2964	0.3226		0.0006	0.3027	-0.222	-0.0803	0.3102		-0.0214	0.9774	0.0207	9.9013	1.3272	9.9015	1.4506	A+	A-	A-
ELA	7	574340	8	B-K	3	13184	2.1921	0.0487	0.1715	0.3177	0.4618	0.0004	0.642	-0.2926	-0.4224	-0.1338	0.5719	-0.0322	-0.3158	0.0435	-9.8992	0.7839	-9.8992	0.7538	A+	A-	A+
ELA	7	574327	9	B-C	3	13123	1.765	0.1024	0.3007	0.3227	0.273	0.0012	0.5227	-0.3313	-0.2476	0.0562	0.4234	-0.0261	0.3735	0.0313	0.741	1.0081	3.521	1.041	A-	A-	A-
ELA	7	574328	9	B-K	3	13123	1.3652	0.2102	0.2128	0.5762		0.0008	0.5699	-0.4537	-0.2195	0.5572		-0.021	0.1175	0.0246	-9.8991	0.8724	-9.8992	0.821	A-	A-	A-
ELA	8	497106	0	A-C	3	116461	1.258	0.2077	0.324	0.467		0.0013	0.5334	-0.4128	-0.1675	0.4959		-0.0433	0.0744	0.008	9.9011	1.0998	9.9012	1.1934	A-	A-	A+
ELA	8	411881	0	A-K	3	116461	1.4292	0.2017	0.1648	0.6322		0.0013	0.6151	-0.4934	-0.2591	0.6143		-0.0587	-0.2316	0.0084	-0.489	0.998	0.141	1.001	A+	A+	A+
ELA	8	497109	0	A-K	3	116461	1.9914	0.0658	0.2728	0.2633	0.3974	0.0008	0.7065	-0.3351	-0.467	-0.0352	0.6285	-0.0338	-0.2522	0.0125	-9.8991	0.8797	-9.8991	0.8598	A+	A+	A+
ELA	8	400777	0	B-C	3	116461	2.0288	0.0849	0.3056	0.1034	0.5055	0.0006	0.5628	-0.3258	-0.3068	-0.1498	0.5578	-0.0453	-0.2579	0.0112	9.9013	1.3261	9.9017	1.7257	A+	A-	A+
ELA	8	494402	0	B-K	3	116461	2.1696	0.1097	0.1504	0.1954	0.5428	0.0017	0.7123	-0.3827	-0.4589	-0.1408	0.6866	-0.0624	-0.3021	0.0106	-9.8991	0.9322	-9.8991	0.9019	A+	A-	A-
ELA	8	400782	0	B-V	3	116461	1.0297	0.345	0.2789	0.3754		0.0007	0.4023	-0.2722	-0.1792	0.4356		-0.0421	0.6154	0.0071	9.9014	1.4219	9.9016	1.5877	A-	A+	A-
ELA	8	578041	1	B-C	3	12993	1.5498	0.1532	0.4176	0.1543	0.2745	0.0004	0.4193	-0.2892	-0.0878	-0.1117	0.4217	-0.0189	0.4197	0.0236	9.9013	1.3428	9.9014	1.4423	A+	A-	A-
ELA	8	579960	1	B-K	3	12993	0.9068	0.4475	0.1961	0.3553		0.0011	0.4152	-0.3081	-0.1543	0.4508		-0.0399	0.8241	0.019	9.9013	1.2502	9.9014	1.4277	A-	A-	A-
ELA	8	577916	2	B-C	3	12940	1.9413	0.097	0.288	0.1903	0.4243	0.0005	0.6461	-0.308	-0.3883	-0.127	0.6426	-0.0339	-0.0939	0.0303	-4.469	0.9522	-5.4791	0.9197	A-	A+	A-
ELA	8	577936	2	B-K	3	12940	1.1451	0.2612	0.3307	0.4072		0.0009	0.4613	-0.3348	-0.1604	0.4548		-0.0289	0.3299	0.0215	9.9012	1.1508	9.9012	1.2327	A-	A+	A+
ELA	8	578089	3	B-C	2	12942	0.7346	0.5014	0.26	0.2373		0.0013	0.2091	-0.1158	-0.1211	0.2635		-0.0306	1.2648	0.019	9.9015	1.5246	9.9018	1.8489	A-	A-	A-
ELA	8	578053	3	B-K	3	12942	1.6063	0.1115	0.3877	0.2826	0.2178	0.0004	0.4879	-0.2438	-0.2386	0.004	0.4644	-0.0239	0.415	0.028	7.7811	1.0824	7.9911	1.0902	A+	A-	A-
ELA	8	578079	4	B-C	3	12925	1.1174	0.259	0.3633	0.377		0.0006	0.4763	-0.3566	-0.1298	0.4523		-0.0215	0.4044	0.0231	7.5311	1.0818	7.2711	1.0935	A-	A+	A+
ELA	8	578057	4	B-K	3	12925	1.9857	0.0642	0.2477	0.325	0.3627	0.0005	0.6236	-0.3235	-0.4339	0.0682	0.4886	-0.011	-0.228	0.0388	-8.0191	0.9096	-5.5391	0.9291	A-	A-	A-
ELA	8	576298	5	B-C	2	12868	1.1851	0.3051	0.2041	0.4905		0.0003	0.3118	-0.1981	-0.2223	0.3618		-0.0011	0.3045	0.023	9.9015	1.4538	9.9018	1.7751	A+	A+	A+
ELA	8	576300	5	B-K	3	12868	2.1085	0.1097	0.1519	0.2575	0.4805	0.0004	0.5055	-0.1987	-0.3886	-0.1226	0.512	-0.0303	-0.2111	0.0326	9.9012	1.1956	9.9014	1.4442	A+	A-	A-
ELA	8	576305	6	A-C	3	12947	1.5459	0.1889	0.3324	0.2217	0.2567	0.0003	0.4394	-0.1722	-0.2792	-0.0072	0.4628	-0.0173	0.5637	0.0257	9.9013	1.3209	9.9014	1.3759	A-	A-	A-
ELA	8	576308	6	A-K	3	12947	0.7883	0.4785	0.2524	0.2679		0.0012	0.4329	-0.3356	-0.059	0.4386		-0.029	1.1476	0.0209	9.7211	1.1089	9.9013	1.3094	A-	A-	A-
ELA	8	578070	7	A-K	3	12969	1.8886	0.1738	0.1629	0.2593	0.4023	0.0016	0.5124	-0.2381	-0.3675	-0.066	0.5217	-0.0243	0.136	0.028	9.9013	1.2968	9.9015	1.4758	A+	A+	A+
ELA	8	579785	7	A-V	3	12969	1.125	0.3276	0.2187	0.4532		0.0005	0.4767	-0.3628	-0.1815	0.4943		-0.034	0.4142	0.0226	9.9012	1.1663	9.9012	1.224	A-	A+	A+
ELA	8	580553	8	A-K	3	12951	1.7979	0.1644	0.2117	0.2822	0.3406	0.0011	0.4987	-0.271	-0.2999	0.0183	0.4545	-0.0207	0.2645	0.0279	9.9013	1.287	9.9014	1.3522	A+	A-	A-
ELA	8	580555	8	A-K	3	12951	1.1924	0.2832	0.2388	0.4768		0.0012	0.4898	-0.297	-0.3441	0.5642		-0.0361	0.2986	0.0233	9.9011	1.1446	9.9012	1.1718	A+	A-	A-
ELA	8	580564	9	A-K	3	12926	1.7171	0.0925	0.3299	0.343	0.2337	0.0009	0.4954	-0.2917	-0.2934	0.1534	0.3552	-0.0231	0.229	0.0333	9.9012	1.1626	9.9012	1.1969	A+	A-	A-
ELA	8	580565	9	A-K	3	12926	1.4404	0.2193	0.1194	0.6605		0.0008	0.5479	-0.4159	-0.3316	0.5929		-0.0418	-0.2228	0.0262	3.401	1.0458	-0.779	0.9777	A+	A+	A+

Evidence-Based Selected Response Computer-Based Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PubID	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
Mean	Mean Score
Proportion0	Proportion 0 Points
Proportion1	Proportion 1 Point
Proportion2	Proportion 2 Points
Proportion3	Proportion 3 Points
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
Correlation0	Correlation 0 Points
Correlation1	Correlation 1 Point
Correlation2	Correlation 2 Points
Correlation3	Correlation 3 Points
CorrelationINV	Correlation Invalid Responses

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	CorrelationINV
ELA	3	400684	0	A-C	3	4078	1.1229	0.256	0.3632	0.3798		0.001	0.5083	-0.3394	-0.2113	0.5176		-0.0465
ELA	3	478863	0	A-K	3	4078	1.6415	0.115	0.3136	0.3825	0.1876	0.0012	0.6693	-0.4096	-0.3465	0.2203	0.4775	-0.0572
ELA	3	495035	0	B-C	3	4078	1.1528	0.2455	0.3548	0.399		0.0007	0.6051	-0.4264	-0.2263	0.5977		-0.0345
ELA	3	271992	0	B-K	3	4078	1.669	0.1572	0.2815	0.2928	0.2673	0.0012	0.512	-0.2071	-0.3409	0.0189	0.502	-0.0579
ELA	3	579126	1	B-K	3	1829	1.7731	0.1143	0.281	0.322	0.2827		0.5882	-0.2582	-0.3841	0.0271	0.5377	
ELA	3	579128	1	B-K	3	1829	1.1263	0.3007	0.2723	0.427			0.5096	-0.2972	-0.3534	0.5936		
ELA	3	576348	2	B-K	3	1120	1.5196	0.125	0.2304	0.6446			0.5387	-0.379	-0.3089	0.5336		
ELA	3	576351	2	B-K	3	1120	1.5036	0.1304	0.3464	0.4125	0.1107		0.3484	-0.1852	-0.2356	0.2298	0.1955	
ELA	3	574370	3	B-K	3	1129	0.6094	0.5527	0.2852	0.1621			0.2273	-0.1498	-0.0475	0.2603		
ELA	3	574389	3	B-K	3	1129	1.4553	0.1196	0.4234	0.3392	0.1178		0.3873	-0.1991	-0.2149	0.1623	0.2913	
ELA	4	494337	0	A-C	3	4632	2.095	0.0695	0.1613	0.3726	0.3962	0.0004	0.6824	-0.3704	-0.4786	0.0334	0.5211	-0.0401
ELA	4	494340	0	A-K	3	4632	1.3856	0.1952	0.2232	0.5812		0.0004	0.6916	-0.5187	-0.3255	0.6928		-0.0353
ELA	4	495068	0	A-K	3	4632	1.2677	0.2284	0.2729	0.4974		0.0013	0.6359	-0.4774	-0.2482	0.6254		-0.0484
ELA	4	339688	0	B-C	3	4632	1.5263	0.2209	0.2787	0.2498	0.2494	0.0013	0.5663	-0.276	-0.3684	0.137	0.5123	-0.035
ELA	4	495050	0	B-K	3	4632	1.0207	0.3797	0.2168	0.402		0.0015	0.4125	-0.2202	-0.3555	0.5216		-0.0609
ELA	4	495051	0	B-K	3	4632	1.7316	0.1004	0.2766	0.4089	0.2124	0.0017	0.6081	-0.3467	-0.36	0.1821	0.4356	-0.0586
ELA	4	579105	1	A-K	3	2172	1.599	0.1386	0.3117	0.3619	0.1878		0.5455	-0.2572	-0.3446	0.1463	0.4562	
ELA	4	579117	1	A-K	3	2172	1.2173	0.2081	0.3665	0.4254			0.6376	-0.4752	-0.2124	0.5972		
ELA	4	580549	2	A-K	3	1221	1.5807	0.1384	0.1409	0.7199		0.0008	0.534	-0.3661	-0.3819	0.5775		-0.0014
ELA	4	580638	2	A-K	3	1221	1.9984	0.0622	0.1859	0.4431	0.3088		0.5578	-0.282	-0.3734	0.0279	0.4319	
ELA	4	579415	3	A-K	3	1239	2.3842	0.0282	0.0815	0.3656	0.5238	0.0008	0.4175	-0.159	-0.3271	-0.1172	0.3462	-0.0216
ELA	4	581308	3	A-K	3	1239	1.2986	0.205	0.2881	0.5052		0.0016	0.4426	-0.3073	-0.2161	0.4472		-0.041
ELA	5	493346	0	A-K	3	6935	1.4143	0.1821	0.2206	0.5968		0.0004	0.5249	-0.322	-0.3852	0.58		-0.0226
ELA	5	493350	0	A-K	3	6935	1.3132	0.2225	0.3299	0.359	0.0884	0.0001	0.562	-0.3135	-0.3251	0.3815	0.3535	-0.0102
ELA	5	495886	0	A-K	3	6935	1.7877	0.096	0.2861	0.3511	0.2665	0.0003	0.6153	-0.2908	-0.3968	0.0738	0.5204	-0.0196
ELA	5	341020	0	B-C	3	6935	0.7527	0.5057	0.2339	0.2594		0.001	0.5096	-0.3725	-0.1275	0.5496		-0.022
ELA	5	341094	0	B-K	3	6935	1.3032	0.2199	0.3915	0.251	0.1366	0.001	0.6238	-0.3721	-0.2512	0.2488	0.4924	-0.0072
ELA	5	409607	0	B-K	3	6935	1.0813	0.2453	0.427	0.3272		0.0006	0.5646	-0.3997	-0.16	0.5372		-0.0394
ELA	5	566398	1	A-C	3	3097	1.5034	0.1385	0.3729	0.3313	0.156	0.0013	0.5083	-0.2544	-0.31	0.2079	0.3863	-0.0064
ELA	5	566390	1	A-K	3	3097	1.0429	0.2951	0.3649	0.339		0.001	0.5116	-0.3443	-0.1882	0.5257		-0.0398
ELA	5	576323	2	A-K	3	1928	1.4263	0.235	0.1027	0.6618		0.0005	0.5014	-0.3962	-0.2811	0.5385		-0.0615
ELA	5	576325	2	A-K	3	1928	1.277	0.2381	0.39	0.2287	0.1432		0.2819	-0.0657	-0.197	-0.0012	0.3557	
ELA	5	579328	3	A-K	3	1910	1.4565	0.1853	0.1728	0.6419			0.5685	-0.4424	-0.2736	0.5742		
ELA	5	579336	3	A-K	3	1910	2.1916	0.0791	0.1162	0.3387	0.466		0.5678	-0.3324	-0.3522	-0.068	0.4706	
ELA	6	416084	0	A-C	3	7263	1.7403	0.1691	0.2456	0.2612	0.3241		0.6153	-0.2757	-0.3939	-0.0429	0.6234	
ELA	6	416078	0	A-K	3	7263	0.8692	0.4522	0.2259	0.3216		0.0003	0.4319	-0.3121	-0.1541	0.4712		-0.0195
ELA	6	499921	0	A-K	3	7263	1.9928	0.0796	0.2085	0.3511	0.3607	0.0001	0.653	-0.3448	-0.3875	-0.0421	0.5643	-0.0167
ELA	6	404580	0	B-C	3	7263	0.809	0.4797	0.2291	0.29		0.0012	0.4741	-0.2873	-0.2799	0.5773		-0.0223
ELA	6	404583	0	B-K	3	7263	1.461	0.2313	0.313	0.2188	0.2368	0.0001	0.5445	-0.2818	-0.2724	0.0413	0.537	-0.0215
ELA	6	497118	0	B-K	3	7263	1.1952	0.2922	0.2185	0.4884		0.001	0.4402	-0.2762	-0.3043	0.5055		-0.0425
ELA	6	579311	1	B-C	3	3304	1.6129	0.1577	0.3229	0.2673	0.2518	0.0003	0.6363	-0.3229	-0.3633	0.0907	0.5711	-0.027
ELA	6	579312	1	B-C	3	3304	0.9688	0.3142	0.4016	0.2836		0.0006	0.5266	-0.4117	-0.0468	0.477		-0.0369
ELA	6	583786	2	B-C	3	1972	1.9746	0.108	0.1968	0.3063	0.3884	0.0005	0.5723	-0.2814	-0.3807	-0.0294	0.5171	0.0115
ELA	6	580600	2	B-K	3	1972	0.8955	0.4376	0.2292	0.3332			0.262	-0.0964	-0.3157	0.383		
ELA	6	578625	3	B-C	3	1987	0.9909	0.2657	0.4766	0.2572		0.0005	0.3334	-0.1974	-0.1324	0.3516		-0.0147
ELA	6	578626	3	B-K	3	1987	1.4353	0.1218	0.4147	0.3699	0.0936		0.5243	-0.307	-0.2829	0.308	0.3127	
ELA	7	497093	0	A-C	3	7865	1.6701	0.0931	0.3456	0.3592	0.202	0.0001	0.5532	-0.3294	-0.3027	0.1611	0.4049	-0.0199
ELA	7	495927	0	A-K	3	7865	0.5769	0.5783	0.2654	0.1558		0.0006	0.4457	-0.3302	-0.0114	0.465		-0.0213
ELA	7	497098	0	A-K	3	7865	1	0.2854	0.4276	0.2862		0.0008	0.2815	-0.2151	-0.0343	0.2544		-0.0323
ELA	7	495109	0	B-C	3	7865	0.7622	0.5186	0.2003	0.281		0.0001	0.3731	-0.241	-0.2016	0.4475		-0.0069
ELA	7	406555	0	B-K	3	7865	1.4355	0.1111	0.4134	0.4041	0.0713	0.0001	0.4981	-0.3676	-0.2141	0.3438	0.2037	-0.0199
ELA	7	495111	0	B-K	3	7865	1.8125	0.0716	0.2838	0.4045	0.2399	0.0003	0.5024	-0.3609	-0.2652	0.1554	0.3198	-0.0116
ELA	7	578081	1	A-K	3	3433	1.2179	0.2292	0.3236	0.4471			0.5938	-0.4205	-0.2509	0.5916		

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	CorrelationINV
ELA	7	578101	1	A-K	3	3433	1.6318	0.1054	0.3452	0.3615	0.1879		0.5242	-0.2905	-0.2928	0.149	0.4015	
ELA	7	578077	2	A-K	3	2192	1.2933	0.1656	0.3755	0.4589			0.4528	-0.2751	-0.2637	0.4615		
ELA	7	579770	2	A-K	3	2192	1.4279	0.1916	0.3695	0.2582	0.1807		0.4099	-0.1197	-0.3016	0.0564	0.4366	
ELA	7	576291	3	A-K	3	2240	1.5013	0.1237	0.2513	0.625			0.5544	-0.3698	-0.3399	0.556		
ELA	7	578918	3	A-K	3	2240	1.5241	0.1143	0.3313	0.4705	0.0839		0.4985	-0.2965	-0.3049	0.3393	0.247	
ELA	8	497106	0	A-C	3	7625	1.2425	0.2035	0.3491	0.4467		0.0007	0.5695	-0.427	-0.1949	0.5341		-0.0284
ELA	8	411881	0	A-K	3	7625	1.2661	0.265	0.2033	0.5314		0.0003	0.6201	-0.4759	-0.2659	0.6366		-0.0375
ELA	8	497109	0	A-K	3	7625	1.7587	0.1009	0.3311	0.2753	0.2923	0.0004	0.6876	-0.3461	-0.4121	0.0552	0.6024	-0.0243
ELA	8	400777	0	B-C	3	7625	1.8243	0.117	0.3473	0.1294	0.406	0.0003	0.5409	-0.3127	-0.2475	-0.1535	0.5507	-0.0329
ELA	8	494402	0	B-K	3	7625	1.9447	0.1599	0.1858	0.2017	0.4518	0.0008	0.7017	-0.3771	-0.4481	-0.0684	0.6847	-0.0285
ELA	8	400782	0	B-V	3	7625	0.947	0.3752	0.3012	0.3229		0.0007	0.3963	-0.265	-0.1575	0.4308		-0.0338
ELA	8	578041	1	B-C	3	3310	1.3964	0.2118	0.3937	0.1801	0.2142	0.0003	0.4295	-0.2174	-0.1452	-0.1035	0.4869	-0.012
ELA	8	579960	1	B-K	3	3310	0.7713	0.5045	0.2184	0.2764		0.0006	0.4295	-0.2984	-0.1625	0.4852		-0.026
ELA	8	577916	2	B-C	3	2133	1.7918	0.1064	0.3469	0.195	0.3516		0.6152	-0.283	-0.3812	-0.0376	0.594	
ELA	8	577936	2	B-K	3	2133	1.1392	0.2569	0.3469	0.3962			0.4252	-0.3166	-0.1299	0.4093		
ELA	8	578089	3	B-C	2	2182	0.7223	0.5137	0.2493	0.2365		0.0005	0.2054	-0.1219	-0.1069	0.2527		-0.0109
ELA	8	578053	3	B-K	3	2182	1.5678	0.1251	0.4051	0.2452	0.2241	0.0005	0.5452	-0.2682	-0.2979	0.0631	0.4971	0.0263

Open-Ended Paper/Pencil Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PubID	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
Mean	Mean Score
Proportion0	Proportion 0 Points
Proportion1	Proportion 1 Point
Proportion2	Proportion 2 Points
Proportion3	Proportion 3 Points
Proportion4	Proportion 4 Points
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
Correlation0	Correlation 0 Points
Correlation1	Correlation 1 Point
Correlation2	Correlation 2 Points
Correlation3	Correlation 3 Points
Correlation4	Correlation 4 Points
CorrelationINV	Correlation Invalid Responses
FinalB	IRT Difficulty Estimate
FinalBErr	IRT Difficulty Error
Infit	Infit Standardized
InfitMnSq	Infit Mean Square
Outfit	Outfit Standardized
OutfitMnSq	Outfit Mean Square
BiasCodeMALEFEMALE	Male/Female DIF Code
BiasCodeWHITEBLACK	White/Black DIF Code
BiasCodeWHITEHISPANIC	White/Hispanic DIF Code

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	Proportion4	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	Correlation4	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	3	406610	0	A-K	3	116915	1.2468	0.1514	0.4524	0.2789	0.0789		0.0384	0.5827	-0.3101	-0.1611	0.3505	0.3232		-0.2757	1.2244	0.0082	9.9011	1.0567	9.901	1.0438	A+	A-	A+
ELA	3	278411	0	B-C	3	116915	1.4237	0.1131	0.3818	0.3733	0.0984		0.0333	0.6368	-0.3798	-0.228	0.3481	0.3576		-0.2443	0.9355	0.009	-9.899	0.962	-9.899	0.9609	A+	A-	A+
ELA	3	581043	1	B-K	3	1091	1.4363	0.2035	0.3034	0.286	0.187		0.0202	0.5941	-0.3806	-0.1609	0.1764	0.4516		-0.2035	0.8321	0.0814	0.031	1.0005	-0.029	0.9981	A+	A-	NA
ELA	3	579253	2	B-C	3	1086	1.1262	0.1722	0.5028	0.2551	0.0378		0.0322	0.5325	-0.3488	-0.0292	0.3429	0.2208		-0.2564	1.5552	0.0826	-1.009	0.959	-1.189	0.9523	A+	A-	NA
ELA	3	577917	3	B-C	3	1092	1.4029	0.0595	0.478	0.38	0.0549		0.0275	0.604	-0.2579	-0.3311	0.4165	0.2904		-0.2562	0.9633	0.1129	-3.8292	0.8498	-3.7891	0.8513	A+	A+	NA
ELA	3	582357	4	B-C	3	1087	1.345	0.0966	0.4085	0.3634	0.0699		0.0616	0.638	-0.2957	-0.2136	0.4069	0.3145		-0.3474	1.1301	0.0919	-3.8391	0.8547	-3.7491	0.8582	A+	A-	NA
ELA	3	581149	5	B-C	3	1090	1.3771	0.1147	0.3917	0.3826	0.0734		0.0376	0.5799	-0.358	-0.1642	0.3555	0.2748		-0.264	1.0765	0.093	-1.6891	0.934	-1.6691	0.9349	A+	A-	NA
ELA	3	579061	6	A-K	3	1090	1.2284	0.189	0.3908	0.3018	0.078		0.0404	0.6125	-0.4087	-0.0747	0.3863	0.2815		-0.2865	1.3294	0.0823	-2.0791	0.9196	-2.3991	0.9069	A+	A+	NA
ELA	3	580041	7	A-K	3	1085	1.3355	0.1512	0.3917	0.3475	0.0829		0.0267	0.5853	-0.3959	-0.1146	0.3409	0.2857		-0.2688	1.1386	0.0889	-1.4591	0.943	-1.6091	0.9375	A+	A+	NA
ELA	3	580001	8	A-K	3	1091	1.2759	0.1723	0.385	0.3272	0.0788		0.0367	0.578	-0.3412	-0.1465	0.3642	0.2949		-0.2675	1.2436	0.0829	-1.4491	0.9441	-1.5591	0.9398	A+	A-	NA
ELA	3	574411	9	A-K	3	1089	1.7392	0.0863	0.1956	0.3985	0.2489		0.0707	0.6622	-0.3353	-0.2629	0.1748	0.4602		-0.3359	0.4212	0.0952	-5.1292	0.8102	-4.2992	0.8303	B+	A-	NA
MATH	3	415943	0	A-F	2	116892	1.4777	0.2381	0.2928	0.1966	0.1386	0.094	0.04	0.757	-0.5694	-0.1861	0.2023	0.3891	0.4215	-0.0544	1.2853	0.0077	-9.8991	0.9241	-9.8991	0.8847	A+	A-	A-
MATH	3	499220	0	B-O	2	116892	1.8654	0.1993	0.2264	0.2041	0.2135	0.1476	0.0091	0.7938	-0.5558	-0.2967	0.0917	0.3712	0.474	-0.1154	0.8248	0.0085	-9.8991	0.8641	-9.8991	0.855	A-	A-	A-
MATH	3	330058	0	D-M	3	116892	1.8188	0.1553	0.2649	0.2806	0.1718	0.1193	0.0081	0.7555	-0.4986	-0.3162	0.1267	0.346	0.4396	-0.1097	0.8648	0.0091	-9.8991	0.9362	-9.8991	0.9252	A+	A+	A+
MATH	3	480651	1	D-M	2	1088	1.1737	0.2693	0.386	0.1967	0.0947	0.0276	0.0257	0.6725	-0.5994	0.0069	0.3292	0.3477	0.2002	-0.0185	2.0009	0.0775	-1.7391	0.9253	-2.8691	0.8784	A-	A-	NA
MATH	3	565734	3	A-T	2	1088	2.1756	0.0864	0.1682	0.2638	0.296	0.148	0.0377	0.6967	-0.4148	-0.3452	-0.1205	0.3685	0.4155	-0.0892	0.5117	0.1064	-1.7891	0.9278	-1.4391	0.9404	B+	B-	NA
MATH	3	565864	4	D-M	3	1089	1.775	0.0597	0.3177	0.3636	0.2103	0.0248	0.0239	0.5994	-0.3443	-0.39	0.1883	0.3981	0.1379	-0.0726	1.2003	0.1194	0.001	0.9994	-0.109	0.9951	A+	A-	NA
MATH	3	565731	5	D-M	2	1085	2.8664	0.0212	0.0562	0.1309	0.4931	0.2673	0.0313	0.5422	-0.2323	-0.2984	-0.236	-0.0414	0.4819	-0.0617	-0.2739	0.1552	1.7511	1.0876	4.8913	1.2607	A+	A-	NA
MATH	3	503236	6	C-G	2	1093	1.5773	0.2653	0.2068	0.204	0.2232	0.0732	0.0274	0.7292	-0.5591	-0.1737	0.0859	0.4755	0.3476	-0.0365	1.298	0.083	-2.0291	0.9158	-2.3891	0.8892	A+	A-	NA
MATH	3	581706	7	D-M	3	1092	0.935	0.3745	0.3498	0.1557	0.0705	0.0156	0.0339	0.6103	-0.5013	0.0646	0.3292	0.3229	0.1762	-0.0665	2.3354	0.0735	-1.5091	0.9318	-1.2891	0.9378	A+	NA	NA
MATH	3	565863	8	A-T	2	1087	2.4388	0.0432	0.1224	0.2245	0.4655	0.1178	0.0267	0.6018	-0.3204	-0.3862	-0.1817	0.3328	0.3292	-0.0282	0.2627	0.1345	0.421	1.018	2.6711	1.1274	A+	NA	NA
MATH	3	580667	9	D-M	3	1086	1.2983	0.1556	0.4807	0.2247	0.0773	0.0341	0.0276	0.6793	-0.5003	-0.1766	0.3129	0.3641	0.2648	-0.0384	1.7311	0.0876	-4.0792	0.8259	-4.9892	0.7934	A-	NA	NA
MATH	4	302230	0	A-T	3	119066	1.3189	0.2867	0.282	0.2794	0.0705	0.0667	0.0148	0.7552	-0.5788	-0.0756	0.288	0.327	0.4064	-0.154	0.9834	0.0074	-9.8991	0.9102	-9.8991	0.8739	A-	A-	A-
MATH	4	499221	0	B-O	2	119066	1.322	0.2111	0.3288	0.2204	0.1373	0.0351	0.0672	0.7501	-0.5215	-0.1551	0.2752	0.449	0.3032	-0.1547	1.1382	0.0074	-9.8991	0.9083	-9.8991	0.8774	A+	A+	A-
MATH	4	392313	0	C-G	2	119066	1.8075	0.1467	0.2755	0.2435	0.199	0.112	0.0233	0.7321	-0.4044	-0.3159	0.0489	0.3741	0.4495	-0.1849	0.3276	0.0087	4.151	1.016	0.831	1.0032	A+	A-	A-
MATH	4	392317	1	A-F	2	1092	1.3773	0.2692	0.2619	0.206	0.1685	0.0495	0.0449	0.7516	-0.5681	-0.0842	0.2161	0.4464	0.3235	-0.172	1.0074	0.0772	-5.0992	0.8006	-5.3892	0.7662	A+	A-	NA
MATH	4	569467	2	A-F	2	1094	0.6664	0.4378	0.4141	0.0786	0.0256	0.0046	0.0393	0.6022	-0.5135	0.3347	0.2753	0.2345	0.1394	-0.1576	2.4105	0.0697	-2.7991	0.8674	-3.6992	0.8326	A+	A-	NA
MATH	4	566929	3	A-F	3	1089	1.4775	0.1258	0.3912	0.258	0.1827	0.0055	0.0367	0.6924	-0.4124	-0.3184	0.3001	0.4697	0.1057	-0.1514	1.3967	0.0911	-3.8291	0.8537	-4.1192	0.8391	A-	A-	NA
MATH	4	415945	4	D-M	2	1088	0.8208	0.3722	0.4403	0.0947	0.0404	0.0175	0.0349	0.4776	-0.224	-0.1025	0.331	0.2662	0.2364	-0.1154	1.8597	0.0711	0.941	1.0473	1.4711	1.0707	A+	A-	NA
MATH	4	575731	5	A-F	2	1088	1.2114	0.3309	0.261	0.1811	0.1324	0.0478	0.0469	0.7333	-0.5823	-0.0441	0.3014	0.3914	0.3276	-0.1195	1.1486	0.0758	-2.3591	0.8991	-3.4892	0.836	A+	A-	NA
MATH	4	496646	6	A-F	2	1087	1.1178	0.2732	0.3882	0.1757	0.1003	0.0193	0.0432	0.7083	-0.5605	0.0072	0.3361	0.3942	0.2042	-0.1383	1.515	0.076	-3.7492	0.8448	-4.7392	0.805	A+	A-	NA
MATH	4	566930	7	B-O	2	1092	1.2326	0.1712	0.5101	0.1658	0.0925	0.0284	0.0321	0.5828	-0.4213	-0.0588	0.226	0.3321	0.2074	-0.1511	1.2216	0.0839	3.0511	1.1451	2.4111	1.1128	A+	A-	NA
MATH	4	503235	8	D-M	2	1091	1.2346	0.2713	0.3841	0.1558	0.099	0.0605	0.0293	0.7052	-0.5295	-0.078	0.2759	0.3577	0.3504	-0.1011	1.0431	0.077	-3.4191	0.8532	-4.5492	0.8037	A-	NA	NA
MATH	4	581711	9	A-F	2	1091	1.4088	0.176	0.428	0.1137	0.2475	0.0027	0.0321	0.6419	-0.4582	-0.1769	0.1965	0.4936	0.085	-0.1012	1.6062	0.0834	-0.379	0.9839	-0.099	0.9944	A+	A+	NA
MATH	5	313526	0	A-F	3	121126	1.3583	0.2028	0.4694	0.0916	0.192	0.0324	0.0118	0.7375	-0.489	-0.1946	0.1936	0.4958	0.3107	-0.1148	1.2073	0.0076	-9.8991	0.9252	-9.8991	0.9175	A+	A-	A-
MATH	5	314912	0	A-T	2	121126	1.3625	0.2998	0.2367	0.1893	0.1453	0.0778	0.0511	0.7542	-0.5526	-0.1228	0.2126	0.3994	0.4143	-0.1346	1.0396	0.007	-9.899	0.958	-9.8991	0.9083	A+	A-	A-
MATH	5	410775	0	C-G	2	121126	1.3594	0.2611	0.3501	0.1833	0.1238	0.0678	0.0138	0.7926	-0.5633	-0.1592	0.2454	0.4147	0.4233	-0.1248	1.0509	0.0072	-9.8992	0.7959	-9.8992	0.7749	A+	A-	A-
MATH	5	565736	1	D-M	2	1091	1.0174	0.2832	0.4895	0.0559	0.1375	0.0009	0.033	0.665	-0.4744	-0.0087	0.2211	0.52	0.0572	-0.0756	2.5568	0.0716	-2.3291	0.896	-2.7791	0.8685	A+	A-	NA
MATH	5	494446	2	D-M	2	1088	1.2325	0.2748	0.3879	0.1471	0.0744	0.0818	0.034	0.674	-0.477	-0.1248	0.2764	0.3225	0.3819	-0.0741	1.1079	0.0743	-0.419	0.9799	-1.6991	0.9188	A+	NA	NA
MATH	5	501539	3	A-F	2	1092	1.228	0.2756	0.3233	0.2216	0.1245	0.022	0.033	0.6428	-0.4584	-0.1148	0.2842	0.3947	0.2099	-0.1154	1.5164	0.0754	-0.229	0.99	-1.099	0.9526	A+	A-	NA
MATH	5	503482	4	B-O	2	1090	1.4211	0.089	0.4083	0.3853	0.0734	0.0055	0.0385	0.5972	-0.319	-0.3646	0.4102	0.3001	0.1256	-0.0891	1.6215	0.098	-2.1791	0.9129	-2.1491	0.914	A+	A-	NA
MATH	5	480653	5	B-O	3	1091	0.7864	0.2777	0.5985	0.0623	0.0101	0.0082	0.0431	0.5461	-0.4112	0.2164	0.305	0.1685	0.1744	-0.1391	2.3443	0.0712	-1.8791	0.9038	-2.3291	0.8942	A+	NA	NA
MATH	5	574284	6	B-O	2	1090	1.1257	0.3376	0.3064	0.167	0.0945	0.0505	0.044	0.656	-0.4865	-0.0235	0.2772	0.3223	0.3286	-0.1397	1.3346	0.0731	-0.319	0.985	-1.2791	0.9381	A+	A-	NA
MATH	5	580669	7	B-O	2	1091	1.198	0.2282	0.428	0.1613	0.1027	0.0348	0.0449	0.6737	-0.3997	-0.1371	0.2413	0.4163	0.3054	-0.1715	1.4773	0.0768	-3.4891	0.8524	-3.4191	0.8549	B+	A-	NA
MATH	5	581708	8	B-O	3	1096	1.2372	0.0922	0.5931	0.1861	0.0639	0.0201	0.0447	0.6244	-0.307	-0.2993	0.3902	0.3089	0.2498	-0.1289	1.4651	0.0935	-1.5691	0.925	-2.1291	0.8977	A+	B-	NA
MATH	5	572794	9	B-O	2	1089	0.8641	0.2865	0.5381	0.1442	0.0101	0.0018	0.0193	0.5365	-0.394	0.0586	0.3898	0.1915	0.0843	-0.0784	2.7561	0.0727	-1.3391	0.945	-1.5191	0.9395	A-	A-	NA
MATH	6	480017	0	A-N	2	120984	2.1072	0.1953	0.1819	0.1891	0.1352	0.2853	0.0131	0.7848	-0.5328	-0.2796	-0.0356	0.2048	0.615	-0.1294	0.2304	0.0082	-9.8991	0.8624	-9.8991	0.9257	A-	A-	A-
MATH	6	313105	0	B-E	2	120984	0.9651	0.4575	0.2075	0.1068	0.088	0.07	0.0702	0.7374	-0.5385	0.0227	0.253	0.3579	0.4581	-0.146	1.6153	0.0069	-4.769	0.9777	-9.8991	0.8949	B-	A-	A-
MATH	6	313164	0	C-G	2	120984	1.3766	0.3289	0.2552	0.1717	0.1341	0.094	0.0162	0.7866	-0.5779	-0.1273	0.1883	0.3886	0.4789	-0.1278	1.1362	0.0071	-9.8991	0.8805	-9.8992	0.8427	A+	A-	A-
MATH	6	494646	1	A-R	3	1088	1.3934	0.2941	0.3125	0.0956	0.1875	0.0818	0.0285	0.6965	-0.4962	-0.1237	0.1581	0.3715	0.4111	-0.1244	1.2046	0.0751	-0.519	0.9764	-1.7091	0.9134	A-	A+	NA
MATH	6	480016	2	D-S	3	1090	1.3284	0.256	0.3257	0.2156	0.122	0.0514	0.0294	0.7449	-0.4715	-0.2091	0.2856	0.3948	0.3837	-0.1635	1.3604	0.0762	-5.4292	0.7883	-5.9292	0.7634	A+	B-	NA
MATH	6	577148	3	B-E	2	1093	0.7951	0.4026	0.3934	0.1272	0.021	0.021	0.0348	0.6982	-0.5176	0.1357	0.4495	0.244	0.2649	-0.1923	2.2168	0.0689	-4.9792	0.7796	-6.2793	0.7355	A+	NA	NA
MATH	6	577143	4	B-E	3	1090	0.4817	0.6477	0.2174	0.0679	0.0367	0.0046	0.0257	0.5602	-0.466	0.2512	0.2929	0.2991	0.1319	-0.1256	2.9785	0.0765	-0.839	0.9508	-0.489	0.9604	A+	A-	NA
MATH	6	580502	5	B-E	2	1092	0.8068	0.456	0.3104	0.1108	0.0733	0.0137	0.0357	0.6718	-0.5444	0.119	0.3404	0.3867	0.2032	-0.0817	2.3635	0.0713	-2.3991	0.8881	-3.8592	0.8036	A+	NA	NA
MATH	6	410900	6	B-E	2	1091	0.7094	0.4665	0.3052	0.1531	0.0302	0.0018	0.0431	0.6322	-0.499	0.1909	0.394	0.2885	0.0878	-0.1674	3.2213	0.0714	-1.1691	0.9485	-2.4391	0.8789	A+	NA	NA
MATH	6	566984	7	B-E	3	1087	1.1674	0.1463	0.598	0.1509	0.0598	0.0221	0.023	0.6285	-0.4641	-0.0674	0.3007	0.3037	0.2362	-0.1152	1.6449	0.087	-1.3091	0.9352	-1.6091	0.9207	A+	NA	NA
MATH	6	410927	8	B-E	3	1087	1.034	0.3349	0.4002	0.103	0.0837	0.0442	0.034	0.6684	-0.5062	0.0197	0.2665	0.3358	0.3437	-0.0849	1.6777	0.0722	-0.249	0.9871	-1.4191	0.9317	A-	A-	NA
MATH	6	577147	9	D-S	3	1091	1.4189	0.2163	0.3456	0.2218	0.1329	0.0577	0.0257	0.7339	-0.4641	-0.2286	0.2191	0.4168	0.3767	-0.1305	1.2403	0.0805	-4.1492	0.8349	-4.6192	0.8156	A+	B-	NA
MATH	7	493894	0	A-N	3	119003	1.1108	0.3164	0.3204	0.2541	0.0699	0.0181	0.0211	0.773	-0.5857	-0.0645	0.4404	0.391	0.2417	-0.1476	1.4311	0.007	-9.8992	0.7715	-9.8992	0.7584	A+	A-	A-
MATH	7	313527	0	B-E	2	119003	1.2992	0.3583	0.2315	0.163	0.1614	0.0643	0.0214	0.8077	-0.6452	-0.0692	0.2592	0.4662	0.3764	-0.1456	0.9009	0.0071	-9.8992	0.8182	-9.8992	0.7687	A+	A-	A-
MATH	7	313552	0	C-G	3	119003	0.8314	0.426	0.2856	0.1181	0.0524	0.0381	0.0798	0.6933	-0.5107	0.1212	0.3532	0.3084	0.3316	-0.1786	1.5114	0.0068	1.041	1.0049	-9.8991	0.9168	A+	A-	A-
MATH	7	560142	1	D-S	2	1088	0.6535	0.5211	0.2785	0.0625	0.0588	0.0184	0.0607	0.705	-0.5821	0.3096	0.3204	0.3739	0.2237	-0.1827	1.9786	0.0725	-5.1093	0.7447	-6.7894	0.6198	A-	A-	NA
MATH	7	560139	2	B-E	2	1089	1.146	0.2645	0.3636	0.1772	0.1157	0.0202	0.0588	0.7434	-0.5373	-0.0684	0.3517	0.4322	0.2445	-0.1576	1.3864	0.0737	-5.8292	0.7704	-6.1993	0.7497	A+	NA	NA
MATH	7	503267	3	D-S	3	1095	0.7315	0.4502	0.3425	0.0721	0.0584	0.0174	0.0594	0.688	-0.5585	0.276	0.3017	0.3521	0.2253	-0.1827	1.9527	0.0713	-4.4792	0.7856	-5.4093	0.7329	A+	NA	NA
MATH	7	566985	4	B-E	2	1089	1.1818	0.3434	0.2287	0.1947	0.1341	0.0404	0.0588	0.7608	-0.5541	-0.0619	0.3043	0.4464	0.3164	-0.1944	1.2197	0.0767	-4.9292	0.7965	-5.4593	0.7407	A-	NA	NA
MATH	7	574502	5	D-S	3	1089	0.5969	0.5234	0.3049	0.0891	0.0331	0.0037	0.0459	0.5917	-0.475	0.2574	0.3179	0.2961	0.0939	-0.1453	2.4581	0.0721	-1.1391	0.9422	-1.0491	0.9399	A+	A-	NA
MATH	7	567437	6	D-S	2	1087	0.7222	0.5244	0.2153	0.1417	0.0672	0.0055	0.046	0.6844	-0.5358	0.1144	0.416	0.3838	0.1447	-0.1492	2.1276	0.0749	-3.8792	0.8226	-4.5793	0.7237	A-	NA	NA
MATH	7	577150	7	D-S	3	1085	0.8922	0.3659	0.4111	0.0894	0.0369	0.0479	0.0488	0.6757	-0.5197	0.1335	0.308	0.2818	0.3495	-0.1438	1.4385	0.0718	-2.0991	0.8944	-3.1291	0.8522	A+	A-	NA
MATH	7	503121	8	A-R	2	1088	1.1765	0.3061	0.3566	0.125	0.0809	0.0818	0.0496	0.7608	-0.5542	-0.0414	0.2651	0.3417	0.4558	-0.1406	1.0155	0.0748	-4.9392	0.7843	-5.7593	0.7424	A+	NA	NA
MATH	7	503052	9	D-S	3	1086	1.2901	0.2864	0.2919	0.1483	0.1713	0.047	0.0552	0.7336	-0.5027	-0.1284	0.2215	0.4441	0.3563	-0.1565	1.0005	0.0762	-3.9692	0.8352	-4.1692	0.8096	A-	C-	NA
MATH	8	296708	0	B-E	3	116550	1.4833	0.2553	0.2837	0.1737	0.1673	0.0876	0.0324	0.8132	-0.5323	-0.2142	0.1965	0.417	0.4744	-0.2005	0.5184	0.0074	-9.8992	0.7643	-9.8993	0.7471	A+	A-	A-
MATH	8	313537	0	B-F	2	116550	1.7804	0.1962	0.2592	0.1639	0.1821	0.1618	0.0368	0.825	-0.5069	-0.2932	0.0677	0.3424	0.5706	-0.1994	0.0994	0.0078	-9.8993	0.7478	-9.8993	0.7371	A+	A-	A-
MATH	8	409545	0	C-G	3	116550	1.0571	0.3109	0.3464	0.1074	0.0991	0.0496	0.0865	0.7948	-0.548	0.0272	0.3021	0.4386	0.3781	-0.2348	1.086	0.0068	-9.8992	0.7568	-9.8993	0.693	A+	A-	A-
MATH	8	494645	1	B-E	2	1094	1.4991	0.2413	0.2834	0.1965	0.1207	0.1152	0.043	0.7468	-0.4817	-0.1921	0.1814	0.3064	0.4943	-0.1824	0.4479	0.0747	-4.6692	0.8146	-4.9592	0.7825	A+	NA	NA
MATH	8	576028	2	B-E	3	1091	0.9533	0.3126	0.3831	0.2136	0.044	0.0027	0.044	0.6656	-0.4614	0.0025	0.4704	0.2875	0.095	-0.2148	2.2556	0.0726	-3.6791	0.8562	-4.2492	0.8292	A-	NA	NA
MATH	8	493897	3	D-S	2	1090	1.4183	0.3257	0.2147	0.1697	0.156	0.0991	0.0349	0.7276	-0.5198	-0.1191	0.1633	0.3608	0.4425	-0.1739	0.5677	0.0756	-3.2091	0.866	-3.1592	0.8442	A-	NA	NA
MATH	8	566987	4	B-E	2	1096	0.7728	0.5657	0.177	0.0739	0.0739	0.0566	0.0529	0.659	-0.5127	0.1291	0.2331	0.3563	0.3695	-0.1551	1.282	0.0761	-2.8292	0.8495	-2.8592	0.7786	A-	NA	NA
MATH	8	503053	5	A-N	2	1092	1.5266	0.1255	0.3654	0.1996	0.1905	0.0476	0.0714	0.7124	-0.35	-0.2652	0.1658	0.4222	0.3675	-0.259	0.6295	0.0856	-3.6491	0.8554	-3.9692	0.8399	B+	A-	NA
MATH	8	560255	6	B-E	2	1087	0.5741	0.5474	0.2649	0.0819	0.0313	0.0129	0.0616	0.7001	-0.5676	0.3586	0.3799	0.2797	0.2081	-0.2163	2.1868	0.0745	-5.3093	0.7333	-6.6794	0.6269	A+	A-	NA
MATH	8	503273	7	B-E	3	1087	0.7801	0.4581	0.2622	0.1858	0.0488		0.0451	0.6889	-0.548	0.1751	0.4504	0.3132		-0.2249	1.296	0.0725	-4.7792	0.8035	-5.6793	0.7198	A-	A+	NA
MATH	8	577152	8	B-E	2	1093	1.5654	0.2296	0.2781	0.14	0.1565	0.1345	0.0613	0.7758	-0.456	-0.2282	0.157	0.3656	0.4965	-0.261	0.4531	0.0789	-5.1492	0.7885	-5.2592	0.7577	A+	NA	NA
SCIENCE	4	280051	0	A	3	117700	1.0382	0.2336	0.4583	0.2899			0.0181	0.6389	-0.5095	0.0253	0.5036			-0.1912	0.9256	0.0073	-9.8991	0.8507	-9.8992	0.8441	A+	A-	A-
SCIENCE	4	400513	0	A	2	117700	1.2015	0.2068	0.3479	0.4268			0.0185	0.6061	-0.4474	-0.1269	0.5403			-0.1898	0.5598	0.0077	-9.8991	0.9186	-9.8991	0.927	A+	A-	A-
SCIENCE	4	492832	0	A	2	117700	0.9659	0.2367	0.5322	0.2169			0.0142	0.5741	-0.4302	0.0307	0.4572			-0.1761	1.121	0.0073	-9.8991	0.9258	-9.8991	0.9228	A+	A-	A-
SCIENCE	4	492604	0	B	3	117700	0.6155	0.537	0.2457	0.1849			0.0324	0.525	-0.4595	0.2672	0.3784			-0.1851	1.854	0.0067	9.9011	1.0598	9.9011	1.0578	A-	A+	A+
SCIENCE	4	337512	0	C	3	117700	0.867	0.3666	0.3633	0.2519			0.0182	0.4518	-0.3031	-0.037	0.4299			-0.1704	1.3216	0.0067	9.9012	1.1801	9.9012	1.1929	A-	A-	A-
SCIENCE	4	565383	1	A	2	1088	0.7518	0.3805	0.4283	0.1618			0.0294	0.3447	-0.3074	0.1753	0.2165			-0.1019	1.7041	0.0688	4.6612	1.1821	4.2612	1.1802	A+	NA	NA
SCIENCE	4	578316	2	A	2	1076	0.4043	0.6849	0.1589	0.1227			0.0335	0.3877	-0.2933	0.1279	0.3407			-0.1239	2.3606	0.0771	1.1411	1.056	0.481	1.0409	A+	A+	NA
SCIENCE	4	566544	3	A	2	1089	0.9669	0.1791	0.6235	0.1717			0.0257	0.4489	-0.3919	0.1459	0.271			-0.1428	1.2628	0.0805	-0.669	0.9731	-0.709	0.9715	A+	NA	NA
SCIENCE	4	560222	4	A	2	1090	1.0174	0.2945	0.355	0.3312			0.0193	0.5173	-0.4683	0.0916	0.3947			-0.1175	1.039	0.0753	0.361	1.0125	0.151	1.0059	A+	A-	NA

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	Proportion4	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	Correlation4	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
SCIENCE	4	578317	5	A	3	1087	1.2723	0.1923	0.2953	0.4885			0.0239	0.6527	-0.4917	-0.1565	0.5899			-0.1944	0.4877	0.0846	-6.6392	0.7683	-5.4892	0.7522	A+	A-	NA
SCIENCE	4	565584	6	A	2	1091	0.3034	0.7058	0.2117	0.0458			0.0367	0.407	-0.3284	0.2935	0.249			-0.1188	3.0417	0.0768	-0.209	0.9876	-1.4191	0.887	A+	A-	NA
SCIENCE	4	566533	7	B	3	1089	1.4343	0.0964	0.3434	0.5455			0.0147	0.4054	-0.3927	-0.0414	0.2982			-0.1075	-0.0454	0.1054	0.511	1.0201	1.3311	1.0667	B+	A+	NA
SCIENCE	4	566545	8	C	2	1085	0.3862	0.6664	0.2313	0.0774			0.0249	0.4775	-0.4176	0.2949	0.3266			-0.0945	2.6334	0.0737	-2.3491	0.8886	-2.4292	0.831	A-	NA	NA
SCIENCE	4	566539	9	C	3	1087	0.9972	0.1941	0.5796	0.2088			0.0175	0.4523	-0.2909	-0.0445	0.3878			-0.157	1.0968	0.081	-0.469	0.9816	-0.649	0.9748	A+	NA	NA
SCIENCE	4	565585	10	D	2	1092	0.3617	0.7005	0.1694	0.0962			0.0339	0.3864	-0.3447	0.2484	0.2684			-0.0796	2.5481	0.0772	1.2111	1.0625	0.521	1.0443	A+	NA	NA
SCIENCE	4	565398	11	D	3	1088	0.6066	0.4605	0.421	0.0928			0.0257	0.2971	-0.2453	0.1413	0.2133			-0.0591	2.1666	0.0671	3.4711	1.1395	3.8312	1.1671	A+	A-	NA
SCIENCE	4	565586	12	A	3	1088	0.5294	0.5772	0.2574	0.136			0.0294	0.4859	-0.4082	0.2363	0.3609			-0.1502	2.1346	0.0708	-0.649	0.9724	-1.4791	0.9106	A+	NA	NA
SCIENCE	8	413201	0	A	3	114494	0.7232	0.4487	0.2919	0.2157			0.0438	0.641	-0.508	0.2341	0.4898			-0.2699	1.1398	0.0066	-9.8992	0.8456	-9.8992	0.7884	A+	A-	A-
SCIENCE	8	492606	0	A	2	114494	0.747	0.3536	0.4773	0.1349			0.0343	0.6605	-0.5556	0.3381	0.4076			-0.2336	1.2401	0.0065	-9.8992	0.791	-9.8992	0.7758	A-	A-	A-
SCIENCE	8	315410	0	B	3	114494	1.2193	0.1146	0.5018	0.3588			0.0249	0.4421	-0.3434	-0.0217	0.3205			-0.2151	-0.0792	0.0089	9.9011	1.0721	9.9011	1.0844	A+	A-	A-
SCIENCE	8	470444	0	B	2	114494	0.345	0.6272	0.2971	0.024			0.0518	0.3881	-0.2507	0.3186	0.188			-0.2397	2.6738	0.0067	8.081	1.0342	0.171	1.0009	A+	A-	A-
SCIENCE	8	302608	0	C	3	114494	0.7438	0.2753	0.6093	0.0672			0.0482	0.4027	-0.2168	0.143	0.3192			-0.2466	1.5134	0.0067	9.9011	1.0519	9.9011	1.0566	A-	A-	A-
SCIENCE	8	565583	1	A	3	1090	0.8211	0.4275	0.2339	0.2936			0.045	0.5707	-0.4774	0.132	0.4755			-0.1749	0.9814	0.0689	-3.6791	0.8746	-4.1792	0.7931	A-	NA	NA
SCIENCE	8	565582	2	D	3	1096	0.656	0.4288	0.4005	0.1277			0.0429	0.5051	-0.4015	0.2886	0.3129			-0.2329	1.5167	0.067	-2.2491	0.9169	-2.7991	0.8839	A+	A-	NA
SCIENCE	8	565294	3	C	3	1084	0.5489	0.5055	0.2721	0.1384			0.0839	0.5228	-0.3863	0.3054	0.3514			-0.2312	1.6233	0.0685	-3.3891	0.869	-3.8592	0.7925	A+	NA	NA
SCIENCE	8	578319	4	B	2	1084	1.6245	0.0673	0.1541	0.7352			0.0434	0.4411	-0.2784	-0.1832	0.4125			-0.2261	-0.8213	0.1078	-0.439	0.9776	0.7411	1.0676	A+	NA	NA
SCIENCE	8	566546	5	B	2	1086	0.965	0.1851	0.5801	0.1924			0.0424	0.5659	-0.3738	0.0456	0.4359			-0.2441	0.6837	0.0793	-4.4792	0.8374	-4.5292	0.837	A-	A-	NA
SCIENCE	8	566537	6	B	2	1092	1.1108	0.1703	0.4661	0.3223			0.0412	0.545	-0.3538	-0.0623	0.4544			-0.2428	0.2929	0.0822	-2.9491	0.8971	-2.7891	0.8996	A+	NA	NA
SCIENCE	8	566536	7	A	3	1092	1.3434	0.1346	0.3123	0.5156			0.0375	0.5349	-0.4048	-0.0816	0.4418			-0.2357	-0.1734	0.0901	-2.7991	0.8958	-2.3291	0.8874	A+	NA	NA
SCIENCE	8	566538	8	C	3	1093	0.0247	0.9305	0.0247				0.0448	0.1693	0.0817	0.1693				-0.2274	4.6377	0.1974	-0.099	0.9709	-1.0093	0.7227	A-	A-	NA
SCIENCE	8	565740	9	D	2	1085	0.1097	0.8581	0.1078	0.0009			0.0332	0.2436	-0.1215	0.2362	0.0589			-0.1822	4.7054	0.1017	0.011	0.9987	-1.0691	0.87	A-	NA	NA
SCIENCE	8	565384	10	A	3	1096	0.5438	0.5821	0.2336	0.1551			0.0292	0.3936	-0.3105	0.1634	0.3108			-0.1693	1.5742	0.0696	1.2511	1.0512	0.8511	1.0503	A-	A+	NA
SCIENCE	8	578318	11	A	3	1091	1.2319	0.1503	0.3868	0.4225			0.0403	0.446	-0.2976	-0.0653	0.3698			-0.2264	0.0554	0.0856	0.371	1.013	0.951	1.0388	A+	NA	NA
SCIENCE	8	565293	12	A	3	1088	0.6792	0.4357	0.3741	0.1526			0.0377	0.4154	-0.2961	0.1553	0.3132			-0.2152	1.3517	0.068	0.691	1.0256	0.891	1.0385	A+	NA	NA

Open-Ended Computer-Based Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PubID	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
Mean	Mean Score
Proportion0	Proportion 0 Points
Proportion1	Proportion 1 Point
Proportion2	Proportion 2 Points
Proportion3	Proportion 3 Points
Proportion4	Proportion 4 Points
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
Correlation0	Correlation 0 Points
Correlation1	Correlation 1 Point
Correlation2	Correlation 2 Points
Correlation3	Correlation 3 Points
Correlation4	Correlation 4 Points
CorrelationINV	Correlation Invalid Responses

ContArea	FormGrade	PubID	FormNumber	Standard1	Depth	N	Mean	Proportion0	Proportion1	Proportion2	Proportion3	Proportion4	ProportionINV	PtBiserial	Correlation0	Correlation1	Correlation2	Correlation3	Correlation4	CorrelationINV
ELA	3	406610	0	A-K	3	4078	1.1611	0.1717	0.501	0.2197	0.0736		0.0341	0.5432	-0.2983	-0.1061	0.3202	0.3069		-0.259
ELA	3	278411	0	B-C	3	4078	1.205	0.1824	0.4282	0.2898	0.0657		0.0338	0.6058	-0.4359	-0.0279	0.3597	0.2744		-0.271
MATH	3	415943	0	A-F	2	4185	1.6557	0.2272	0.2884	0.1981	0.1338	0.1424	0.01	0.804	-0.6017	-0.2096	0.1846	0.3406	0.4902	-0.138
MATH	3	499220	0	B-O	2	4185	1.7393	0.2552	0.201	0.2014	0.2151	0.1226	0.0048	0.808	-0.6439	-0.2044	0.1488	0.4102	0.4302	-0.096
MATH	3	330058	0	D-M	3	4185	1.6234	0.2179	0.2487	0.2569	0.1532	0.1004	0.0229	0.7703	-0.5596	-0.192	0.2177	0.3584	0.4056	-0.214
MATH	4	302230	0	A-T	3	4748	1.1011	0.3307	0.3342	0.194	0.0718	0.0409	0.0284	0.7174	-0.5431	0.0487	0.2839	0.3594	0.3275	-0.224
MATH	4	499221	0	B-O	2	4748	1.3005	0.2778	0.3088	0.2047	0.1371	0.0428	0.0289	0.7838	-0.587	-0.0686	0.2836	0.4314	0.3334	-0.213
MATH	4	392313	0	C-G	2	4748	1.7479	0.1615	0.2725	0.2487	0.1948	0.0984	0.024	0.7338	-0.4223	-0.3003	0.1043	0.3748	0.427	-0.206
MATH	5	313526	0	A-F	3	6871	1.3724	0.2323	0.4215	0.0947	0.1764	0.0581	0.017	0.7684	-0.5225	-0.1642	0.1898	0.4525	0.3981	-0.150
MATH	5	314912	0	A-T	2	6871	1.2691	0.366	0.2356	0.1719	0.1288	0.0758	0.0218	0.7672	-0.5848	-0.0706	0.2484	0.384	0.4273	-0.16
MATH	5	410775	0	C-G	2	6871	1.215	0.3401	0.3199	0.1629	0.11	0.0598	0.0073	0.8012	-0.6342	-0.0418	0.2785	0.408	0.4144	-0.103
MATH	6	480017	0	A-N	2	6953	1.9586	0.2419	0.1783	0.1588	0.1246	0.2723	0.0242	0.8238	-0.5769	-0.232	-0.0006	0.2234	0.6507	-0.177
MATH	6	313105	0	B-E	2	6953	0.9462	0.4937	0.2081	0.1102	0.0851	0.0656	0.0373	0.7631	-0.5753	0.0519	0.273	0.3832	0.4474	-0.193
MATH	6	313164	0	C-G	2	6953	1.2679	0.3775	0.239	0.15	0.1266	0.0873	0.0196	0.8062	-0.6246	-0.0618	0.2344	0.398	0.4727	-0.146
MATH	7	493894	0	A-N	3	7304	0.9341	0.3891	0.3107	0.2036	0.0542	0.0134	0.029	0.7865	-0.6222	0.0587	0.4798	0.37	0.2253	-0.159
MATH	7	313527	0	B-E	2	7304	1.0865	0.4369	0.2225	0.1332	0.1324	0.0501	0.0249	0.8168	-0.6643	0.0171	0.308	0.4835	0.3608	-0.159
MATH	7	313552	0	C-G	3	7304	0.6654	0.5078	0.3044	0.0928	0.0349	0.0177	0.0424	0.6498	-0.506	0.2192	0.3591	0.2766	0.2474	-0.175
MATH	8	296708	0	B-E	3	7242	1.3168	0.3187	0.2568	0.1469	0.1508	0.0784	0.0483	0.8232	-0.5601	-0.1133	0.2263	0.4423	0.4601	-0.240
MATH	8	313537	0	B-F	2	7242	1.6718	0.2294	0.2637	0.152	0.1675	0.1504	0.037	0.8385	-0.5185	-0.2696	0.0932	0.3638	0.5786	-0.208
MATH	8	409545	0	C-G	3	7242	0.9728	0.3971	0.3344	0.099	0.0871	0.0447	0.0376	0.803	-0.5949	0.0734	0.3224	0.4351	0.3805	-0.216
SCIENCE	4	280051	0	A	3	5919	1.0345	0.2402	0.4225	0.306			0.0313	0.677	-0.5124	0.0281	0.5425			-0.258
SCIENCE	4	400513	0	A	2	5919	1.1985	0.1911	0.3727	0.4129			0.0233	0.6294	-0.4594	-0.1076	0.543			-0.229
SCIENCE	4	492832	0	A	2	5919	1.0791	0.2213	0.4242	0.3274			0.027	0.656	-0.4697	-0.0509	0.5543			-0.246
SCIENCE	4	492604	0	B	3	5919	0.6477	0.5188	0.2429	0.2024			0.0358	0.5156	-0.4139	0.2268	0.3895			-0.252
SCIENCE	4	337512	0	C	3	5919	0.8128	0.3909	0.336	0.2384			0.0346	0.4827	-0.317	0.0366	0.429			-0.248
SCIENCE	8	413201	0	A	3	8715	0.6754	0.4672	0.2834	0.196			0.0534	0.642	-0.4852	0.2623	0.4833			-0.302
SCIENCE	8	492606	0	A	2	8715	0.736	0.371	0.4317	0.1522			0.0452	0.6723	-0.5489	0.3273	0.4352			-0.256
SCIENCE	8	315410	0	B	3	8715	1.1751	0.1239	0.5167	0.3292			0.0302	0.473	-0.3344	-0.0265	0.3527			-0.247
SCIENCE	8	470444	0	B	2	8715	0.3627	0.6075	0.3076	0.0275			0.0574	0.3963	-0.2329	0.3111	0.2092			-0.275
SCIENCE	8	302608	0	C	3	8715	0.7515	0.287	0.5878	0.0818			0.0434	0.4602	-0.2464	0.1367	0.3742			-0.286

Text-Dependent Analysis Paper/Pencil Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PublD	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
Mean	Mean Score
Proportion1	Proportion 1 Point
Proportion2	Proportion 2 Points
Proportion3	Proportion 3 Points
Proportion4	Proportion 4 Points
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
Correlation1	Correlation 1 Point
Correlation2	Correlation 2 Points
Correlation3	Correlation 3 Points
Correlation4	Correlation 4 Points
CorrelationINV	Correlation Invalid Responses
FinalB	IRT Difficulty Estimate
FinalBErr	IRT Difficulty Error
Infit	Infit Standardized
InfitMnSq	Infit Mean Square
Outfit	Outfit Standardized
OutfitMnSq	Outfit Mean Square
BiasCodeMALEFEMALE	Male/Female DIF Code
BiasCodeWHITEBLACK	White/Black DIF Code
BiasCodeWHITEHISPANIC	White/Hispanic DIF Code

ContArea	FormGrade	PublD	FormNumber	Standard1	Depth	N	Mean	Proportion1	Proportion2	Proportion3	Proportion4	ProportionINV	PtBiserial	Correlation1	Correlation2	Correlation3	Correlation4	CorrelationINV	FinalB	FinalBErr	Infit	InfitMnSq	Outfit	OutfitMnSq	BiasCodeMALEFEMALE	BiasCodeWHITEBLACK	BiasCodeWHITEHISPANIC
ELA	4	496340	0	E	3	119055	1.6884	0.3299	0.4552	0.1301	0.0144	0.0703	0.6316	-0.3875	0.3001	0.3403	0.1444	-0.3872	1.4336	0.0061	-9.8992	0.7847	-9.8992	0.7859	B+	A-	A-
ELA	4	581299	1	E	3	1489	1.8758	0.2136	0.5682	0.1457	0.0222	0.0504	0.6296	-0.4308	0.1561	0.3875	0.1922	-0.3006	1.1908	0.0589	-9.8994	0.6469	-9.8994	0.6394	A+	A-	A-
ELA	4	581578	2	E	3	1485	1.6734	0.3508	0.4337	0.1239	0.0209	0.0707	0.6551	-0.4162	0.3017	0.3523	0.1973	-0.3711	1.4005	0.0538	-9.8994	0.6338	-9.8994	0.6332	A+	A-	A-
ELA	4	579418	3	E	3	1489	1.677	0.3143	0.4567	0.131	0.0141	0.0839	0.6614	-0.3972	0.2998	0.3712	0.1619	-0.394	1.5852	0.0499	-9.8993	0.6522	-9.8993	0.6538	B+	A+	A-
ELA	4	581397	4	E	3	1486	1.7833	0.3156	0.4529	0.1541	0.0249	0.0525	0.6791	-0.4669	0.2611	0.3803	0.2025	-0.367	1.1778	0.0623	-9.8994	0.6138	-9.8994	0.6145	A+	B-	B-
ELA	4	579083	5	E	3	1484	2.0121	0.1752	0.5357	0.2075	0.0357	0.0458	0.6446	-0.4455	0.0783	0.3925	0.2107	-0.3251	0.8397	0.0676	-9.8994	0.6377	-9.8994	0.6323	B+	A-	A-
ELA	4	581665	6	E	3	1478	1.5981	0.3545	0.4303	0.115	0.0095	0.0907	0.6817	-0.3947	0.3743	0.3613	0.1193	-0.4295	1.6823	0.0499	-9.8994	0.6355	-9.8994	0.6371	A+	A-	A-
ELA	4	581616	7	E		1490	1.8289	0.2987	0.4443	0.1745	0.0295	0.053	0.6194	-0.467	0.2284	0.3447	0.2055	-0.2919	1.0576	0.0615	-8.7693	0.7146	-8.7893	0.7143	A+	A-	A-
ELA	4	578158	8	E	3	1487	1.7007	0.3241	0.4701	0.1365	0.0067	0.0625	0.6165	-0.4129	0.2816	0.3626	0.1068	-0.3327	1.5954	0.0576	-9.6193	0.6922	-9.5593	0.6937	A+	A-	A-
ELA	4	582450	9	E	3	1485	1.7845	0.3051	0.4364	0.1744	0.0209	0.0633	0.6401	-0.4282	0.2172	0.3814	0.1907	-0.3391	1.2302	0.0575	-9.8993	0.6748	-9.8993	0.6761	B+	A-	A-
ELA	5	498459	0	E	3	120995	1.7443	0.3	0.4957	0.1334	0.0132	0.0577	0.6776	-0.4572	0.2776	0.3932	0.1707	-0.3535	1.2688	0.0064	-9.8993	0.6931	-9.8993	0.6933	B+	A-	A-
ELA	5	566652	1	E	3	1481	1.707	0.3133	0.4436	0.1472	0.0162	0.0797	0.6659	-0.4521	0.3068	0.3685	0.184	-0.3565	1.3494	0.0489	-9.8994	0.6259	-9.8994	0.6299	A+	A-	A-
ELA	5	579421	2	E	3	1491	1.9571	0.2025	0.5137	0.2093	0.0248	0.0496	0.663	-0.4704	0.1182	0.4021	0.2215	-0.3136	0.9649	0.0623	-9.8994	0.6249	-9.8994	0.6249	B+	A-	A-
ELA	5	582589	3	E	3	1487	1.8561	0.232	0.5098	0.1755	0.0195	0.0632	0.6567	-0.4183	0.1615	0.4166	0.1736	-0.356	1.1414	0.0565	-9.8994	0.6471	-9.8994	0.6431	A+	A-	A-
ELA	5	583779	4	E	3	1488	1.8219	0.2702	0.5323	0.1391	0.0175	0.041	0.6284	-0.4526	0.2269	0.3615	0.1729	-0.3027	1.0318	0.0693	-9.8993	0.6538	-9.8994	0.6495	B+	A-	A-
ELA	5	582579	5	E	3	1483	1.7121	0.3129	0.4558	0.1463	0.0121	0.0728	0.6932	-0.4325	0.2717	0.4187	0.1656	-0.3884	1.4214	0.054	-9.8994	0.5986	-9.8994	0.6022	B+	B-	A-
ELA	5	583778	6	E	3	1490	1.5913	0.3503	0.4268	0.1174	0.0087	0.0966	0.6586	-0.3891	0.3415	0.3701	0.1344	-0.3891	1.5911	0.0477	-9.8993	0.6521	-9.8993	0.6543	A+	A-	A-
ELA	5	578280	7	E	3	1489	1.8375	0.2525	0.4506	0.2082	0.0148	0.0739	0.6675	-0.4049	0.1798	0.4136	0.1784	-0.3938	1.2656	0.0538	-9.8994	0.6207	-9.8994	0.6268	B+	A-	A-
ELA	5	583763	8	E	3	1488	1.7171	0.2957	0.504	0.127	0.0081	0.0652	0.5959	-0.3794	0.2468	0.3577	0.1233	-0.3258	1.3922	0.0567	-9.0693	0.7025	-8.9493	0.7033	B+	B-	A-
ELA	5	583749	9	E	3	1490	1.7779	0.2557	0.4745	0.1785	0.0094	0.0819	0.6076	-0.3359	0.1529	0.3935	0.1762	-0.3555	1.4055	0.0515	-9.4393	0.7005	-9.2293	0.7041	C+	A-	A-
ELA	6	499982	0	E	3	120683	1.8237	0.308	0.4772	0.1556	0.0236	0.0356	0.6493	-0.4956	0.2287	0.3797	0.1953	-0.2846	1.1945	0.0079	-9.8993	0.7096	-9.8993	0.709	B+	A-	A-
ELA	6	582659	1	E	3	1485	1.8943	0.27	0.4599	0.1899	0.0337	0.0465	0.6446	-0.4414	0.1393	0.3759	0.2498	-0.3132	1.2451	0.0578	-9.8994	0.6465	-9.8994	0.6476	B+	A-	A-
ELA	6	583842	2	E	3	1479	1.9892	0.213	0.5321	0.1995	0.0284	0.027	0.6068	-0.439	0.0515	0.3963	0.2054	-0.237	0.9572	0.081	-9.3093	0.6876	-9.3193	0.6847	B+	B-	A-
ELA	6	579502	3	E	3	1489	1.961	0.2216	0.4923	0.2122	0.0296	0.0443	0.6471	-0.4648	0.0816	0.4239	0.212	-0.2767	1.1746	0.0637	-9.8994	0.6378	-9.8994	0.6385	C+	A-	A-
ELA	6	579584	4	E	3	1491	1.8813	0.2871	0.4876	0.167	0.0295	0.0288	0.6153	-0.4735	0.1635	0.3667	0.2148	-0.2427	1.0223	0.0802	-9.8993	0.6685	-9.8993	0.6685	A+	B-	A-
ELA	6	578345	5	E	3	1489	1.9644	0.227	0.5185	0.178	0.0416	0.0349	0.5825	-0.4181	0.062	0.3588	0.2407	-0.2241	0.9265	0.0735	-8.8493	0.7018	-8.9893	0.6946	A+	A-	B-
ELA	6	581803	6	E	3	1486	1.7456	0.3176	0.4805	0.1359	0.0148	0.0511	0.6555	-0.4631	0.2486	0.4045	0.1675	-0.3061	1.4627	0.0621	-9.8994	0.6307	-9.8994	0.6304	B+	A-	A-
ELA	6	581694	7	E	3	1489	1.7482	0.366	0.4251	0.1451	0.0242	0.0396	0.6451	-0.5329	0.2826	0.3808	0.1885	-0.236	1.309	0.0692	-9.8994	0.6384	-9.8994	0.635	A+	A+	A-
ELA	6	582631	8	E	3	1484	2.0296	0.2224	0.4515	0.2439	0.0431	0.0391	0.6603	-0.4688	0.0249	0.4178	0.2712	-0.268	0.9342	0.0707	-9.8994	0.6235	-9.8994	0.6251	B+	A+	A+
ELA	6	581680	9	E	3	1486	2.0061	0.1891	0.5686	0.1763	0.0377	0.0283	0.5868	-0.4416	0.0591	0.3656	0.2125	-0.2181	0.9367	0.0825	-8.6293	0.6962	-8.8193	0.6836	B+	A-	A-
ELA	7	502465	0	E	3	118588	1.9638	0.2449	0.4354	0.2517	0.0233	0.0448	0.6469	-0.4253	0.054	0.4387	0.207	-0.3167	1.0261	0.0072	-9.8993	0.7063	-9.8993	0.7107	C+	A-	A-
ELA	7	580141	1	E	3	1485	1.8963	0.2303	0.464	0.2182	0.0209	0.0667	0.6407	-0.4149	0.1469	0.3906	0.1974	-0.3533	1.2711	0.0525	-9.8994	0.6155	-9.8994	0.6173	B+	A-	B-
ELA	7	580192	2	E	3	1493	1.5399	0.3657	0.3791	0.1306	0.006	0.1186	0.6592	-0.2832	0.3093	0.3785	0.1193	-0.4653	1.9361	0.0428	-9.8994	0.6218	-9.8994	0.6275	B+	A+	A-
ELA	7	579692	3	E	3	1490	1.9356	0.1799	0.451	0.2577	0.0201	0.0913	0.6344	-0.36	0.0697	0.4393	0.1552	-0.3833	1.2881	0.0486	-9.8994	0.6473	-9.8993	0.6531	B+	A-	B-
ELA	7	578523	4	E	3	1493	1.8895	0.2559	0.4287	0.223	0.0268	0.0656	0.6423	-0.3871	0.1096	0.4095	0.2112	-0.363	1.1012	0.0563	-9.8994	0.6161	-9.8994	0.6208	B+	B-	A-
ELA	7	583806	5	E	3	1488	1.8306	0.2534	0.461	0.1942	0.0181	0.0733	0.6665	-0.3957	0.1748	0.4188	0.1707	-0.3972	1.2971	0.0543	-9.8994	0.5929	-9.8994	0.5973	C+	A-	A-
ELA	7	582723	6	E	3	1486	2.0666	0.1965	0.4448	0.2766	0.0377	0.0444	0.5723	-0.3867	-0.0027	0.3772	0.2116	-0.2621	0.8894	0.0673	-9.7193	0.6893	-9.6493	0.6912	B+	A-	A-
ELA	7	566759	7	E	3	1487	1.8258	0.2986	0.4445	0.1984	0.0108	0.0477	0.6083	-0.4397	0.1583	0.4073	0.1593	-0.2641	1.3754	0.0644	-9.8993	0.6739	-9.8993	0.6766	A+	B-	A-
ELA	7	576433	8	E	3	1492	2.0221	0.2071	0.4658	0.2507	0.0328	0.0436	0.6192	-0.4705	0.0667	0.4125	0.1804	-0.2624	0.9133	0.0677	-9.8993	0.6567	-9.8993	0.6577	C+	A-	A-
ELA	7	578739	9	E	3	1486	1.7234	0.3553	0.4017	0.1783	0.0074	0.0572	0.6253	-0.4247	0.2361	0.3939	0.1408	-0.3246	1.5152	0.0591	-9.8994	0.647	-9.8993	0.6511	A+	A-	A-
ELA	8	503130	0	E	3	116461	1.9715	0.2285	0.4413	0.2532	0.0252	0.0518	0.6975	-0.4892	0.0976	0.4625	0.199	-0.3399	0.896	0.007	-9.8993	0.6902	-9.8993	0.6946	B+	A-	A-
ELA	8	578091	1	E	3	1492	1.8706	0.2534	0.4705	0.1924	0.0248	0.059	0.6395	-0.4623	0.1776	0.3999	0.1768	-0.3085	1.1377	0.0503	-9.8994	0.6443	-9.8994	0.6469	C+	A+	A-
ELA	8	578744	2	E	3	1490	1.9342	0.2208	0.4993	0.2141	0.0181	0.0477	0.6148	-0.4605	0.1648	0.3744	0.1454	-0.3021	1.0887	0.0608	-9.7593	0.6854	-9.6393	0.6862	B+	A+	A-
ELA	8	580641	3	E	3	1493	1.9424	0.2384	0.4608	0.217	0.0328	0.0509	0.6388	-0.4256	0.0591	0.4271	0.2259	-0.293	0.9325	0.059	-9.8994	0.6342	-9.8994	0.6353	C+	A-	A-
ELA	8	580784	4	E	3	1483	1.8887	0.2454	0.5125	0.1719	0.0256	0.0445	0.6554	-0.5034	0.1876	0.4014	0.1856	-0.281	0.966	0.067	-9.8994	0.6327	-9.8994	0.6299	B+	A-	A-
ELA	8	579826	5	E	3	1494	2.0422	0.2055	0.4672	0.2651	0.0268	0.0355	0.6532	-0.4771	0.0293	0.4417	0.2045	-0.2693	0.7964	0.0741	-9.8994	0.6393	-9.8994	0.642	B+	A-	A-
ELA	8	579772	6	E	3	1489	1.8086	0.2901	0.4701	0.1605	0.0242	0.0551	0.6694	-0.4769	0.2459	0.3932	0.1795	-0.3429	1.1297	0.0611	-9.8994	0.6051	-9.8994	0.6047	B+	A-	A+
ELA	8	578068	7	E	3	1486	1.9495	0.1878	0.4563	0.2382	0.0336	0.0841	0.692	-0.3729	0.1423	0.3971	0.2092	-0.476	0.9427	0.0533	-9.8994	0.5999	-9.8994	0.6055	C+	A+	A+
ELA	8	583866	8	E	3	1488	1.7527	0.3125	0.4543	0.1566	0.0155	0.0612	0.6241	-0.4423	0.2762	0.3521	0.1491	-0.3292	1.2649	0.0583	-9.7293	0.6884	-9.7193	0.6887	C+	A+	A-
ELA	8	583844	9	E	3	1485	1.9805	0.2269	0.4471	0.2397	0.035	0.0512	0.6737	-0.4906	0.1071	0.4249	0.2197	-0.3155	0.8447	0.0637	-9.8994	0.6285	-9.8994	0.6303	A+	A-	A-

Text-Dependent Analysis Paper/Pencil Item Statistics

Column Heading	Definition
ContArea	Content
FormGrade	Grade
PubID	Form ID
FormNumber	Form
Standard1	Standard
Depth	Depth of Knowledge
N	N
Mean	Mean Score
Proportion1	Proportion 1 Point
Proportion2	Proportion 2 Points
Proportion3	Proportion 3 Points
Proportion4	Proportion 4 Points
ProportionINV	Proportion Invalid Responses
PtBiserial	Point Biserial
Correlation1	Correlation 1 Point
Correlation2	Correlation 2 Points
Correlation3	Correlation 3 Points
Correlation4	Correlation 4 Points
CorrelationINV	Correlation Invalid Responses

ContArea	FormGrade	PublD	FormNumber	Standard1	Depth	N	Mean	Proportion1	Proportion2	Proportion3	Proportion4	ProportionINV	PtBiserial	Correlation1	Correlation2	Correlation3	Correlation4	CorrelationINV
ELA	4	496340	0	E	3	4632	1.7096	0.3282	0.4106	0.1565	0.0227	0.082	0.6605	-0.3941	0.2826	0.3646	0.1803	-0.4128
ELA	5	498459	0	E	3	6935	1.7478	0.3027	0.4463	0.1534	0.0231	0.0745	0.7191	-0.466	0.2725	0.4103	0.2263	-0.3929
ELA	6	499982	0	E	3	7263	1.8311	0.3051	0.4446	0.1673	0.0337	0.0493	0.6953	-0.4981	0.1969	0.4103	0.2586	-0.3156
ELA	7	502465	0	E	3	7865	1.9209	0.2656	0.4024	0.2277	0.0418	0.0624	0.6751	-0.4206	0.0652	0.4229	0.2894	-0.3368
ELA	8	503130	0	E	3	7625	1.8317	0.3115	0.3823	0.1954	0.0424	0.0685	0.7119	-0.4965	0.1971	0.4278	0.2645	-0.3514

APPENDIX G: 2019 TEST BOOK SECTION LAYOUT PLANS

ENGLISH LANGUAGE ARTS TEST/ANSWER BOOKLET SECTION LAYOUT FOR GRADES 4, 5, 6, 7, AND 8

English Language Arts Core	
Core/common standalone MC items	9
Core/common passage-based MC items	23
3 core 2 pt EBSR items	6
3 core 3 pt EBSR items	9
1 core 4 pt TDA	16 (weighted x 4)
Total	63 points

The estimated testing time for English language arts is approximately 225–246 minutes (including placeholder items and embedded field test items). [Timing assumes 30 min per TDA; 3 to 5 min per EBSR; 1½ to 2 min per MC, and 7 min per reading passage set.]

Section	Content	Number of MC/EBSR	MC/EBSR Item Breakdown	Number of TDA	TDA Item Breakdown	Estimated Number of Passages	Section Time (in minutes)
1	Conventions of Standard English (Writing) and Reading	21–24 MC 4–5 EBSR	4-5 core MC language items, 0-1 (EB) MC language item, 1 FT MC language item, 15-18 core MC reading items, 2-3 2pt EBSR reading items, 2-3 3pt EBSR reading items	0	N/A	3	67–78
2	Reading and Text Dependent Analysis (Reading/ Writing)	14 MC 2 EBSR	6 MC (EB) reading items, 8 FT MC reading items, 2 EBSR FT reading items	1	1–field test TDA	2	88
3	Conventions of Standard English (Writing), Reading and Text Dependent Analysis (Reading/ Writing)	11–14 MC	6–placeholder items, 10–field test items	1	1–field test TDA	2	70–80

Note. 1) There were nine forms per grade.

English Language Arts Test/Answer Booklet Section Layout for Grade 3

English Language Arts Core	
Core/common standalone MC items	9
Core/common passage-based MC items	20
2 core 2 pt EBSR items	4
2 core 3 pt EBSR items	6
2 core 3 pt SA items	6
Total	45 points

The estimated testing time for reading is approximately 134–166 minutes (including equating block items and embedded field test items). [Timing assumes 5 to 10 min per SA, 3 to 5 min per EBSR, 1½ to 2 min per MC, and 7 min per reading passage set.]

Section	Content	Nbr of MC/EBSR	MC/EBSR Item Breakdown	Nbr of SA	SA Item Breakdown	Estimated Nbr of Passages	Section Time (in min)
1	Conventions of Standard English (Writing) and Reading	14–18 MC 1–3 EBSR	4-5 core MC language items, 0-1 (EB) MC language item, 1 FT MC language item, 8-12 core MC reading items, 0-2 2pt EBSR reading items, 0-2 3pt EBSR reading items	1	1 core	2	43–59
2	Reading	14 MC 2 EBSR	12 (EB) MC reading items, 8 MC FT reading items, 2 EBSR FT reading items	1	1 field test	2	48
3	Conventions of Standard English (Writing) and Reading	14–18 MC 1–3 EBSR	4-5 core MC language items, 0-1 (EB) MC language item, 1 FT MC language item, 8-12 core MC reading items, 0-2 2pt EBSR reading items, 0-2 3pt EBSR reading items	1	1 core	2	43–59

Note. 1) There were nine forms per grade.

MATHEMATICS TEST/ANSWER BOOK SECTION LAYOUT FOR GRADES 3, 4, 5, 6, 7, AND 8

Mathematics Core	
Core/common MC items	40
3 core 4 pt OE items	12
Total	52 points

The estimated testing time for mathematics is approximately 156 minutes. [Timing assumes 5 to 10 min per OE and 1½ to 2 min per MC.]

Section	Content	Number of MC	MC Item Breakdown	Number of OE	OE Item Breakdown	Section Time (in minutes)
1	Mathematics	24	20–common (core) items (includes 3 non–calc in Grades 4–8) , 1 psychometric use/placeholder, 3–embedded field test items	2	2–common (core) items	78
2	Mathematics	24	20–common (core) items, 1– psychometric use/placeholder, 3–embedded field test items	2	2–common (core) item, 1–embedded field test item	78

Notes. 1) There were nine forms per grade. 2) The ruler items in Grade 3 and the protractor items in Grade 4 may fall in Section 1, 2, or 3. 3) Calculators are not allowed on the Grade 3 test. In Grades 4–8, a portion of section 1 is considered "non-calc."

SCIENCE TEST/ANSWER BOOK SECTION LAYOUT

General Information (see grade level page for specifics)

- Timing Key: MC = 1 to 1½ min; 2 pt OE = 5 min; 4 pt OE = 10 min; G8 Scenario stimulus = 3 min
- There are 12 forms per grade.
- Within a section at Grade 4, MC *most likely* will precede OE items.
- Within a section at Grade 8, non-scenario MC items *most likely* will precede scenario-based MC items which will precede OE items.
- Grade 4 and 8 will have both Test Booklets and scannable Answer Booklets.
- *Generally*, core items will precede equating block items, which will precede field test items.

Science: Grade 4

Core/common MC items	38 (16 core linking)
5 core 2 pt OE items	5 (2 core linking)
Total	48 points

The estimated Grade 4 testing time for science is approximately 76 minutes. [Timing assumes 5 min per 2 pt OE and 1 min per MC.]

Grade	Section	Number of MC	Estimated MC Item Breakdown	Number of OE	Estimated OE Item Breakdown	Testing Time
4	1	23	19–core items, 1–equating block item, 3–embedded field-test items	3	3-common (core) items	38
4	2	23	29-common (core) items, 1-equating block item, 4-embedded field test items	3	2-common (core) items, 1-embedded field test item	38

Science: Grade 8

Core/common MC items	38 (16 core linking)
5 core 2 pt OE items	10 (2 core linking)
Total	48 points

The estimated grade 8 testing time is 90 minutes per grade for science. [Timing assumes 5 min per 2 pt OE, 1 min per MC, and 3 min per grade 8 scenario.]

Grade	Section	Number of MC	Estimated MC Item Breakdown	Number of OE	Estimated OE Item Breakdown	Testing Time
8	1	24	17–core items, 4–embedded field test scenario-based items, 1–equating block item, 2–embedded field-test items	3	3-common (core) items	45
8	2	24	17–core items, 4–core scenario-based items, 1–equating block item, 2–embedded field-test items	3	2-common (core) items, 1-embedded field test item	45

APPENDIX H: MEAN SCALED SCORES BY FORM

The tables provide the mode (All, paper-pencil, or CBT), form number (Form), the number of students (N), the minimum scaled score (Min), the maximum scaled score (Max), the mean scaled score (Mean), the median scaled score (Med), and the standard deviation (STD) of the scaled score.

Mathematics Grade 3 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	120604	600	1530	1025	1026.40	124.91
All	01	15363	648	1530	1016	1016.53	127.19
All	02	13954	600	1530	1025	1028.61	125.38
All	03	13980	648	1530	1025	1027.73	124.52
All	04	12913	648	1530	1025	1027.52	124.09
All	05	12912	724	1530	1025	1026.19	125.12
All	06	12900	692	1530	1025	1027.39	123.70
All	07	12877	648	1530	1025	1028.51	124.06
All	08	12887	692	1530	1025	1027.91	125.14
All	09	12818	600	1530	1025	1028.87	123.97
Paper	01	13328	648	1530	1016	1021.32	126.60
Paper	02	12861	600	1530	1025	1025.53	125.65
Paper	03	12906	648	1530	1025	1025.33	125.19
Paper	04	12913	648	1530	1025	1027.52	124.09
Paper	05	12912	724	1530	1025	1026.19	125.12
Paper	06	12900	692	1530	1025	1027.39	123.70
Paper	07	12877	648	1530	1025	1028.51	124.06
Paper	08	12887	692	1530	1025	1027.91	125.14
Paper	09	12818	600	1530	1025	1028.87	123.97
CBT	01	2035	648	1530	972	985.11	126.56
CBT	02	1093	807	1530	1061	1064.82	116.14
CBT	03	1074	750	1530	1052	1056.61	112.21

Mathematics Grade 4 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	123286	600	1532	983	994.25	124.06
All	01	16049	600	1532	974	983.73	124.75
All	02	14312	600	1532	983	997.19	124.10
All	03	14280	622	1532	983	996.15	123.37
All	04	13084	622	1532	983	997.01	123.58
All	05	13080	600	1532	983	995.78	125.82
All	06	13120	600	1532	983	995.47	124.22
All	07	13062	622	1532	983	994.09	124.08
All	08	13127	666	1532	983	994.12	123.12
All	09	13172	666	1532	983	996.61	122.72
Paper	01	13657	600	1532	974	988.90	124.57
Paper	02	13136	600	1532	983	994.53	124.22
Paper	03	13084	622	1532	983	994.10	123.95
Paper	04	13084	622	1532	983	997.01	123.58
Paper	05	13080	600	1532	983	995.78	125.82
Paper	06	13120	600	1532	983	995.47	124.22
Paper	07	13062	622	1532	983	994.09	124.08
Paper	08	13127	666	1532	983	994.12	123.12
Paper	09	13172	666	1532	983	996.61	122.72
CBT	01	2392	622	1532	936	954.19	121.60
CBT	02	1176	748	1532	1020	1026.90	118.81
CBT	03	1196	699	1410	1010	1018.62	114.53

Mathematics Grade 5 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	127592	600	1601	979	991.77	117.51
All	01	17216	600	1601	961	981.64	119.13
All	02	15117	600	1601	979	994.69	117.19
All	03	15134	600	1601	979	995.36	116.05
All	04	13329	600	1601	979	992.36	116.05
All	05	13333	600	1601	979	992.24	118.11
All	06	13313	600	1601	979	993.21	117.30
All	07	13412	600	1601	988	995.40	116.39
All	08	13374	600	1601	979	992.08	118.70
All	09	13364	600	1601	979	990.96	117.67
Paper	01	13896	600	1601	970	988.45	118.82
Paper	02	13327	600	1601	979	992.22	117.79
Paper	03	13351	600	1601	979	992.24	116.05
Paper	04	13329	600	1601	979	992.36	116.05
Paper	05	13333	600	1601	979	992.24	118.11
Paper	06	13313	600	1601	979	993.21	117.30
Paper	07	13412	600	1601	988	995.40	116.39
Paper	08	13374	600	1601	979	992.08	118.70
Paper	09	13364	600	1601	979	990.96	117.67
CBT	01	3320	731	1601	923	953.16	116.13
CBT	02	1790	731	1462	997	1013.13	110.84
CBT	03	1783	698	1462	1005	1018.71	113.31

Mathematics Grade 6 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	127496	600	1500	961	979.60	119.40
All	01	17371	624	1500	953	968.73	119.38
All	02	15096	669	1500	970	983.78	119.75
All	03	15145	600	1500	970	983.26	120.85
All	04	13370	600	1500	961	979.63	118.25
All	05	13334	669	1500	961	980.82	119.53
All	06	13316	624	1500	970	981.14	118.65
All	07	13271	669	1500	961	980.60	117.70
All	08	13307	624	1500	961	979.78	119.59
All	09	13286	624	1500	970	980.94	119.81
Paper	01	14035	624	1500	961	974.45	118.34
Paper	02	13289	669	1500	961	980.71	119.13
Paper	03	13332	624	1500	961	981.11	120.01
Paper	04	13370	600	1500	961	979.63	118.25
Paper	05	13334	669	1500	961	980.82	119.53
Paper	06	13316	624	1500	970	981.14	118.65
Paper	07	13271	669	1500	961	980.60	117.70
Paper	08	13307	624	1500	961	979.78	119.59
Paper	09	13286	624	1500	970	980.94	119.81
CBT	01	3336	669	1500	917	944.66	120.71
CBT	02	1807	728	1500	995	1006.36	121.85
CBT	03	1813	600	1500	986	999.01	125.70

Mathematics Grade 7 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	125808	600	1536	954	965.62	120.08
All	01	17117	618	1536	935	953.44	119.29
All	02	15068	663	1536	954	968.38	118.83
All	03	15136	618	1536	954	967.75	119.28
All	04	13057	618	1536	954	967.86	120.81
All	05	13097	600	1536	954	964.72	120.17
All	06	13077	600	1536	954	967.39	119.38
All	07	13079	618	1536	954	967.90	121.21
All	08	13107	618	1536	954	966.90	120.30
All	09	13070	663	1536	954	969.24	120.96
Paper	01	13822	618	1536	945	960.54	120.80
Paper	02	13089	663	1536	954	967.73	119.76
Paper	03	13122	663	1536	954	967.32	120.42
Paper	04	13057	618	1536	954	967.86	120.81
Paper	05	13097	600	1536	954	964.72	120.17
Paper	06	13077	600	1536	954	967.39	119.38
Paper	07	13079	618	1536	954	967.90	121.21
Paper	08	13107	618	1536	954	966.90	120.30
Paper	09	13070	663	1536	954	969.24	120.96
CBT	01	3295	696	1416	896	923.63	107.77
CBT	02	1979	696	1345	963	972.66	112.39
CBT	03	2014	618	1416	954	970.55	111.54

Mathematics Grade 8 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	123186	600	1470	936	950.33	116.49
All	01	16623	600	1470	928	938.74	116.12
All	02	14898	606	1470	945	956.63	117.07
All	03	14846	600	1470	945	952.24	116.10
All	04	12795	650	1470	945	952.86	116.27
All	05	12823	650	1470	936	951.22	116.18
All	06	12858	606	1470	936	950.11	117.85
All	07	12797	650	1470	936	950.38	114.42
All	08	12760	650	1470	945	951.81	116.03
All	09	12786	600	1470	945	951.07	117.40
Paper	01	13471	600	1470	928	944.43	116.68
Paper	02	12873	606	1470	945	956.02	118.07
Paper	03	12828	600	1470	936	951.17	116.85
Paper	04	12795	650	1470	945	952.86	116.27
Paper	05	12823	650	1470	936	951.22	116.18
Paper	06	12858	606	1470	936	950.11	117.85
Paper	07	12797	650	1470	936	950.38	114.42
Paper	08	12760	650	1470	945	951.81	116.03
Paper	09	12786	600	1470	945	951.07	117.40
CBT	01	3152	606	1470	892	914.42	110.43
CBT	02	2025	708	1470	953	960.50	110.42
CBT	03	2018	682	1470	945	959.05	111.02

ELA Grade 3 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	120564	600	1544	1038	1039.02	108.92
All	01	14856	600	1544	1028	1033.47	110.05
All	02	14078	720	1544	1038	1040.37	108.08
All	03	14048	675	1544	1038	1040.32	107.88
All	04	12927	754	1544	1038	1040.48	108.08
All	05	12961	675	1544	1038	1040.95	109.07
All	06	12968	602	1544	1038	1039.28	108.89
All	07	12879	602	1544	1038	1037.69	109.27
All	08	12918	602	1544	1038	1040.88	108.64
All	09	12929	600	1544	1038	1038.32	110.04
Paper	01	13007	600	1544	1038	1038.06	109.46
Paper	02	12962	720	1544	1038	1038.66	108.53
Paper	03	12921	675	1544	1038	1038.99	109.10
Paper	04	12927	754	1544	1038	1040.48	108.08
Paper	05	12961	675	1544	1038	1040.95	109.07
Paper	06	12968	602	1544	1038	1039.28	108.89
Paper	07	12879	602	1544	1038	1037.69	109.27
Paper	08	12918	602	1544	1038	1040.88	108.64
Paper	09	12929	600	1544	1038	1038.32	110.04
CBT	01	1849	675	1347	987	1001.17	108.76
CBT	02	1116	754	1347	1058	1060.20	100.68
CBT	03	1127	803	1420	1058	1055.58	91.39

ELA Grade 4 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	123172	617	1636	1039	1035.03	112.80
All	01	15405	617	1511	1031	1026.05	113.59
All	02	14384	617	1636	1047	1037.73	113.37
All	03	14387	693	1636	1039	1037.26	112.33
All	04	13182	617	1511	1039	1036.78	112.82
All	05	13210	661	1511	1039	1033.39	110.11
All	06	13098	617	1511	1039	1036.09	113.87
All	07	13141	661	1511	1039	1035.82	113.48
All	08	13162	693	1511	1039	1037.73	113.06
All	09	13203	617	1636	1039	1035.54	111.81
Paper	01	13221	617	1511	1031	1031.93	111.72
Paper	02	13163	617	1511	1039	1035.58	113.58
Paper	03	13150	693	1636	1039	1035.17	112.73
Paper	04	13182	617	1511	1039	1036.78	112.82
Paper	05	13210	661	1511	1039	1033.39	110.11
Paper	06	13098	617	1511	1039	1036.09	113.87
Paper	07	13141	661	1511	1039	1035.82	113.48
Paper	08	13162	693	1511	1039	1037.73	113.06
Paper	09	13203	617	1636	1039	1035.54	111.81
CBT	01	2184	719	1435	984	990.43	118.26
CBT	02	1221	740	1636	1064	1060.92	108.38
CBT	03	1237	791	1511	1064	1059.46	105.47

ELA Grade 5 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	127550	609	1647	1021	1027.19	107.18
All	01	16558	609	1647	1013	1020.18	108.99
All	02	15288	654	1647	1030	1030.90	106.94
All	03	15331	654	1647	1030	1029.33	107.51
All	04	13405	654	1522	1021	1026.79	105.46
All	05	13446	654	1647	1030	1028.26	108.73
All	06	13464	687	1647	1030	1028.09	106.15
All	07	13327	687	1522	1021	1027.54	107.30
All	08	13339	654	1647	1030	1026.55	107.11
All	09	13392	609	1647	1030	1027.86	105.49
Paper	01	13450	609	1647	1021	1026.54	106.78
Paper	02	13358	654	1522	1030	1028.46	106.90
Paper	03	13426	654	1522	1021	1027.04	107.70
Paper	04	13405	654	1522	1021	1026.79	105.46
Paper	05	13446	654	1647	1030	1028.26	108.73
Paper	06	13464	687	1647	1030	1028.09	106.15
Paper	07	13327	687	1522	1021	1027.54	107.30
Paper	08	13339	654	1647	1030	1026.55	107.11
Paper	09	13392	609	1647	1030	1027.86	105.49
CBT	01	3108	713	1445	980	992.66	114.06
CBT	02	1930	713	1647	1046	1047.74	105.69
CBT	03	1905	736	1647	1046	1045.42	104.77

ELA Grade 6 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	127560	637	1692	1030	1034.42	106.76
All	01	16747	637	1692	1022	1028.80	110.40
All	02	15363	673	1692	1030	1034.92	105.75
All	03	15370	673	1692	1038	1037.07	105.52
All	04	13326	673	1692	1038	1034.99	107.56
All	05	13370	673	1692	1030	1034.76	105.64
All	06	13362	637	1692	1030	1033.70	106.25
All	07	13339	673	1692	1030	1035.07	105.45
All	08	13319	703	1692	1030	1036.20	107.66
All	09	13364	673	1562	1030	1035.22	105.68
Paper	01	13439	637	1692	1038	1036.40	108.34
Paper	02	13391	673	1692	1030	1032.89	105.82
Paper	03	13381	673	1692	1038	1035.86	105.56
Paper	04	13326	673	1692	1038	1034.99	107.56
Paper	05	13370	673	1692	1030	1034.76	105.64
Paper	06	13362	637	1692	1030	1033.70	106.25
Paper	07	13339	673	1692	1030	1035.07	105.45
Paper	08	13319	703	1692	1030	1036.20	107.66
Paper	09	13364	673	1562	1030	1035.22	105.68
CBT	01	3308	703	1562	984	997.95	113.29
CBT	02	1972	751	1562	1046	1048.70	104.22
CBT	03	1989	729	1562	1038	1045.21	104.86

ELA Grade 7 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	125998	647	1639	1032	1026.27	96.85
All	01	16675	680	1434	1024	1020.40	98.47
All	02	15239	680	1512	1032	1026.98	97.57
All	03	15403	647	1434	1024	1025.31	95.02
All	04	13135	647	1512	1032	1027.58	96.12
All	05	13140	728	1434	1032	1026.23	96.19
All	06	13061	680	1639	1032	1029.22	97.17
All	07	13126	680	1434	1032	1027.53	97.17
All	08	13144	647	1434	1032	1027.75	95.84
All	09	13075	706	1512	1032	1027.14	97.55
Paper	01	13245	680	1434	1032	1028.85	96.34
Paper	02	13056	680	1512	1032	1026.95	98.08
Paper	03	13166	647	1434	1032	1025.41	95.10
Paper	04	13135	647	1512	1032	1027.58	96.12
Paper	05	13140	728	1434	1032	1026.23	96.19
Paper	06	13061	680	1639	1032	1029.22	97.17
Paper	07	13126	680	1434	1032	1027.53	97.17
Paper	08	13144	647	1434	1032	1027.75	95.84
Paper	09	13075	706	1512	1032	1027.14	97.55
CBT	01	3430	728	1386	983	987.75	99.78
CBT	02	2183	748	1386	1024	1027.16	94.44
CBT	03	2237	706	1386	1024	1024.72	94.55

ELA Grade 8 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	123503	600	1699	1030	1024.16	115.76
All	01	16217	600	1699	1014	1015.61	117.95
All	02	14993	640	1699	1022	1023.25	115.70
All	03	15058	698	1699	1030	1027.88	115.52
All	04	12869	673	1699	1030	1025.15	116.19
All	05	12800	600	1699	1030	1024.94	113.97
All	06	12887	698	1699	1030	1026.77	116.97
All	07	12915	600	1699	1022	1023.16	115.27
All	08	12883	640	1699	1030	1027.44	116.19
All	09	12881	673	1699	1030	1025.02	112.92
Paper	01	12934	600	1699	1030	1024.69	116.06
Paper	02	12869	640	1699	1030	1023.61	116.00
Paper	03	12889	698	1699	1030	1028.10	116.28
Paper	04	12869	673	1699	1030	1025.15	116.19
Paper	05	12800	600	1699	1030	1024.94	113.97
Paper	06	12887	698	1699	1030	1026.77	116.97
Paper	07	12915	600	1699	1022	1023.16	115.27
Paper	08	12883	640	1699	1030	1027.44	116.19
Paper	09	12881	673	1699	1030	1025.02	112.92
CBT	01	3283	698	1565	969	979.82	118.54
CBT	02	2124	720	1565	1022	1021.07	113.79
CBT	03	2169	739	1474	1030	1026.57	110.83

Science Grade 4 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	123093	1050	2309	1419	1424.23	174.24
All	01	13103	1050	2309	1403	1404.76	176.09
All	02	11254	1050	2309	1435	1432.03	174.27
All	03	11251	1050	2309	1435	1431.49	172.43
All	04	9812	1050	2093	1435	1427.36	172.96
All	05	9733	1050	2309	1419	1423.50	174.21
All	06	9675	1050	2309	1419	1425.09	173.87
All	07	9734	1050	2309	1419	1424.25	172.64
All	08	9679	1050	2309	1419	1423.58	175.89
All	09	9738	1050	2309	1419	1427.47	175.29
All	10	9706	1050	2309	1435	1427.90	174.45
All	11	9683	1050	2309	1419	1424.02	172.92
All	12	9725	1050	2309	1419	1423.69	173.57
Paper	01	10272	1050	2309	1403	1408.77	175.72
Paper	02	9706	1050	2309	1419	1425.18	173.99
Paper	03	9715	1050	2309	1419	1425.45	173.28
Paper	04	9812	1050	2093	1435	1427.36	172.96
Paper	05	9733	1050	2309	1419	1423.50	174.21
Paper	06	9675	1050	2309	1419	1425.09	173.87
Paper	07	9734	1050	2309	1419	1424.25	172.64
Paper	08	9679	1050	2309	1419	1423.58	175.89
Paper	09	9738	1050	2309	1419	1427.47	175.29
Paper	10	9706	1050	2309	1435	1427.90	174.45
Paper	11	9683	1050	2309	1419	1424.02	172.92
Paper	12	9725	1050	2309	1419	1423.69	173.57
CBT	01	2831	1050	2309	1387	1390.20	176.65
CBT	02	1548	1050	2093	1485	1474.95	169.84
CBT	03	1536	1050	2309	1468	1469.66	161.81

Science Grade 8 Scaled Score Summary Statistics

Mode	Form	N	Min	Max	Mean	Median	STD
All	00	122654	925	2406	1326	1314.95	184.20
All	01	13809	925	2158	1289	1293.77	188.30
All	02	11942	925	2158	1326	1321.80	183.10
All	03	11952	925	2406	1326	1320.45	180.82
All	04	9500	925	2158	1326	1313.53	185.13
All	05	9384	925	2158	1326	1314.55	183.57
All	06	9462	925	2003	1326	1316.98	183.59
All	07	9440	925	2158	1326	1317.26	184.37
All	08	9424	925	2003	1326	1316.12	184.67
All	09	9421	925	2158	1326	1317.93	182.88
All	10	9442	925	2406	1326	1318.76	182.60
All	11	9430	925	2158	1326	1319.20	184.85
All	12	9448	925	2158	1326	1315.54	183.48
Paper	01	10085	925	2158	1308	1298.98	189.43
Paper	02	9466	925	2158	1326	1316.98	184.14
Paper	03	9475	925	2406	1326	1314.12	182.48
Paper	04	9500	925	2158	1326	1313.53	185.13
Paper	05	9384	925	2158	1326	1314.55	183.57
Paper	06	9462	925	2003	1326	1316.98	183.59
Paper	07	9440	925	2158	1326	1317.26	184.37
Paper	08	9424	925	2003	1326	1316.12	184.67
Paper	09	9421	925	2158	1326	1317.93	182.88
Paper	10	9442	925	2406	1326	1318.76	182.60
Paper	11	9430	925	2158	1326	1319.20	184.85
Paper	12	9448	925	2158	1326	1315.54	183.48
CBT	01	3724	925	2158	1270	1279.65	184.46
CBT	02	2476	925	2003	1345	1340.20	177.87
CBT	03	2477	925	1906	1345	1344.64	172.21

APPENDIX I: DEMOGRAPHIC CHARACTERISTICS OF STUDENTS

Demographic Characteristics of Students Taking the 2019 PSSA: English Language Arts

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Female (Number)	57,052	1,904	58,956	58,348	2,110	60,458	59,111	3,199	62,310	59,039	3,321	62,360	57,933	3,560	61,493	56,445	3,551	59,996
Female (Percent)	49	46.5	48.9	49.2	45.5	49.1	49	46.1	48.9	49.1	45.7	48.9	49	45.4	48.8	48.7	46.9	48.6
Male (Number)	59,420	2,188	61,608	60,182	2,532	62,714	61,496	3,744	65,240	61,252	3,948	65,200	60,215	4,290	64,505	59,482	4,025	63,507
Male (Percent)	51	53.5	51.1	50.8	54.5	50.9	51	53.9	51.1	50.9	54.3	51.1	51	54.6	51.2	51.3	53.1	51.4
American Indian/Alaskan Native (not Hispanic) (Number)	166	8	174	171	9	180	195	13	208	189	15	204	168	16	184	169	14	183
American Indian/Alaskan Native (not Hispanic) (Percent)	.1	.2	.1	.1	.2	.1	.2	.2	.2	.2	.2	.2	.1	.2	.1	.1	.2	.1
Asian (not Hispanic) (Number)	4,697	283	4,980	4,809	277	5,086	4,693	336	5,029	4,826	342	5,168	4,857	189	5,046	4,799	186	4,985
Asian (not Hispanic) (Percent)	4	6.9	4.1	4.1	6	4.1	3.9	4.8	3.9	4	4.7	4.1	4.1	2.4	4	4.1	2.5	4
Black or African American (not Hispanic) (Number)	17,473	396	17,869	17,973	442	18,415	18,372	674	19,046	17,859	711	18,570	17,205	697	17,902	16,963	491	17,454
Black or African American (not Hispanic) (Percent)	15	9.7	14.8	15.2	9.5	15	15.2	9.7	14.9	14.8	9.8	14.6	14.6	8.9	14.2	14.6	6.5	14.1
Hispanic (any race) (Number)	14,863	363	15,226	15,178	431	15,609	14,885	817	15,702	14,795	906	15,701	14,053	911	14,964	13,666	805	14,471
Hispanic (any race) (Percent)	12.8	8.9	12.6	12.8	9.3	12.7	12.3	11.8	12.3	12.3	12.5	12.3	11.9	11.6	11.9	11.8	10.6	11.7
Multi-Racial (not Hispanic) (Number)	5,933	219	6,152	5,604	230	5,834	5,586	313	5,899	5,339	274	5,613	4,819	260	5,079	4,298	210	4,508
Multi-Racial (not Hispanic) (Percent)	5.1	5.4	5.1	4.7	5	4.7	4.6	4.5	4.6	4.4	3.8	4.4	4.1	3.3	4	3.7	2.8	3.7
White (not Hispanic) (Number)	73,234	2,820	76,054	74,708	3,248	77,956	76,780	4,787	81,567	77,180	5,010	82,190	76,944	5,771	82,715	75,943	5,864	81,807
White (not Hispanic) (Percent)	62.9	68.9	63.1	63	70	63.3	63.7	68.9	63.9	64.2	68.9	64.4	65.1	73.5	65.6	65.5	77.4	66.2
Native Hawaiian or Other Pacific Islander (not Hispanic) (Number)	106	3	109	87	5	92	96	3	99	103	11	114	102	6	108	89	6	95
Native Hawaiian or Other Pacific Islander (not Hispanic) (Percent)	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1
IEP (not gifted) (Number)	19,731	1,028	20,759	20,847	1,314	22,161	21,175	1,865	23,040	20,307	2,110	22,417	19,481	2,234	21,715	18,919	2,067	20,986
IEP (not gifted) (Percent)	16.9	25.1	17.2	17.6	28.3	18	17.6	26.9	18.1	16.9	29	17.6	16.5	28.5	17.2	16.3	27.3	17
Student exited IEP in last 2 years (Number)	2,350	60	2,410	2,642	95	2,737	2,867	183	3,050	3,003	209	3,212	2,592	209	2,801	2,305	174	2,479

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Student exited IEP in last 2 years (Percent)	2	1.5	2	2.2	2	2.2	2.4	2.6	2.4	2.5	2.9	2.5	2.2	2.7	2.2	2	2.3	2
Title I (Number)	61,780	1,590	63,370	62,301	1,769	64,070	58,109	2,606	60,715	45,664	2,441	48,105	33,610	1,637	35,247	31,904	1,326	33,230
Title I (Percent)	53	38.9	52.6	52.6	38.1	52	48.2	37.5	47.6	38	33.6	37.7	28.4	20.9	28	27.5	17.5	26.9
Title III served (Number)	5,401	148	5,549	5,112	151	5,263	4,408	194	4,602	3,722	148	3,870	3,709	130	3,839	3,434	134	3,568
Title III served (Percent)	4.6	3.6	4.6	4.3	3.3	4.3	3.7	2.8	3.6	3.1	2	3	3.1	1.7	3	3	1.8	2.9
Title III not served (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Title III not served (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Migrant student (Number)	218	5	223	206	3	209	218	8	226	204	8	212	203	11	214	162	7	169
Migrant student (Percent)	.2	.1	.2	.2	.1	.2	.2	.1	.2	.2	.1	.2	.2	.1	.2	.1	.1	.1
EL enrolled first year (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EL enrolled first year (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EL enrolled not first year (Number)	5,705	161	5,866	5,398	163	5,561	4,668	210	4,878	3,870	162	4,032	3,880	150	4,030	3,610	152	3,762
EL enrolled not first year (Percent)	4.9	3.9	4.9	4.6	3.5	4.5	3.9	3	3.8	3.2	2.2	3.2	3.3	1.9	3.2	3.1	2	3
Exited ESL/bilingual program and in first year of monitoring (Number)	239	22	261	516	24	540	842	49	891	692	44	736	315	24	339	313	18	331
Exited ESL/bilingual program and in first year of monitoring (Percent)	.2	.5	.2	.4	.5	.4	.7	.7	.7	.6	.6	.6	.3	.3	.3	.3	.2	.3
Exited ESL/bilingual program and in 2nd year of monitoring (Number)	119	6	125	85	7	92	146	8	154	251	9	260	283	27	310	209	8	217
Exited ESL/bilingual program and in 2nd year of monitoring (Percent)	.1	.1	.1	.1	.2	.1	.1	.1	.1	.2	.1	.2	.2	.3	.2	.2	.1	.2
Former EL no longer monitored (Number)	14	0	14	10	7	17	129	18	147	321	46	367	728	46	774	1,506	92	1,598
Former EL no longer monitored (Percent)	0	0	0	0	.2	0	.1	.3	.1	.3	.6	.3	.6	.6	.6	1.3	1.2	1.3
LIFE first year (Number)	0	0	0	1	0	1	0	0	0	0	0	0	2	0	2	2	0	2
LIFE first year (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIFE not first year (Number)	10	2	12	20	0	20	13	3	16	24	3	27	27	1	28	25	1	26
LIFE not first year (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former EL exited and in 3rd year of monitoring (Number)	139	10	149	361	37	398	757	47	804	1,165	65	1,230	827	34	861	489	23	512

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Former EL exited and in 3rd year of monitoring (Percent)	.1	.2	.1	.3	.8	.3	.6	.7	.6	1	.9	1	.7	.4	.7	.4	.3	.4
Former EL exited and in 4th year of monitoring (Number)	4	4	8	148	13	161	201	31	232	552	64	616	850	68	918	699	23	722
Former EL exited and in 4th year of monitoring (Percent)	0	.1	0	.1	.3	.1	.2	.4	.2	.5	.9	.5	.7	.9	.7	.6	.3	.6
Economically disadvantaged (Number)	57,608	1,585	59,193	58,278	1,882	60,160	58,520	2,832	61,352	56,678	2,951	59,629	53,552	3,413	56,965	51,470	2,978	54,448
Economically disadvantaged (Percent)	49.5	38.7	49.1	49.2	40.5	48.8	48.5	40.8	48.1	47.1	40.6	46.7	45.3	43.5	45.2	44.4	39.3	44.1
Historically Underperforming Subgroup (Number)	66,384	2,080	68,464	67,306	2,469	69,775	67,257	3,593	70,850	64,824	3,856	68,680	61,578	4,350	65,928	59,508	3,890	63,398
Historically Underperforming Subgroup (Percent)	57	50.8	56.8	56.8	53.2	56.6	55.8	51.7	55.5	53.9	53	53.8	52.1	55.4	52.3	51.3	51.3	51.3
Enrollment in school of residence after Oct 1 (Number)	2,935	108	3,043	2,865	123	2,988	2,654	147	2,801	2,751	181	2,932	2,837	218	3,055	2,650	234	2,884
Enrollment in school of residence after Oct 1 (Percent)	2.5	2.6	2.5	2.4	2.6	2.4	2.2	2.1	2.2	2.3	2.5	2.3	2.4	2.8	2.4	2.3	3.1	2.3
Enrollment in district of residence after Oct 1 (Number)	1,539	60	1,599	1,585	65	1,650	1,491	97	1,588	1,576	125	1,701	1,674	161	1,835	1,516	181	1,697
Enrollment in district of residence after Oct 1 (Percent)	1.3	1.5	1.3	1.3	1.4	1.3	1.2	1.4	1.2	1.3	1.7	1.3	1.4	2.1	1.5	1.3	2.4	1.4
Enrollment as PA resident after Oct 1 (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enrollment as PA resident after Oct 1 (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enrollment in school of residence after previous Oct 1 but on/before current Oct 1 (Number)	25,559	530	26,089	26,612	516	27,128	29,030	1,811	30,841	44,090	1,619	45,709	31,862	2,180	34,042	21,189	650	21,839
Enrollment in school of residence after previous Oct 1 but on/before current Oct 1 (Percent)	21.9	13	21.6	22.5	11.1	22	24.1	26.1	24.2	36.7	22.3	35.8	27	27.8	27	18.3	8.6	17.7
Enrollment in district of residence after previous Oct 1 but on/before current Oct 1 (Number)	10,289	305	10,594	9,715	351	10,066	10,089	553	10,642	10,453	690	11,143	9,803	698	10,501	8,138	558	8,696

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Enrollment in district of residence after previous Oct 1 but on/before current Oct 1 (Percent)	8.8	7.5	8.8	8.2	7.6	8.2	8.4	8	8.3	8.7	9.5	8.7	8.3	8.9	8.3	7	7.4	7
Court/agency placed (Number)	24	0	24	24	2	26	19	1	20	37	13	50	81	30	111	100	58	158
Court/agency placed (Percent)	0	0	0	0	0	0	0	0	0	0	.2	0	.1	.4	.1	.1	.8	.1
Military family (Number)	434	16	450	479	17	496	466	23	489	432	42	474	421	27	448	430	20	450
Military family (Percent)	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.6	.4	.4	.3	.4	.4	.3	.4
Homeless (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Homeless (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foster (Number)	632	20	652	632	28	660	578	33	611	543	33	576	543	43	586	539	47	586
Foster (Percent)	.5	.5	.5	.5	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.5
Students with scores used in state summaries (Number)	116,472	4,092	120,564	118,530	4,642	123,172	120,607	6,943	127,550	120,291	7,269	127,560	118,148	7,850	125,998	115,927	7,576	123,503

Demographic Characteristics of Students Taking the 2019 PSSA: Mathematics

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Female (Number)	57,009	1,955	58,964	58,308	2,181	60,489	59,149	3,157	62,306	59,109	3,168	62,277	58,122	3,291	61,413	56,472	3,377	59,849
Female (Percent)	49	46.5	48.9	49.2	45.8	49.1	49	45.8	48.8	49	45.5	48.8	49	45.2	48.8	48.7	46.9	48.6
Male (Number)	59,393	2,247	61,640	60,214	2,583	62,797	61,550	3,736	65,286	61,431	3,788	65,219	60,398	3,997	64,395	59,519	3,818	63,337
Male (Percent)	51	53.5	51.1	50.8	54.2	50.9	51	54.2	51.2	51	54.5	51.2	51	54.8	51.2	51.3	53.1	51.4
American Indian/Alaskan Native (not Hispanic) (Number)	165	8	173	168	11	179	193	15	208	188	15	203	170	13	183	168	14	182
American Indian/Alaskan Native (not Hispanic) (Percent)	.1	.2	.1	.1	.2	.1	.2	.2	.2	.2	.2	.2	.1	.2	.1	.1	.2	.1
Asian (not Hispanic) (Number)	4,700	288	4,988	4,815	279	5,094	4,693	345	5,038	4,843	336	5,179	4,863	183	5,046	4,813	175	4,988
Asian (not Hispanic) (Percent)	4	6.9	4.1	4.1	5.9	4.1	3.9	5	3.9	4	4.8	4.1	4.1	2.5	4	4.1	2.4	4
Black or African American (not Hispanic) (Number)	17,482	421	17,903	17,985	464	18,449	18,363	704	19,067	17,868	693	18,561	17,220	670	17,890	16,914	475	17,389
Black or African American (not Hispanic) (Percent)	15	10	14.8	15.2	9.7	15	15.2	10.2	14.9	14.8	10	14.6	14.5	9.2	14.2	14.6	6.6	14.1
Hispanic (any race) (Number)	14,870	376	15,246	15,194	456	15,650	14,899	824	15,723	14,845	868	15,713	14,087	868	14,955	13,676	761	14,437
Hispanic (any race) (Percent)	12.8	8.9	12.6	12.8	9.6	12.7	12.3	12	12.3	12.3	12.5	12.3	11.9	11.9	11.9	11.8	10.6	11.7
Multi-Racial (not Hispanic) (Number)	5,933	223	6,156	5,596	240	5,836	5,591	311	5,902	5,342	262	5,604	4,830	238	5,068	4,287	203	4,490
Multi-Racial (not Hispanic) (Percent)	5.1	5.3	5.1	4.7	5	4.7	4.6	4.5	4.6	4.4	3.8	4.4	4.1	3.3	4	3.7	2.8	3.6
White (not Hispanic) (Number)	73,148	2,882	76,030	74,677	3,309	77,986	76,864	4,691	81,555	77,350	4,771	82,121	77,247	5,310	82,557	76,045	5,561	81,606
White (not Hispanic) (Percent)	62.8	68.6	63	63	69.5	63.3	63.7	68.1	63.9	64.2	68.6	64.4	65.2	72.9	65.6	65.6	77.3	66.2
Native Hawaiian or Other Pacific Islander (not Hispanic) (Number)	104	4	108	87	5	92	96	3	99	104	11	115	103	6	109	88	6	94
Native Hawaiian or Other Pacific Islander (not Hispanic) (Percent)	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1
IEP (not gifted) (Number)	19,688	1,077	20,765	20,777	1,403	22,180	21,122	1,915	23,037	20,341	2,060	22,401	19,471	2,159	21,630	18,893	1,981	20,874
IEP (not gifted) (Percent)	16.9	25.6	17.2	17.5	29.5	18	17.5	27.8	18.1	16.9	29.6	17.6	16.4	29.6	17.2	16.3	27.5	16.9
Student exited IEP in last 2 years (Number)	2,344	59	2,403	2,643	91	2,734	2,870	177	3,047	3,015	196	3,211	2,604	194	2,798	2,308	172	2,480
Student exited IEP in last 2 years (Percent)	2	1.4	2	2.2	1.9	2.2	2.4	2.6	2.4	2.5	2.8	2.5	2.2	2.7	2.2	2	2.4	2
Title I (Number)	61,702	1,692	63,394	62,231	1,915	64,146	58,083	2,641	60,724	45,758	2,306	48,064	33,765	1,439	35,204	32,020	1,081	33,101

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Title I (Percent)	53	40.3	52.6	52.5	40.2	52	48.1	38.3	47.6	38	33.2	37.7	28.5	19.7	28	27.6	15	26.9
Title III served (Number)	5,417	149	5,566	5,158	151	5,309	4,426	193	4,619	3,778	129	3,907	3,732	121	3,853	3,453	120	3,573
Title III served (Percent)	4.7	3.5	4.6	4.4	3.2	4.3	3.7	2.8	3.6	3.1	1.9	3.1	3.1	1.7	3.1	3	1.7	2.9
Title III not served (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Title III not served (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Migrant student (Number)	224	5	229	208	3	211	223	7	230	207	8	215	203	12	215	164	7	171
Migrant student (Percent)	.2	.1	.2	.2	.1	.2	.2	.1	.2	.2	.1	.2	.2	.2	.2	.1	.1	.1
EL enrolled first year (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EL enrolled first year (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EL enrolled not first year (Number)	5,724	162	5,886	5,445	163	5,608	4,689	209	4,898	3,923	144	4,067	3,904	139	4,043	3,622	138	3,760
EL enrolled not first year (Percent)	4.9	3.9	4.9	4.6	3.4	4.5	3.9	3	3.8	3.3	2.1	3.2	3.3	1.9	3.2	3.1	1.9	3.1
Exited ESL/bilingual program and in first year of monitoring (Number)	237	22	259	515	23	538	839	51	890	690	45	735	312	24	336	314	16	330
Exited ESL/bilingual program and in first year of monitoring (Percent)	.2	.5	.2	.4	.5	.4	.7	.7	.7	.6	.6	.6	.3	.3	.3	.3	.2	.3
Exited ESL/bilingual program and in 2nd year of monitoring (Number)	118	7	125	85	7	92	146	8	154	251	10	261	283	26	309	210	8	218
Exited ESL/bilingual program and in 2nd year of monitoring (Percent)	.1	.2	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.4	.2	.2	.1	.2
Former EL no longer monitored (Number)	14	0	14	10	7	17	130	18	148	322	46	368	727	46	773	1,507	89	1,596
Former EL no longer monitored (Percent)	0	0	0	0	.1	0	.1	.3	.1	.3	.7	.3	.6	.6	.6	1.3	1.2	1.3
LIFE first year (Number)	2	0	2	2	0	2	3	0	3	2	0	2	3	1	4	8	0	8
LIFE first year (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIFE not first year (Number)	11	2	13	20	0	20	16	2	18	27	2	29	29	0	29	26	1	27
LIFE not first year (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former EL exited and in 3rd year of monitoring (Number)	137	11	148	357	39	396	753	53	806	1,169	62	1,231	830	33	863	489	22	511
Former EL exited and in 3rd year of monitoring (Percent)	.1	.3	.1	.3	.8	.3	.6	.8	.6	1	.9	1	.7	.5	.7	.4	.3	.4

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Former EL exited and in 4th year of monitoring (Number)	4	4	8	147	14	161	200	32	232	555	62	617	853	64	917	694	23	717
Former EL exited and in 4th year of monitoring (Percent)	0	.1	0	.1	.3	.1	.2	.5	.2	.5	.9	.5	.7	.9	.7	.6	.3	.6
Economically disadvantaged (Number)	57,573	1,647	59,220	58,233	1,985	60,218	58,508	2,844	61,352	56,768	2,785	59,553	53,691	3,150	56,841	51,463	2,813	54,276
Economically disadvantaged (Percent)	49.5	39.2	49.1	49.1	41.7	48.8	48.5	41.3	48.1	47.1	40	46.7	45.3	43.2	45.2	44.4	39.1	44.1
Historically Underperforming Subgroup (Number)	66,348	2,164	68,512	67,276	2,593	69,869	67,256	3,621	70,877	64,948	3,676	68,624	61,735	4,066	65,801	59,506	3,688	63,194
Historically Underperforming Subgroup (Percent)	57	51.5	56.8	56.8	54.4	56.7	55.7	52.5	55.5	53.9	52.8	53.8	52.1	55.8	52.3	51.3	51.3	51.3
Enrollment in school of residence after Oct 1 (Number)	2,948	116	3,064	2,901	123	3,024	2,692	153	2,845	2,774	176	2,950	2,867	216	3,083	2,694	222	2,916
Enrollment in school of residence after Oct 1 (Percent)	2.5	2.8	2.5	2.4	2.6	2.5	2.2	2.2	2.2	2.3	2.5	2.3	2.4	3	2.5	2.3	3.1	2.4
Enrollment in district of residence after Oct 1 (Number)	1,554	62	1,616	1,605	66	1,671	1,518	100	1,618	1,587	121	1,708	1,688	159	1,847	1,546	170	1,716
Enrollment in district of residence after Oct 1 (Percent)	1.3	1.5	1.3	1.4	1.4	1.4	1.3	1.5	1.3	1.3	1.7	1.3	1.4	2.2	1.5	1.3	2.4	1.4
Enrollment as PA resident after Oct 1 (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enrollment as PA resident after Oct 1 (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enrollment in school of residence after previous Oct 1 but on/before current Oct 1 (Number)	25,595	545	26,140	26,630	538	27,168	29,089	1,770	30,859	44,147	1,522	45,669	31,901	2,061	33,962	21,101	629	21,730
Enrollment in school of residence after previous Oct 1 but on/before current Oct 1 (Percent)	22	13	21.7	22.5	11.3	22	24.1	25.7	24.2	36.6	21.9	35.8	26.9	28.3	27	18.2	8.7	17.6
Enrollment in district of residence after previous Oct 1 but on/before current Oct 1 (Number)	10,290	306	10,596	9,729	360	10,089	10,108	553	10,661	10,481	664	11,145	9,799	658	10,457	8,132	538	8,670

Demographic or Educational Characteristic	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Enrollment in district of residence after previous Oct 1 but on/before current Oct 1 (Percent)	8.8	7.3	8.8	8.2	7.6	8.2	8.4	8	8.4	8.7	9.5	8.7	8.3	9	8.3	7	7.5	7
Court/agency placed (Number)	12	0	12	21	2	23	17	1	18	32	13	45	78	32	110	106	58	164
Court/agency placed (Percent)	0	0	0	0	0	0	0	0	0	0	.2	0	.1	.4	.1	.1	.8	.1
Military family (Number)	432	17	449	479	17	496	465	24	489	431	42	473	424	26	450	429	21	450
Military family (Percent)	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.6	.4	.4	.4	.4	.4	.3	.4
Homeless (Number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Homeless (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foster (Number)	629	23	652	633	30	663	581	30	611	556	29	585	544	40	584	524	46	570
Foster (Percent)	.5	.5	.5	.5	.6	.5	.5	.4	.5	.5	.4	.5	.5	.5	.5	.5	.6	.5
Students with scores used in state summaries (Number)	116,402	4,202	120,604	118,522	4,764	123,286	120,699	6,893	127,592	120,540	6,956	127,496	118,520	7,288	125,808	115,991	7,195	123,186

Demographic Characteristics of Students Taking the 2019 PSSA: Science

Demographic or Educational Characteristic	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Female (Number)	57,642	2,760	60,402	55,472	4,110	59,582
Female (Percent)	49.2	46.7	49.1	48.7	47.4	48.6
Male (Number)	59,536	3,155	62,691	58,505	4,567	63,072
Male (Percent)	50.8	53.3	50.9	51.3	52.6	51.4
American Indian/Alaskan Native (not Hispanic) (Number)	167	12	179	168	14	182
American Indian/Alaskan Native (not Hispanic) (Percent)	.1	.2	.1	.1	.2	.1
Asian (not Hispanic) (Number)	4,782	314	5,096	4,593	389	4,982
Asian (not Hispanic) (Percent)	4.1	5.3	4.1	4	4.5	4.1
Black or African American (not Hispanic) (Number)	17,862	557	18,419	16,665	587	17,252
Black or African American (not Hispanic) (Percent)	15.2	9.4	15	14.6	6.8	14.1
Hispanic (any race) (Number)	14,963	645	15,608	13,537	826	14,363
Hispanic (any race) (Percent)	12.8	10.9	12.7	11.9	9.5	11.7
Multi-Racial (not Hispanic) (Number)	5,553	277	5,830	4,227	238	4,465
Multi-Racial (not Hispanic) (Percent)	4.7	4.7	4.7	3.7	2.7	3.6
White (not Hispanic) (Number)	73,766	4,104	77,870	74,700	6,616	81,316
White (not Hispanic) (Percent)	63	69.4	63.3	65.5	76.2	66.3
Native Hawaiian or Other Pacific Islander (not Hispanic) (Number)	85	6	91	87	7	94
Native Hawaiian or Other Pacific Islander (not Hispanic) (Percent)	.1	.1	.1	.1	.1	.1
IEP (not gifted) (Number)	20,575	1,568	22,143	18,521	2,203	20,724
IEP (not gifted) (Percent)	17.6	26.5	18	16.2	25.4	16.9
Student exited IEP in last 2 years (Number)	2,585	139	2,724	2,280	192	2,472
Student exited IEP in last 2 years (Percent)	2.2	2.3	2.2	2	2.2	2
Title I (Number)	61,729	2,304	64,033	31,657	1,231	32,888
Title I (Percent)	52.7	39	52	27.8	14.2	26.8
Title III served (Number)	5,070	234	5,304	3,427	144	3,571
Title III served (Percent)	4.3	4	4.3	3	1.7	2.9
Title III not served (Number)	0	0	0	0	0	0
Title III not served (Percent)	0	0	0	0	0	0
Migrant student (Number)	202	9	211	163	7	170

Demographic or Educational Characteristic	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Migrant student (Percent)	.2	.2	.2	.1	.1	.1
EL enrolled first year (Number)	0	0	0	0	0	0
EL enrolled first year (Percent)	0	0	0	0	0	0
EL enrolled not first year (Number)	5,357	248	5,605	3,597	162	3,759
EL enrolled not first year (Percent)	4.6	4.2	4.6	3.2	1.9	3.1
Exited ESL/bilingual program and in first year of monitoring (Number)	502	36	538	309	18	327
Exited ESL/bilingual program and in first year of monitoring (Percent)	.4	.6	.4	.3	.2	.3
Exited ESL/bilingual program and in 2nd year of monitoring (Number)	83	9	92	211	8	219
Exited ESL/bilingual program and in 2nd year of monitoring (Percent)	.1	.2	.1	.2	.1	.2
Former EL no longer monitored (Number)	10	7	17	1,441	144	1,585
Former EL no longer monitored (Percent)	0	.1	0	1.3	1.7	1.3
LIFE first year (Number)	2	0	2	7	0	7
LIFE first year (Percent)	0	0	0	0	0	0
LIFE not first year (Number)	20	0	20	25	2	27
LIFE not first year (Percent)	0	0	0	0	0	0
Former EL exited and in 3rd year of monitoring (Number)	352	44	396	485	25	510
Former EL exited and in 3rd year of monitoring (Percent)	.3	.7	.3	.4	.3	.4
Former EL exited and in 4th year of monitoring (Number)	143	18	161	682	35	717
Former EL exited and in 4th year of monitoring (Percent)	.1	.3	.1	.6	.4	.6
Economically disadvantaged (Number)	57,628	2,486	60,114	50,634	3,332	53,966
Economically disadvantaged (Percent)	49.2	42	48.8	44.4	38.4	44
Historically Underperforming Subgroup (Number)	66,567	3,188	69,755	58,516	4,324	62,840
Historically Underperforming Subgroup (Percent)	56.8	53.9	56.7	51.3	49.8	51.2
Enrollment in school of residence after Oct 1 (Number)	2,849	156	3,005	2,607	241	2,848
Enrollment in school of residence after Oct 1 (Percent)	2.4	2.6	2.4	2.3	2.8	2.3
Enrollment in district of residence after Oct 1 (Number)	1,572	92	1,664	1,519	179	1,698
Enrollment in district of residence after Oct 1 (Percent)	1.3	1.6	1.4	1.3	2.1	1.4
Enrollment as PA resident after Oct 1 (Number)	0	0	0	0	0	0
Enrollment as PA resident after Oct 1 (Percent)	0	0	0	0	0	0
Enrollment in school of residence after previous Oct 1 but on/before current Oct 1 (Number)	26,497	633	27,130	20,940	698	21,638

Demographic or Educational Characteristic	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Enrollment in school of residence after previous Oct 1 but on/before current Oct 1 (Percent)	22.6	10.7	22	18.4	8	17.6
Enrollment in district of residence after previous Oct 1 but on/before current Oct 1 (Number)	9,618	438	10,056	8,024	591	8,615
Enrollment in district of residence after previous Oct 1 but on/before current Oct 1 (Percent)	8.2	7.4	8.2	7	6.8	7
Court/agency placed (Number)	19	2	21	100	58	158
Court/agency placed (Percent)	0	0	0	.1	.7	.1
Military family (Number)	476	17	493	425	24	449
Military family (Percent)	.4	.3	.4	.4	.3	.4
Homeless (Number)	0	0	0	0	0	0
Homeless (Percent)	0	0	0	0	0	0
Foster (Number)	625	33	658	517	47	564
Foster (Percent)	.5	.6	.5	.5	.5	.5
Students with scores used in state summaries (Number)	117,178	5,915	123,093	113,977	8,677	122,654

APPENDIX J: INCIDENCE OF ACCOMMODATIONS RECEIVED

Incidence of Presentation Accommodations Received on the 2019 PSSA: English Language Arts

Type of Presentation Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Braille format (Number)	7	N/A	7	6	N/A	6	8	N/A	8	5	N/A	5	7	N/A	7	3	N/A	3
Braille format (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Large print format (Number)	95	N/A	95	87	N/A	87	112	N/A	112	79	N/A	79	65	N/A	65	81	N/A	81
Large print format (Percent)	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1
Computer Assistive Technology (Number)	16	N/A	16	2	N/A	2	9	N/A	9	14	N/A	14	11	N/A	11	6	N/A	6
Computer Assistive Technology (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Some conventions questions/text-dependent analysis prompts read aloud (Number)	3,811	50	3,861	5,905	102	6,007	4,713	99	4,812	3,010	140	3,150	1,658	133	1,791	1,344	118	1,462
Some conventions questions/text-dependent analysis prompts read aloud (Percent)	3.3	1.2	3.2	5	2.2	4.9	3.9	1.4	3.8	2.5	1.9	2.5	1.4	1.7	1.4	1.2	1.6	1.2
All conventions questions/text-dependent analysis prompts read aloud (Number)	3,817	250	4,067	3,864	449	4,313	2,969	442	3,411	1,820	423	2,243	1,025	298	1,323	732	236	968
All conventions questions/text-dependent analysis prompts read aloud (Percent)	3.3	6.1	3.4	3.3	9.7	3.5	2.5	6.4	2.7	1.5	5.8	1.8	.9	3.8	1.1	.6	3.1	.8
Conventions questions/text-dependent analysis prompts signed (Number)	0	7	7	14	18	32	10	16	26	12	28	40	8	16	24	5	16	21
Conventions questions/text-dependent analysis prompts signed (Percent)	0	.2	0	0	.4	0	0	.2	0	0	.4	0	0	.2	0	0	.2	0
Conventions questions/text-dependent analysis prompts interpreted for EL student (Number)	0	7	7	60	1	61	44	2	46	41	5	46	55	1	56	40	1	41
Conventions questions/text-dependent analysis prompts interpreted for EL student (Percent)	0	.2	0	.1	0	0	0	0	0	0	.1	0	0	0	0	0	0	0
Amplification device (Number)	74	0	74	83	1	84	54	3	57	39	4	43	22	6	28	21	4	25
Amplification device (Percent)	.1	0	.1	.1	0	.1	0	0	0	0	.1	0	0	.1	0	0	.1	0
Magnification device (Number)	11	2	13	16	5	21	11	3	14	8	10	18	10	8	18	5	7	12
Magnification device (Percent)	0	0	0	0	.1	0	0	0	0	0	.1	0	0	.1	0	0	.1	0
Color overlay (Number)	243	N/A	243	223	N/A	223	150	N/A	150	76	N/A	76	20	N/A	20	5	N/A	5
Color overlay (Percent)	.2	N/A	.2	.2	N/A	.2	.1	N/A	.1	.1	N/A	.1	0	N/A	0	0	N/A	0

Type of Presentation Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Other (per Accommodations Guidelines) (Number)	684	25	709	812	36	848	717	46	763	272	25	297	155	25	180	163	13	176
Other (per Accommodations Guidelines) (Percent)	.6	.6	.6	.7	.8	.7	.6	.7	.6	.2	.3	.2	.1	.3	.1	.1	.2	.1
Audio (Number)	N/A	743	743	N/A	964	964	N/A	1,277	1,277	N/A	1,376	1,376	N/A	1,304	1,304	N/A	1,143	1,143
Audio (Percent)	N/A	18.2	.6	N/A	20.8	.8	N/A	18.4	1	N/A	18.9	1.1	N/A	16.6	1	N/A	15.1	.9
Color Chooser (Number)	N/A	11	11	N/A	18	18	N/A	10	10	N/A	29	29	N/A	14	14	N/A	12	12
Color Chooser (Percent)	N/A	.3	0	N/A	.4	0	N/A	.1	0	N/A	.4	0	N/A	.2	0	N/A	.2	0
Contrasting Text Chooser (Number)	N/A	11	11	N/A	16	16	N/A	9	9	N/A	21	21	N/A	11	11	N/A	28	28
Contrasting Text Chooser (Percent)	N/A	.3	0	N/A	.3	0	N/A	.1	0	N/A	.3	0	N/A	.1	0	N/A	.4	0
Reverse Contrast (Number)	N/A	1	1	N/A	9	9	N/A	6	6	N/A	14	14	N/A	2	2	N/A	4	4
Reverse Contrast (Percent)	N/A	0	0	N/A	.2	0	N/A	.1	0	N/A	.2	0	N/A	0	0	N/A	.1	0
Refreshable Braille (Number)	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0
Refreshable Braille (Percent)	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0

Incidence of Presentation Accommodations Received on the 2019 PSSA: Mathematics

Type of Presentation Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Braille format (Number)	7	N/A	7	9	N/A	9	5	N/A	5	5	N/A	5	5	N/A	5	1	N/A	1
Braille format (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Large print format (Number)	85	N/A	85	87	N/A	87	100	N/A	100	74	N/A	74	58	N/A	58	74	N/A	74
Large print format (Percent)	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1	0	N/A	0	.1	N/A	.1
Computer Assistive Technology (Number)	2	N/A	2	2	N/A	2	11	N/A	11	4	N/A	4	1	N/A	1	8	N/A	8
Computer Assistive Technology (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Some test items/questions read aloud (Number)	8,993	112	9,105	8,647	123	8,770	6,282	126	6,408	3,706	160	3,866	1,947	105	2,052	1,495	120	1,615
Some test items/questions read aloud (Percent)	7.7	2.7	7.5	7.3	2.6	7.1	5.2	1.8	5	3.1	2.3	3	1.6	1.4	1.6	1.3	1.7	1.3
All test items/questions read aloud (Number)	5,979	415	6,394	5,489	517	6,006	3,852	579	4,431	2,552	443	2,995	1,438	335	1,773	1,113	299	1,412
All test items/questions read aloud (Percent)	5.1	9.9	5.3	4.6	10.9	4.9	3.2	8.4	3.5	2.1	6.4	2.3	1.2	4.6	1.4	1	4.2	1.1
Test items/questions signed (Number)	19	5	24	12	10	22	14	9	23	21	12	33	18	10	28	4	12	16
Test items/questions signed (Percent)	0	.1	0	0	.2	0	0	.1	0	0	.2	0	0	.1	0	0	.2	0
Test items/questions interpreted for EL student (Number)	134	7	141	128	0	128	126	1	127	76	2	78	47	1	48	33	2	35
Test items/questions interpreted for EL student (Percent)	.1	.2	.1	.1	0	.1	.1	0	.1	.1	0	.1	0	0	0	0	0	0
Amplification device (Number)	57	1	58	57	2	59	44	3	47	35	2	37	22	6	28	24	4	28
Amplification device (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	.1	0	0	.1	0
Magnification device (Number)	6	2	8	16	6	22	10	3	13	12	10	22	9	8	17	5	5	10
Magnification device (Percent)	0	0	0	0	.1	0	0	0	0	0	.1	0	0	.1	0	0	.1	0
Color overlay (Number)	59	N/A	59	35	N/A	35	33	N/A	33	24	N/A	24	3	N/A	3	3	N/A	3
Color overlay (Percent)	.1	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Other (per Accommodations Guidelines) (Number)	372	27	399	383	37	420	375	47	422	195	23	218	119	15	134	96	7	103
Other (per Accommodations Guidelines) (Percent)	.3	.6	.3	.3	.8	.3	.3	.7	.3	.2	.3	.2	.1	.2	.1	.1	.1	.1
Spanish version (Number)	452	N/A	452	515	N/A	515	515	N/A	515	617	N/A	617	676	N/A	676	590	N/A	590
Spanish version (Percent)	.4	N/A	.4	.4	N/A	.4	.4	N/A	.4	.5	N/A	.5	.6	N/A	.5	.5	N/A	.5
Audio (Number)	N/A	951	951	N/A	1,200	1,200	N/A	1,512	1,512	N/A	1,532	1,532	N/A	1,290	1,290	N/A	1,142	1,142
Audio (Percent)	N/A	22.6	.8	N/A	25.2	1	N/A	21.9	1.2	N/A	22	1.2	N/A	17.7	1	N/A	15.9	.9
Video sign language (Number)	N/A	9	9	N/A	19	19	N/A	20	20	N/A	17	17	N/A	15	15	N/A	16	16

Type of Presentation Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Video sign language (Percent)	N/A	.2	0	N/A	.4	0	N/A	.3	0	N/A	.2	0	N/A	.2	0	N/A	.2	0
Color Chooser (Number)	N/A	13	13	N/A	17	17	N/A	10	10	N/A	30	30	N/A	14	14	N/A	14	14
Color Chooser (Percent)	N/A	.3	0	N/A	.4	0	N/A	.1	0	N/A	.4	0	N/A	.2	0	N/A	.2	0
Contrasting Text Chooser (Number)	N/A	14	14	N/A	16	16	N/A	9	9	N/A	22	22	N/A	11	11	N/A	29	29
Contrasting Text Chooser (Percent)	N/A	.3	0	N/A	.3	0	N/A	.1	0	N/A	.3	0	N/A	.2	0	N/A	.4	0
Reverse Contrast (Number)	N/A	1	1	N/A	9	9	N/A	6	6	N/A	15	15	N/A	2	2	N/A	3	3
Reverse Contrast (Percent)	N/A	0	0	N/A	.2	0	N/A	.1	0	N/A	.2	0	N/A	0	0	N/A	0	0
Refreshable Braille (Number)	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0
Refreshable Braille (Percent)	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0

Incidence of Presentation Accommodations Received on the 2019 PSSA: Science

Type of Presentation Accommodation	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Braille format (Number)	5	N/A	5	2	N/A	2
Braille format (Percent)	0	N/A	0	0	N/A	0
Large print format (Number)	87	N/A	87	75	N/A	75
Large print format (Percent)	.1	N/A	.1	.1	N/A	.1
Computer Assistive Technology (Number)	3	N/A	3	6	N/A	6
Computer Assistive Technology (Percent)	0	N/A	0	0	N/A	0
Some test items/questions read aloud (Number)	8,561	119	8,680	1,306	140	1,446
Some test items/questions read aloud (Percent)	7.3	2	7.1	1.1	1.6	1.2
All test items/questions read aloud (Number)	5,917	518	6,435	1,122	311	1,433
All test items/questions read aloud (Percent)	5	8.8	5.2	1	3.6	1.2
Test items/questions signed (Number)	30	10	40	4	12	16
Test items/questions signed (Percent)	0	.2	0	0	.1	0
Test items/questions interpreted for EL student (Number)	123	0	123	26	2	28
Test items/questions interpreted for EL student (Percent)	.1	0	.1	0	0	0
Amplification device (Number)	51	2	53	18	3	21
Amplification device (Percent)	0	0	0	0	0	0
Magnification device (Number)	11	6	17	5	6	11
Magnification device (Percent)	0	.1	0	0	.1	0
Color overlay (Number)	37	N/A	37	1	N/A	1
Color overlay (Percent)	0	N/A	0	0	N/A	0
Other (per Accommodations Guidelines) (Number)	404	33	437	95	10	105
Other (per Accommodations Guidelines) (Percent)	.3	.6	.4	.1	.1	.1
Spanish version (Number)	499	N/A	499	589	N/A	589
Spanish version (Percent)	.4	N/A	.4	.5	N/A	.5
Audio (Number)	N/A	1,226	1,226	N/A	1,232	1,232
Audio (Percent)	N/A	20.7	1	N/A	14.2	1
Video sign language (Number)	N/A	19	19	N/A	16	16
Video sign language (Percent)	N/A	.3	0	N/A	.2	0
Color Chooser (Number)	N/A	18	18	N/A	13	13

Type of Presentation Accommodation	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Color Chooser (Percent)	N/A	.3	0	N/A	.1	0
Contrasting Text Chooser (Number)	N/A	25	25	N/A	29	29
Contrasting Text Chooser (Percent)	N/A	.4	0	N/A	.3	0
Reverse Contrast (Number)	N/A	9	9	N/A	3	3
Reverse Contrast (Percent)	N/A	.2	0	N/A	0	0
Refreshable Braille (Number)	N/A	0	0	N/A	0	0
Refreshable Braille (Percent)	N/A	0	0	N/A	0	0

Incidence of Response Accommodations Received on the 2019 PSSA: English Language Arts

Type of Response Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Assessment Coordinator marked multiple-choice responses at student's direction (Number)	112	2	114	237	0	237	205	1	206	161	0	161	94	2	96	83	0	83
Assessment Coordinator marked multiple-choice responses at student's direction (Percent)	.1	0	.1	.2	0	.2	.2	0	.2	.1	0	.1	.1	0	.1	.1	0	.1
Assessment Coordinator transcribed student responses (Number)	266	2	268	485	7	492	565	5	570	468	5	473	430	8	438	422	3	425
Assessment Coordinator transcribed student responses (Percent)	.2	0	.2	.4	.2	.4	.5	.1	.4	.4	.1	.4	.4	.1	.3	.4	0	.3
Keyboard, word processor, or computer (Number)	46	N/A	46	150	N/A	150	327	N/A	327	328	N/A	328	340	N/A	340	305	N/A	305
Keyboard, word processor, or computer (Percent)	0	N/A	0	.1	N/A	.1	.3	N/A	.3	.3	N/A	.3	.3	N/A	.3	.3	N/A	.2
Brailler/Notetaker (Number)	7	N/A	7	2	N/A	2	4	N/A	4	3	N/A	3	4	N/A	4	1	N/A	1
Brailler/Notetaker (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Augmentative communication device (Number)	6	N/A	6	9	N/A	9	0	N/A	0	2	N/A	2	1	N/A	1	2	N/A	2
Augmentative communication device (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Computer Assistive Technology (Number)	4	N/A	4	3	N/A	3	6	N/A	6	16	N/A	16	4	N/A	4	1	N/A	1
Computer Assistive Technology (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Other (per Accommodations Guidelines) (Number)	118	7	125	218	8	226	138	12	150	94	28	122	77	25	102	58	14	72
Other (per Accommodations Guidelines) (Percent)	.1	.2	.1	.2	.2	.2	.1	.2	.1	.1	.4	.1	.1	.3	.1	.1	.2	.1
Mixed-Mode (Number)	N/A	35	35	N/A	32	32	N/A	45	45	N/A	37	37	N/A	19	19	N/A	15	15
Mixed-Mode (Percent)	N/A	.9	0	N/A	.7	0	N/A	.6	0	N/A	.5	0	N/A	.2	0	N/A	.2	0

Incidence of Response Accommodations Received on the 2019 PSSA: Mathematics

Type of Response Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Assessment Coordinator marked multiple-choice responses at student's direction (Number)	121	3	124	262	0	262	197	1	198	128	0	128	99	1	100	72	0	72
Assessment Coordinator marked multiple-choice responses at student's direction (Percent)	.1	.1	.1	.2	0	.2	.2	0	.2	.1	0	.1	.1	0	.1	.1	0	.1
Assessment Coordinator scribed open-ended responses at student's direction (Number)	285	7	292	263	6	269	183	7	190	95	11	106	65	10	75	70	3	73
Assessment Coordinator scribed open-ended responses at student's direction (Percent)	.2	.2	.2	.2	.1	.2	.2	.1	.1	.1	.2	.1	.1	.1	.1	.1	0	.1
Assessment Coordinator transcribed student responses (Number)	181	4	185	323	8	331	319	4	323	213	5	218	171	5	176	161	3	164
Assessment Coordinator transcribed student responses (Percent)	.2	.1	.2	.3	.2	.3	.3	.1	.3	.2	.1	.2	.1	.1	.1	.1	0	.1
Qualified interpreter translated, transcribed, and/or scribed student's signed responses (Number)	21	1	22	15	1	16	17	0	17	13	0	13	13	0	13	11	1	12
Qualified interpreter translated, transcribed, and/or scribed student's signed responses (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Qualified interpreter translated, transcribed, and/or scribed EL student responses (Number)	27	0	27	18	0	18	16	0	16	28	0	28	17	0	17	18	0	18
Qualified interpreter translated, transcribed, and/or scribed EL student responses (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Keyboard, word processor, or computer (Number)	24	N/A	24	34	N/A	34	72	N/A	72	66	N/A	66	91	N/A	91	98	N/A	98
Keyboard, word processor, or computer (Percent)	0	N/A	0	0	N/A	0	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1	.1	N/A	.1
Brailler/Notetaker (Number)	4	N/A	4	3	N/A	3	1	N/A	1	4	N/A	4	4	N/A	4	0	N/A	0
Brailler/Notetaker (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Augmentative communication device (Number)	2	N/A	2	9	N/A	9	1	N/A	1	2	N/A	2	3	N/A	3	2	N/A	2
Augmentative communication device (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Computer Assistive Technology (Number)	5	N/A	5	2	N/A	2	7	N/A	7	2	N/A	2	2	N/A	2	2	N/A	2
Computer Assistive Technology (Percent)	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0	0	N/A	0
Translation dictionary for EL student (Number)	55	8	63	48	6	54	40	4	44	58	8	66	64	9	73	50	4	54
Translation dictionary for EL student (Percent)	0	.2	.1	0	.1	0	0	.1	0	0	.1	.1	.1	.1	.1	0	.1	0
Other (per Accommodations Guidelines) (Number)	210	11	221	238	21	259	197	18	215	148	32	180	64	28	92	60	25	85
Other (per Accommodations Guidelines) (Percent)	.2	.3	.2	.2	.4	.2	.2	.3	.2	.1	.5	.1	.1	.4	.1	.1	.3	.1
Mixed-Mode (Number)	N/A	42	42	N/A	42	42	N/A	61	61	N/A	37	37	N/A	16	16	N/A	14	14
Mixed-Mode (Percent)	N/A	1	0	N/A	.9	0	N/A	.9	0	N/A	.5	0	N/A	.2	0	N/A	.2	0

Incidence of Response Accommodations Received on the 2019 PSSA: Science

Type of Response Accommodation	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Assessment Coordinator marked multiple-choice responses at student's direction (Number)	251	0	251	68	0	68
Assessment Coordinator marked multiple-choice responses at student's direction (Percent)	.2	0	.2	.1	0	.1
Assessment Coordinator scribed open-ended responses at student's direction (Number)	253	9	262	58	3	61
Assessment Coordinator scribed open-ended responses at student's direction (Percent)	.2	.2	.2	.1	0	0
Assessment Coordinator transcribed student responses (Number)	350	7	357	184	3	187
Assessment Coordinator transcribed student responses (Percent)	.3	.1	.3	.2	0	.2
Qualified interpreter translated, transcribed, and/or scribed student's signed responses (Number)	17	1	18	7	1	8
Qualified interpreter translated, transcribed, and/or scribed student's signed responses (Percent)	0	0	0	0	0	0
Qualified interpreter translated, transcribed, and/or scribed EL student responses (Number)	20	0	20	10	0	10
Qualified interpreter translated, transcribed, and/or scribed EL student responses (Percent)	0	0	0	0	0	0
Keyboard, word processor, or computer (Number)	49	N/A	49	98	N/A	98
Keyboard, word processor, or computer (Percent)	0	N/A	0	.1	N/A	.1
Brailler/Notetaker (Number)	2	N/A	2	2	N/A	2
Brailler/Notetaker (Percent)	0	N/A	0	0	N/A	0
Augmentative communication device (Number)	9	N/A	9	0	N/A	0
Augmentative communication device (Percent)	0	N/A	0	0	N/A	0
Computer Assistive Technology (Number)	3	N/A	3	6	N/A	6
Computer Assistive Technology (Percent)	0	N/A	0	0	N/A	0
Translation dictionary for EL student (Number)	43	8	51	59	4	63
Translation dictionary for EL student (Percent)	0	.1	0	.1	0	.1
Other (per Accommodations Guidelines) (Number)	141	10	151	54	17	71
Other (per Accommodations Guidelines) (Percent)	.1	.2	.1	0	.2	.1
Mixed-Mode (Number)	N/A	28	28	N/A	15	15
Mixed-Mode (Percent)	N/A	.5	0	N/A	.2	0

Incidence of Setting Accommodations Received on the 2019 PSSA: English Language Arts

Type of Setting Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Hospital/home setting (Number)	14	0	14	12	1	13	13	0	13	22	0	22	25	7	32	20	3	23
Hospital/home setting (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	.1	0	0	0	0
One-on-one setting (Number)	645	27	672	654	23	677	502	29	531	435	28	463	310	37	347	296	26	322
One-on-one setting (Percent)	.6	.7	.6	.6	.5	.5	.4	.4	.4	.4	.4	.4	.3	.5	.3	.3	.3	.3
Small group setting (Number)	15,794	757	16,551	16,686	983	17,669	16,487	1,300	17,787	14,682	1,347	16,029	13,029	1,433	14,462	12,350	1,373	13,723
Small group setting (Percent)	13.6	18.5	13.7	14.1	21.2	14.3	13.7	18.7	13.9	12.2	18.5	12.6	11	18.3	11.5	10.7	18.1	11.1
Other (per Accommodations Guidelines) (Number)	95	29	124	170	44	214	199	53	252	336	55	391	269	2	271	250	5	255
Other (per Accommodations Guidelines) (Percent)	.1	.7	.1	.1	.9	.2	.2	.8	.2	.3	.8	.3	.2	0	.2	.2	.1	.2

Incidence of Setting Accommodations Received on the 2019 PSSA: Mathematics

Type of Setting Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Hospital/home setting (Number)	9	0	9	10	1	11	15	0	15	19	0	19	25	7	32	21	3	24
Hospital/home setting (Percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	.1	0	0	0	0
One-on-one setting (Number)	636	29	665	613	22	635	497	28	525	383	29	412	270	31	301	274	24	298
One-on-one setting (Percent)	.5	.7	.6	.5	.5	.5	.4	.4	.4	.3	.4	.3	.2	.4	.2	.2	.3	.2
Small group setting (Number)	15,783	811	16,594	16,552	1,042	17,594	16,076	1,370	17,446	14,367	1,323	15,690	12,715	1,361	14,076	11,866	1,322	13,188
Small group setting (Percent)	13.6	19.3	13.8	14	21.9	14.3	13.3	19.9	13.7	11.9	19	12.3	10.7	18.7	11.2	10.2	18.4	10.7
Other (per Accommodations Guidelines) (Number)	55	30	85	166	47	213	139	59	198	309	60	369	201	2	203	215	4	219
Other (per Accommodations Guidelines) (Percent)	0	.7	.1	.1	1	.2	.1	.9	.2	.3	.9	.3	.2	0	.2	.2	.1	.2

Incidence of Setting Accommodations Received on the 2019 PSSA: Science

Type of Setting Accommodation	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Hospital/home setting (Number)	10	1	11	21	3	24
Hospital/home setting (Percent)	0	0	0	0	0	0
One-on-one setting (Number)	646	23	669	289	26	315
One-on-one setting (Percent)	.6	.4	.5	.3	.3	.3
Small group setting (Number)	16,172	1,074	17,246	11,351	1,424	12,775
Small group setting (Percent)	13.8	18.2	14	10	16.4	10.4
Other (per Accommodations Guidelines) (Number)	135	44	179	235	4	239
Other (per Accommodations Guidelines) (Percent)	.1	.7	.1	.2	0	.2

Incidence of Timing Accommodations Received on the 2019 PSSA: English Language Arts

Type of Timing Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Extended time (Number)	7,958	482	8,440	12,660	657	13,317	12,627	804	13,431	10,544	794	11,338	9,007	708	9,715	6,780	620	7,400
Extended time (Percent)	6.8	11.8	7	10.7	14.2	10.8	10.5	11.6	10.5	8.8	10.9	8.9	7.6	9	7.7	5.8	8.2	6
Frequent breaks (Number)	3,837	335	4,172	4,228	426	4,654	3,815	582	4,397	2,603	561	3,164	2,069	398	2,467	1,529	387	1,916
Frequent breaks (Percent)	3.3	8.2	3.5	3.6	9.2	3.8	3.2	8.4	3.4	2.2	7.7	2.5	1.8	5.1	2	1.3	5.1	1.6
Changed test schedule (Number)	410	32	442	385	27	412	334	38	372	318	33	351	335	62	397	366	46	412
Changed test schedule (Percent)	.4	.8	.4	.3	.6	.3	.3	.5	.3	.3	.5	.3	.3	.8	.3	.3	.6	.3
Other (per Accommodations Guidelines) (Number)	45	3	48	70	3	73	72	3	75	61	3	64	54	7	61	48	2	50
Other (per Accommodations Guidelines) (Percent)	0	.1	0	.1	.1	.1	.1	0	.1	.1	0	.1	0	.1	0	0	0	0

Incidence of Timing Accommodations Received on the 2019 PSSA: Mathematics

Type of Timing Accommodation	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Extended time (Number)	6,270	516	6,786	7,759	621	8,380	9,031	832	9,863	7,556	768	8,324	5,529	665	6,194	5,291	641	5,932
Extended time (Percent)	5.4	12.3	5.6	6.5	13	6.8	7.5	12.1	7.7	6.3	11	6.5	4.7	9.1	4.9	4.6	8.9	4.8
Frequent breaks (Number)	3,568	361	3,929	3,773	455	4,228	3,379	613	3,992	2,284	544	2,828	1,699	385	2,084	1,382	370	1,752
Frequent breaks (Percent)	3.1	8.6	3.3	3.2	9.6	3.4	2.8	8.9	3.1	1.9	7.8	2.2	1.4	5.3	1.7	1.2	5.1	1.4
Changed test schedule (Number)	388	24	412	338	22	360	358	28	386	293	36	329	288	31	319	302	35	337
Changed test schedule (Percent)	.3	.6	.3	.3	.5	.3	.3	.4	.3	.2	.5	.3	.2	.4	.3	.3	.5	.3
Other (per Accommodations Guidelines) (Number)	39	3	42	83	4	87	53	4	57	47	3	50	82	7	89	61	2	63
Other (per Accommodations Guidelines) (Percent)	0	.1	0	.1	.1	.1	0	.1	0	0	0	0	.1	.1	.1	.1	0	.1

Incidence of Timing Accommodations Received on the 2019 PSSA: Science

Type of Timing Accommodation	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Extended time (Number)	4,179	591	4,770	2,261	545	2,806
Extended time (Percent)	3.6	10	3.9	2	6.3	2.3
Frequent breaks (Number)	3,443	463	3,906	1,223	372	1,595
Frequent breaks (Percent)	2.9	7.8	3.2	1.1	4.3	1.3
Changed test schedule (Number)	303	14	317	289	23	312
Changed test schedule (Percent)	.3	.2	.3	.3	.3	.3
Other (per Accommodations Guidelines) (Number)	82	4	86	45	1	46
Other (per Accommodations Guidelines) (Percent)	.1	.1	.1	0	0	0

APPENDIX K: ACCOMMODATION RATE FOR NON-IEP AND IEP STUDENTS

Accommodation Rate for Non-IEP and IEP Students on the 2019 PSSA: English Language Arts

Student	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Non-IEP Students (Number)	96,741	3,064	99,805	97,683	3,328	101,011	99,432	5,078	104,510	99,984	5,159	105,143	98,667	5,616	104,283	97,008	5,509	102,517
Non-Accommodated (Number)	85,525	2,684	88,209	82,547	2,836	85,383	85,776	4,601	90,377	89,415	4,711	94,126	89,966	5,311	95,277	90,143	5,257	95,400
Non-Accommodated (Percent)	88.4	87.6	88.4	84.5	85.2	84.5	86.3	90.6	86.5	89.4	91.3	89.5	91.2	94.6	91.4	92.9	95.4	93.1
Accommodated (Number)	11,216	380	11,596	15,136	492	15,628	13,656	477	14,133	10,569	448	11,017	8,701	305	9,006	6,865	252	7,117
Accommodated (Percent)	11.6	12.4	11.6	15.5	14.8	15.5	13.7	9.4	13.5	10.6	8.7	10.5	8.8	5.4	8.6	7.1	4.6	6.9
IEP Students (Number)	19,731	1,028	20,759	20,847	1,314	22,161	21,175	1,865	23,040	20,307	2,110	22,417	19,481	2,234	21,715	18,919	2,067	20,986
Non-Accommodated (Number)	7,462	253	7,715	6,703	272	6,975	6,473	379	6,852	6,633	403	7,036	7,078	488	7,566	7,331	488	7,819
Non-Accommodated (Percent)	37.8	24.6	37.2	32.2	20.7	31.5	30.6	20.3	29.7	32.7	19.1	31.4	36.3	21.8	34.8	38.7	23.6	37.3
Accommodated (Number)	12,269	775	13,044	14,144	1,042	15,186	14,702	1,486	16,188	13,674	1,707	15,381	12,403	1,746	14,149	11,588	1,579	13,167
Accommodated (Percent)	62.2	75.4	62.8	67.8	79.3	68.5	69.4	79.7	70.3	67.3	80.9	68.6	63.7	78.2	65.2	61.3	76.4	62.7

Accommodation Rate for Non-IEP and IEP Students on the 2019 PSSA: Mathematics

Student	Gr 3 PPT	Gr 3 CBT	Gr 3 Total	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 5 PPT	Gr 5 CBT	Gr 5 Total	Gr 6 PPT	Gr 6 CBT	Gr 6 Total	Gr 7 PPT	Gr 7 CBT	Gr 7 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Non-IEP Students (Number)	96,714	3,125	99,839	97,745	3,361	101,106	99,577	4,978	104,555	100,199	4,896	105,095	99,049	5,129	104,178	97,098	5,214	102,312
Non-Accommodated (Number)	83,829	2,680	86,509	85,444	2,901	88,345	88,495	4,466	92,961	91,981	4,460	96,441	93,360	4,882	98,242	91,612	4,930	96,542
Non-Accommodated (Percent)	86.7	85.8	86.6	87.4	86.3	87.4	88.9	89.7	88.9	91.8	91.1	91.8	94.3	95.2	94.3	94.4	94.6	94.4
Accommodated (Number)	12,885	445	13,330	12,301	460	12,761	11,082	512	11,594	8,218	436	8,654	5,689	247	5,936	5,486	284	5,770
Accommodated (Percent)	13.3	14.2	13.4	12.6	13.7	12.6	11.1	10.3	11.1	8.2	8.9	8.2	5.7	4.8	5.7	5.6	5.4	5.6
IEP Students (Number)	19,688	1,077	20,765	20,777	1,403	22,180	21,122	1,915	23,037	20,341	2,060	22,401	19,471	2,159	21,630	18,893	1,981	20,874
Non-Accommodated (Number)	7,435	223	7,658	6,976	266	7,242	6,909	329	7,238	7,110	332	7,442	7,547	470	8,017	7,761	457	8,218
Non-Accommodated (Percent)	37.8	20.7	36.9	33.6	19	32.7	32.7	17.2	31.4	35	16.1	33.2	38.8	21.8	37.1	41.1	23.1	39.4
Accommodated (Number)	12,253	854	13,107	13,801	1,137	14,938	14,213	1,586	15,799	13,231	1,728	14,959	11,924	1,689	13,613	11,132	1,524	12,656
Accommodated (Percent)	62.2	79.3	63.1	66.4	81	67.3	67.3	82.8	68.6	65	83.9	66.8	61.2	78.2	62.9	58.9	76.9	60.6

Accommodation Rate for Non-IEP and IEP Students on the 2019 PSSA: Science

Student	Gr 4 PPT	Gr 4 CBT	Gr 4 Total	Gr 8 PPT	Gr 8 CBT	Gr 8 Total
Non-IEP Students (Number)	96,603	4,347	100,950	95,456	6,474	101,930
Non-Accommodated (Number)	86,674	3,928	90,602	92,603	6,276	98,879
Non-Accommodated (Percent)	89.7	90.4	89.7	97	96.9	97
Accommodated (Number)	9,929	419	10,348	2,853	198	3,051
Accommodated (Percent)	10.3	9.6	10.3	3	3.1	3
IEP Students (Number)	20,575	1,568	22,143	18,521	2,203	20,724
Non-Accommodated (Number)	7,128	362	7,490	7,935	520	8,455
Non-Accommodated (Percent)	34.6	23.1	33.8	42.8	23.6	40.8
Accommodated (Number)	13,447	1,206	14,653	10,586	1,683	12,269
Accommodated (Percent)	65.4	76.9	66.2	57.2	76.4	59.2

APPENDIX L: INCIDENCE OF ACCOMMODATIONS RECEIVED BY IEP AND EL STUDENTS

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: English Language Arts Grade 3

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	1,392	1,984	330	105
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	1.5	10.5	6.8	12
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	474	3,074	138	131
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.5	16.3	2.9	14.9
PPT - Small group setting (Number)	3,318	10,588	1,330	558
PPT - Small group setting (Percent)	3.6	56.2	27.5	63.6
PPT - Extended time (Number)	5,266	2,359	264	69
PPT - Extended time (Percent)	5.7	12.5	5.5	7.9
PPT - Frequent breaks (Number)	473	3,144	90	130
PPT - Frequent breaks (Percent)	.5	16.7	1.9	14.8
PPT - Number assessed (Number)	91,913	18,854	4,828	877
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	6	34	9	1
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	3.5	7.7	2.3
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	21	205	15	9
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.7	20.8	12.8	20.5
CBT - Small group setting (Number)	133	550	47	27
CBT - Small group setting (Percent)	4.5	55.9	40.2	61.4
CBT - Extended time (Number)	143	308	12	19
CBT - Extended time (Percent)	4.9	31.3	10.3	43.2
CBT - Frequent breaks (Number)	19	290	10	16
CBT - Frequent breaks (Percent)	.6	29.5	8.5	36.4
CBT - Number assessed (Number)	2,947	984	117	44
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	1,398	2,018	339	106
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	1.5	10.2	6.9	11.5

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
Total - All conventions questions/ text-dependent analysis prompts read aloud (Number)	495	3,279	153	140
Total - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.5	16.5	3.1	15.2
Total - Small group setting (Number)	3,451	11,138	1,377	585
Total - Small group setting (Percent)	3.6	56.1	27.8	63.5
Total - Extended time (Number)	5,409	2,667	276	88
Total - Extended time (Percent)	5.7	13.4	5.6	9.6
Total - Frequent breaks (Number)	492	3,434	100	146
Total - Frequent breaks (Percent)	.5	17.3	2	15.9
Total - Number assessed (Number)	94,860	19,838	4,945	921

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: English Language Arts Grade 4

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	2,094	3,222	406	183
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	2.2	16.2	9.1	19.2
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	397	3,222	107	138
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.4	16.2	2.4	14.5
PPT - Small group setting (Number)	2,865	12,022	1,168	631
PPT - Small group setting (Percent)	3.1	60.4	26.3	66.2
PPT - Extended time (Number)	9,247	2,901	406	106
PPT - Extended time (Percent)	9.9	14.6	9.1	11.1
PPT - Frequent breaks (Number)	542	3,477	77	132
PPT - Frequent breaks (Percent)	.6	17.5	1.7	13.9
PPT - Number assessed (Number)	93,238	19,894	4,445	953
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	14	70	13	5
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.4	5.5	10.8	11.6
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	54	369	18	8
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	1.7	29	15	18.6
CBT - Small group setting (Number)	153	753	55	22
CBT - Small group setting (Percent)	4.8	59.2	45.8	51.2
CBT - Extended time (Number)	197	411	36	13
CBT - Extended time (Percent)	6.1	32.3	30	30.2
CBT - Frequent breaks (Number)	32	378	8	8
CBT - Frequent breaks (Percent)	1	29.7	6.7	18.6
CBT - Number assessed (Number)	3,208	1,271	120	43
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	2,108	3,292	419	188
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	2.2	15.6	9.2	18.9
Total - All conventions questions/ text-dependent analysis prompts read aloud (Number)	451	3,591	125	146
Total - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.5	17	2.7	14.7

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
Total - Small group setting (Number)	3,018	12,775	1,223	653
Total - Small group setting (Percent)	3.1	60.4	26.8	65.6
Total - Extended time (Number)	9,444	3,312	442	119
Total - Extended time (Percent)	9.8	15.6	9.7	11.9
Total - Frequent breaks (Number)	574	3,855	85	140
Total - Frequent breaks (Percent)	.6	18.2	1.9	14.1
Total - Number assessed (Number)	96,446	21,165	4,565	996

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: English Language Arts Grade 5

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	1,303	3,008	248	154
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	1.4	14.9	6.7	16.4
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	193	2,608	57	111
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	12.9	1.5	11.8
PPT - Small group setting (Number)	2,300	12,765	794	628
PPT - Small group setting (Percent)	2.4	63.1	21.3	66.9
PPT - Extended time (Number)	9,176	2,948	368	135
PPT - Extended time (Percent)	9.6	14.6	9.9	14.4
PPT - Frequent breaks (Number)	317	3,322	30	146
PPT - Frequent breaks (Percent)	.3	16.4	.8	15.5
PPT - Number assessed (Number)	95,703	20,236	3,729	939
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	7	78	3	11
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	4.4	2.4	12.8
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	25	372	16	29
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.5	20.9	12.9	33.7
CBT - Small group setting (Number)	162	1,035	37	66
CBT - Small group setting (Percent)	3.3	58.2	29.8	76.7
CBT - Extended time (Number)	230	523	15	36
CBT - Extended time (Percent)	4.6	29.4	12.1	41.9
CBT - Frequent breaks (Number)	44	502	7	29
CBT - Frequent breaks (Percent)	.9	28.2	5.6	33.7
CBT - Number assessed (Number)	4,954	1,779	124	86
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	1,310	3,086	251	165
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	1.3	14	6.5	16.1
Total - All conventions questions/ text-dependent analysis prompts read aloud (Number)	218	2,980	73	140
Total - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	13.5	1.9	13.7
Total - Small group setting (Number)	2,462	13,800	831	694

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
Total - Small group setting (Percent)	2.4	62.7	21.6	67.7
Total - Extended time (Number)	9,406	3,471	383	171
Total - Extended time (Percent)	9.3	15.8	9.9	16.7
Total - Frequent breaks (Number)	361	3,824	37	175
Total - Frequent breaks (Percent)	.4	17.4	1	17.1
Total - Number assessed (Number)	100,657	22,015	3,853	1,025

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: English Language Arts Grade 6

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	475	2,339	105	91
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.5	12	3.4	11.2
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	92	1,664	22	42
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	8.5	.7	5.2
PPT - Small group setting (Number)	1,784	11,970	508	420
PPT - Small group setting (Percent)	1.8	61.4	16.6	51.6
PPT - Extended time (Number)	7,688	2,524	228	104
PPT - Extended time (Percent)	7.9	12.9	7.5	12.8
PPT - Frequent breaks (Number)	189	2,297	31	86
PPT - Frequent breaks (Percent)	.2	11.8	1	10.6
PPT - Number assessed (Number)	96,928	19,493	3,056	814
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	9	127	4	0
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	6.2	4.2	0
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	9	391	6	17
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	19.1	6.3	25.4
CBT - Small group setting (Number)	146	1,145	19	37
CBT - Small group setting (Percent)	2.9	56	20	55.2
CBT - Extended time (Number)	202	555	13	24
CBT - Extended time (Percent)	4	27.2	13.7	35.8
CBT - Frequent breaks (Number)	36	503	3	19
CBT - Frequent breaks (Percent)	.7	24.6	3.2	28.4
CBT - Number assessed (Number)	5,064	2,043	95	67
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	484	2,466	109	91
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.5	11.5	3.5	10.3
Total - All conventions questions/ text-dependent analysis prompts read aloud (Number)	101	2,055	28	59
Total - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	9.5	.9	6.7

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
Total - Small group setting (Number)	1,930	13,115	527	457
Total - Small group setting (Percent)	1.9	60.9	16.7	51.9
Total - Extended time (Number)	7,890	3,079	241	128
Total - Extended time (Percent)	7.7	14.3	7.6	14.5
Total - Frequent breaks (Number)	225	2,800	34	105
Total - Frequent breaks (Percent)	.2	13	1.1	11.9
Total - Number assessed (Number)	101,992	21,536	3,151	881

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: English Language Arts Grade 7

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	178	1,314	100	66
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	7	3.2	9.3
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	23	957	7	38
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	0	5.1	.2	5.3
PPT - Small group setting (Number)	1,238	10,967	446	378
PPT - Small group setting (Percent)	1.3	58.4	14.1	53.2
PPT - Extended time (Number)	6,556	2,137	220	94
PPT - Extended time (Percent)	6.9	11.4	6.9	13.2
PPT - Frequent breaks (Number)	103	1,859	27	80
PPT - Frequent breaks (Percent)	.1	9.9	.9	11.3
PPT - Number assessed (Number)	95,498	18,770	3,169	711
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	6	122	1	4
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	5.6	1.1	6.8
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	4	283	2	9
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	13	2.2	15.3
CBT - Small group setting (Number)	94	1,290	10	39
CBT - Small group setting (Percent)	1.7	59.3	11	66.1
CBT - Extended time (Number)	128	553	4	23
CBT - Extended time (Percent)	2.3	25.4	4.4	39
CBT - Frequent breaks (Number)	9	381	1	7
CBT - Frequent breaks (Percent)	.2	17.5	1.1	11.9
CBT - Number assessed (Number)	5,525	2,175	91	59
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	184	1,436	101	70
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.2	6.9	3.1	9.1
Total - All conventions questions/ text-dependent analysis prompts read aloud (Number)	27	1,240	9	47
Total - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	0	5.9	.3	6.1
Total - Small group setting (Number)	1,332	12,257	456	417

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
Total - Small group setting (Percent)	1.3	58.5	14	54.2
Total - Extended time (Number)	6,684	2,690	224	117
Total - Extended time (Percent)	6.6	12.8	6.9	15.2
Total - Frequent breaks (Number)	112	2,240	28	87
Total - Frequent breaks (Percent)	.1	10.7	.9	11.3
Total - Number assessed (Number)	101,023	20,945	3,260	770

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: English Language Arts Grade 8

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	100	1,143	57	44
PPT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	6.3	1.9	6.9
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	17	691	7	17
PPT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	0	3.8	.2	2.7
PPT - Small group setting (Number)	1,207	10,434	388	321
PPT - Small group setting (Percent)	1.3	57.1	13.1	50.2
PPT - Extended time (Number)	4,861	1,672	178	69
PPT - Extended time (Percent)	5.2	9.1	6	10.8
PPT - Frequent breaks (Number)	87	1,399	10	33
PPT - Frequent breaks (Percent)	.1	7.7	.3	5.2
PPT - Number assessed (Number)	94,038	18,279	2,970	640
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	3	111	1	3
CBT - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	5.5	1	5.6
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Number)	6	216	1	13
CBT - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	10.7	1	24.1
CBT - Small group setting (Number)	82	1,236	14	41
CBT - Small group setting (Percent)	1.5	61.4	14.3	75.9
CBT - Extended time (Number)	111	489	2	18
CBT - Extended time (Percent)	2.1	24.3	2	33.3
CBT - Frequent breaks (Number)	19	356	3	9
CBT - Frequent breaks (Percent)	.4	17.7	3.1	16.7
CBT - Number assessed (Number)	5,411	2,013	98	54
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Number)	103	1,254	58	47
Total - Some conventions questions/ text-dependent analysis prompts read aloud (Percent)	.1	6.2	1.9	6.8
Total - All conventions questions/ text-dependent analysis prompts read aloud (Number)	23	907	8	30
Total - All conventions questions/ text-dependent analysis prompts read aloud (Percent)	0	4.5	.3	4.3

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
Total - Small group setting (Number)	1,289	11,670	402	362
Total - Small group setting (Percent)	1.3	57.5	13.1	52.2
Total - Extended time (Number)	4,972	2,161	180	87
Total - Extended time (Percent)	5	10.6	5.9	12.5
Total - Frequent breaks (Number)	106	1,755	13	42
Total - Frequent breaks (Percent)	.1	8.6	.4	6.1
Total - Number assessed (Number)	99,449	20,292	3,068	694

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Mathematics Grade 3

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	4,691	3,264	813	225
PPT - Some test items/questions read aloud (Percent)	5.1	17.3	16.8	25.8
PPT - All test items/questions read aloud (Number)	952	4,577	241	209
PPT - All test items/questions read aloud (Percent)	1	24.3	5	23.9
PPT - Small group setting (Number)	3,400	10,463	1,357	563
PPT - Small group setting (Percent)	3.7	55.6	28	64.5
PPT - Extended time (Number)	3,990	1,971	238	71
PPT - Extended time (Percent)	4.3	10.5	4.9	8.1
PPT - Frequent breaks (Number)	493	2,862	90	123
PPT - Frequent breaks (Percent)	.5	15.2	1.9	14.1
PPT - Number assessed (Number)	91,863	18,815	4,851	873
CBT - Some test items/questions read aloud (Number)	34	63	13	2
CBT - Some test items/questions read aloud (Percent)	1.1	6.1	11.1	4.4
CBT - All test items/questions read aloud (Number)	50	334	13	18
CBT - All test items/questions read aloud (Percent)	1.7	32.4	11.1	40
CBT - Small group setting (Number)	150	592	42	27
CBT - Small group setting (Percent)	5	57.4	35.9	60
CBT - Extended time (Number)	153	330	14	19
CBT - Extended time (Percent)	5.1	32	12	42.2
CBT - Frequent breaks (Number)	23	316	6	16
CBT - Frequent breaks (Percent)	.8	30.6	5.1	35.6
CBT - Number assessed (Number)	3,008	1,032	117	45
Total - Some test items/questions read aloud (Number)	4,725	3,327	826	227
Total - Some test items/questions read aloud (Percent)	5	16.8	16.6	24.7
Total - All test items/questions read aloud (Number)	1,002	4,911	254	227
Total - All test items/questions read aloud (Percent)	1.1	24.7	5.1	24.7
Total - Small group setting (Number)	3,550	11,055	1,399	590
Total - Small group setting (Percent)	3.7	55.7	28.2	64.3
Total - Extended time (Number)	4,143	2,301	252	90
Total - Extended time (Percent)	4.4	11.6	5.1	9.8
Total - Frequent breaks (Number)	516	3,178	96	139
Total - Frequent breaks (Percent)	.5	16	1.9	15.1
Total - Number assessed (Number)	94,871	19,847	4,968	918

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Mathematics Grade 4

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	3,615	4,100	666	266
PPT - Some test items/questions read aloud (Percent)	3.9	20.7	14.8	27.9
PPT - All test items/questions read aloud (Number)	636	4,504	159	190
PPT - All test items/questions read aloud (Percent)	.7	22.7	3.5	19.9
PPT - Small group setting (Number)	2,874	11,828	1,230	620
PPT - Small group setting (Percent)	3.1	59.7	27.4	64.9
PPT - Extended time (Number)	5,077	2,305	275	102
PPT - Extended time (Percent)	5.4	11.6	6.1	10.7
PPT - Frequent breaks (Number)	444	3,144	62	123
PPT - Frequent breaks (Percent)	.5	15.9	1.4	12.9
PPT - Number assessed (Number)	93,255	19,822	4,490	955
CBT - Some test items/questions read aloud (Number)	42	64	12	5
CBT - Some test items/questions read aloud (Percent)	1.3	4.7	10	11.6
CBT - All test items/questions read aloud (Number)	39	452	18	8
CBT - All test items/questions read aloud (Percent)	1.2	33.2	15	18.6
CBT - Small group setting (Number)	166	807	47	22
CBT - Small group setting (Percent)	5.1	59.3	39.2	51.2
CBT - Extended time (Number)	148	430	32	11
CBT - Extended time (Percent)	4.6	31.6	26.7	25.6
CBT - Frequent breaks (Number)	31	409	8	7
CBT - Frequent breaks (Percent)	1	30.1	6.7	16.3
CBT - Number assessed (Number)	3,241	1,360	120	43
Total - Some test items/questions read aloud (Number)	3,657	4,164	678	271
Total - Some test items/questions read aloud (Percent)	3.8	19.7	14.7	27.2
Total - All test items/questions read aloud (Number)	675	4,956	177	198
Total - All test items/questions read aloud (Percent)	.7	23.4	3.8	19.8
Total - Small group setting (Number)	3,040	12,635	1,277	642
Total - Small group setting (Percent)	3.2	59.6	27.7	64.3
Total - Extended time (Number)	5,225	2,735	307	113
Total - Extended time (Percent)	5.4	12.9	6.7	11.3
Total - Frequent breaks (Number)	475	3,553	70	130
Total - Frequent breaks (Percent)	.5	16.8	1.5	13
Total - Number assessed (Number)	96,496	21,182	4,610	998

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Mathematics Grade 5

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	1,962	3,720	407	193
PPT - Some test items/questions read aloud (Percent)	2	18.4	10.9	20.6
PPT - All test items/questions read aloud (Number)	270	3,369	75	138
PPT - All test items/questions read aloud (Percent)	.3	16.7	2	14.7
PPT - Small group setting (Number)	2,190	12,463	852	571
PPT - Small group setting (Percent)	2.3	61.7	22.7	60.8
PPT - Extended time (Number)	6,262	2,398	271	100
PPT - Extended time (Percent)	6.5	11.9	7.2	10.6
PPT - Frequent breaks (Number)	314	2,909	28	128
PPT - Frequent breaks (Percent)	.3	14.4	.7	13.6
PPT - Number assessed (Number)	95,827	20,183	3,750	939
CBT - Some test items/questions read aloud (Number)	27	81	11	7
CBT - Some test items/questions read aloud (Percent)	.6	4.4	8.9	8.2
CBT - All test items/questions read aloud (Number)	33	510	7	29
CBT - All test items/questions read aloud (Percent)	.7	27.9	5.6	34.1
CBT - Small group setting (Number)	182	1,091	34	63
CBT - Small group setting (Percent)	3.7	59.6	27.4	74.1
CBT - Extended time (Number)	239	544	14	35
CBT - Extended time (Percent)	4.9	29.7	11.3	41.2
CBT - Frequent breaks (Number)	49	530	5	29
CBT - Frequent breaks (Percent)	1	29	4	34.1
CBT - Number assessed (Number)	4,854	1,830	124	85
Total - Some test items/questions read aloud (Number)	1,989	3,801	418	200
Total - Some test items/questions read aloud (Percent)	2	17.3	10.8	19.5
Total - All test items/questions read aloud (Number)	303	3,879	82	167
Total - All test items/questions read aloud (Percent)	.3	17.6	2.1	16.3
Total - Small group setting (Number)	2,372	13,554	886	634
Total - Small group setting (Percent)	2.4	61.6	22.9	61.9
Total - Extended time (Number)	6,501	2,942	285	135
Total - Extended time (Percent)	6.5	13.4	7.4	13.2
Total - Frequent breaks (Number)	363	3,439	33	157
Total - Frequent breaks (Percent)	.4	15.6	.9	15.3
Total - Number assessed (Number)	100,681	22,013	3,874	1,024

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Mathematics Grade 6

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	768	2,656	153	129
PPT - Some test items/questions read aloud (Percent)	.8	13.6	4.9	15.6
PPT - All test items/questions read aloud (Number)	168	2,292	32	60
PPT - All test items/questions read aloud (Percent)	.2	11.7	1	7.2
PPT - Small group setting (Number)	1,743	11,709	499	416
PPT - Small group setting (Percent)	1.8	60	16.1	50.2
PPT - Extended time (Number)	5,221	2,051	191	93
PPT - Extended time (Percent)	5.4	10.5	6.2	11.2
PPT - Frequent breaks (Number)	181	2,007	24	72
PPT - Frequent breaks (Percent)	.2	10.3	.8	8.7
PPT - Number assessed (Number)	97,104	19,513	3,095	828
CBT - Some test items/questions read aloud (Number)	10	142	4	4
CBT - Some test items/questions read aloud (Percent)	.2	7.1	4.9	6.5
CBT - All test items/questions read aloud (Number)	8	413	5	17
CBT - All test items/questions read aloud (Percent)	.2	20.7	6.1	27.4
CBT - Small group setting (Number)	150	1,123	15	35
CBT - Small group setting (Percent)	3.1	56.2	18.3	56.5
CBT - Extended time (Number)	175	561	8	24
CBT - Extended time (Percent)	3.6	28.1	9.8	38.7
CBT - Frequent breaks (Number)	35	487	3	19
CBT - Frequent breaks (Percent)	.7	24.4	3.7	30.6
CBT - Number assessed (Number)	4,814	1,998	82	62
Total - Some test items/questions read aloud (Number)	778	2,798	157	133
Total - Some test items/questions read aloud (Percent)	.8	13	4.9	14.9
Total - All test items/questions read aloud (Number)	176	2,705	37	77
Total - All test items/questions read aloud (Percent)	.2	12.6	1.2	8.7
Total - Small group setting (Number)	1,893	12,832	514	451
Total - Small group setting (Percent)	1.9	59.7	16.2	50.7
Total - Extended time (Number)	5,396	2,612	199	117
Total - Extended time (Percent)	5.3	12.1	6.3	13.1
Total - Frequent breaks (Number)	216	2,494	27	91
Total - Frequent breaks (Percent)	.2	11.6	.8	10.2
Total - Number assessed (Number)	101,918	21,511	3,177	890

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Mathematics Grade 7

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	223	1,557	101	66
PPT - Some test items/questions read aloud (Percent)	.2	8.3	3.2	9.2
PPT - All test items/questions read aloud (Number)	39	1,332	16	51
PPT - All test items/questions read aloud (Percent)	0	7.1	.5	7.1
PPT - Small group setting (Number)	1,205	10,682	476	352
PPT - Small group setting (Percent)	1.3	57	14.9	49.2
PPT - Extended time (Number)	3,614	1,679	169	67
PPT - Extended time (Percent)	3.8	9	5.3	9.4
PPT - Frequent breaks (Number)	96	1,520	26	57
PPT - Frequent breaks (Percent)	.1	8.1	.8	8
PPT - Number assessed (Number)	95,861	18,755	3,188	716
CBT - Some test items/questions read aloud (Number)	6	95	1	3
CBT - Some test items/questions read aloud (Percent)	.1	4.5	1.2	5.6
CBT - All test items/questions read aloud (Number)	3	318	2	12
CBT - All test items/questions read aloud (Percent)	.1	15.1	2.4	22.2
CBT - Small group setting (Number)	86	1,228	10	37
CBT - Small group setting (Percent)	1.7	58.3	11.8	68.5
CBT - Extended time (Number)	115	526	2	22
CBT - Extended time (Percent)	2.3	25	2.4	40.7
CBT - Frequent breaks (Number)	9	370	1	5
CBT - Frequent breaks (Percent)	.2	17.6	1.2	9.3
CBT - Number assessed (Number)	5,044	2,105	85	54
Total - Some test items/questions read aloud (Number)	229	1,652	102	69
Total - Some test items/questions read aloud (Percent)	.2	7.9	3.1	9
Total - All test items/questions read aloud (Number)	42	1,650	18	63
Total - All test items/questions read aloud (Percent)	0	7.9	.5	8.2
Total - Small group setting (Number)	1,291	11,910	486	389
Total - Small group setting (Percent)	1.3	57.1	14.8	50.5
Total - Extended time (Number)	3,729	2,205	171	89
Total - Extended time (Percent)	3.7	10.6	5.2	11.6
Total - Frequent breaks (Number)	105	1,890	27	62
Total - Frequent breaks (Percent)	.1	9.1	.8	8.1
Total - Number assessed (Number)	100,905	20,860	3,273	770

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Mathematics Grade 8

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	132	1,265	70	28
PPT - Some test items/questions read aloud (Percent)	.1	6.9	2.3	4.4
PPT - All test items/questions read aloud (Number)	41	1,020	10	42
PPT - All test items/questions read aloud (Percent)	0	5.6	.3	6.6
PPT - Small group setting (Number)	1,131	10,050	384	301
PPT - Small group setting (Percent)	1.2	55.1	12.9	47
PPT - Extended time (Number)	3,613	1,455	166	57
PPT - Extended time (Percent)	3.8	8	5.6	8.9
PPT - Frequent breaks (Number)	79	1,262	9	32
PPT - Frequent breaks (Percent)	.1	6.9	.3	5
PPT - Number assessed (Number)	94,116	18,253	2,982	640
CBT - Some test items/questions read aloud (Number)	3	113	0	4
CBT - Some test items/questions read aloud (Percent)	.1	5.9	0	7.8
CBT - All test items/questions read aloud (Number)	5	280	1	13
CBT - All test items/questions read aloud (Percent)	.1	14.5	1.1	25.5
CBT - Small group setting (Number)	77	1,195	12	38
CBT - Small group setting (Percent)	1.5	61.9	13.8	74.5
CBT - Extended time (Number)	152	470	2	17
CBT - Extended time (Percent)	3	24.4	2.3	33.3
CBT - Frequent breaks (Number)	18	341	3	8
CBT - Frequent breaks (Percent)	.4	17.7	3.4	15.7
CBT - Number assessed (Number)	5,127	1,930	87	51
Total - Some test items/questions read aloud (Number)	135	1,378	70	32
Total - Some test items/questions read aloud (Percent)	.1	6.8	2.3	4.6
Total - All test items/questions read aloud (Number)	46	1,300	11	55
Total - All test items/questions read aloud (Percent)	0	6.4	.4	8
Total - Small group setting (Number)	1,208	11,245	396	339
Total - Small group setting (Percent)	1.2	55.7	12.9	49.1
Total - Extended time (Number)	3,765	1,925	168	74
Total - Extended time (Percent)	3.8	9.5	5.5	10.7
Total - Frequent breaks (Number)	97	1,603	12	40
Total - Frequent breaks (Percent)	.1	7.9	.4	5.8
Total - Number assessed (Number)	99,243	20,183	3,069	691

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Science Grade 4

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	3,890	3,670	753	248
PPT - Some test items/questions read aloud (Percent)	4.2	18.7	17.1	26.3
PPT - All test items/questions read aloud (Number)	667	4,849	191	210
PPT - All test items/questions read aloud (Percent)	.7	24.7	4.3	22.2
PPT - Small group setting (Number)	2,753	11,605	1,208	606
PPT - Small group setting (Percent)	3	59.1	27.4	64.2
PPT - Extended time (Number)	2,231	1,738	143	67
PPT - Extended time (Percent)	2.4	8.9	3.2	7.1
PPT - Frequent breaks (Number)	390	2,872	65	116
PPT - Frequent breaks (Percent)	.4	14.6	1.5	12.3
PPT - Number assessed (Number)	92,190	19,631	4,413	944
CBT - Some test items/questions read aloud (Number)	42	61	10	6
CBT - Some test items/questions read aloud (Percent)	1	4	5.1	11.8
CBT - All test items/questions read aloud (Number)	32	460	18	8
CBT - All test items/questions read aloud (Percent)	.8	30.3	9.1	15.7
CBT - Small group setting (Number)	158	848	45	23
CBT - Small group setting (Percent)	3.8	55.9	22.8	45.1
CBT - Extended time (Number)	98	449	31	13
CBT - Extended time (Percent)	2.4	29.6	15.7	25.5
CBT - Frequent breaks (Number)	26	425	4	8
CBT - Frequent breaks (Percent)	.6	28	2	15.7
CBT - Number assessed (Number)	4,150	1,517	197	51
Total - Some test items/questions read aloud (Number)	3,932	3,731	763	254
Total - Some test items/questions read aloud (Percent)	4.1	17.6	16.6	25.5
Total - All test items/questions read aloud (Number)	699	5,309	209	218
Total - All test items/questions read aloud (Percent)	.7	25.1	4.5	21.9
Total - Small group setting (Number)	2,911	12,453	1,253	629
Total - Small group setting (Percent)	3	58.9	27.2	63.2
Total - Extended time (Number)	2,329	2,187	174	80
Total - Extended time (Percent)	2.4	10.3	3.8	8
Total - Frequent breaks (Number)	416	3,297	69	124
Total - Frequent breaks (Percent)	.4	15.6	1.5	12.5
Total - Number assessed (Number)	96,340	21,148	4,610	995

Incidence of IEP and EL Students Receiving Selected Accommodations on the 2019 PSSA: Science Grade 8

Accommodation Received by Administration Mode	General Education (non-IEP or EL)	IEP and non-EL	EL and non-IEP	Both IEP and EL
PPT - Some test items/questions read aloud (Number)	100	1,103	74	29
PPT - Some test items/questions read aloud (Percent)	.1	6.2	2.5	4.6
PPT - All test items/questions read aloud (Number)	34	1,034	16	38
PPT - All test items/questions read aloud (Percent)	0	5.8	.5	6
PPT - Small group setting (Number)	1,071	9,652	353	275
PPT - Small group setting (Percent)	1.2	54	11.9	43.2
PPT - Extended time (Number)	1,097	1,058	72	34
PPT - Extended time (Percent)	1.2	5.9	2.4	5.3
PPT - Frequent breaks (Number)	66	1,123	8	26
PPT - Frequent breaks (Percent)	.1	6.3	.3	4.1
PPT - Number assessed (Number)	92,495	17,885	2,961	636
CBT - Some test items/questions read aloud (Number)	4	133	0	3
CBT - Some test items/questions read aloud (Percent)	.1	6.2	0	5.5
CBT - All test items/questions read aloud (Number)	3	295	1	12
CBT - All test items/questions read aloud (Percent)	0	13.7	.9	21.8
CBT - Small group setting (Number)	84	1,288	12	40
CBT - Small group setting (Percent)	1.3	60	11.2	72.7
CBT - Extended time (Number)	65	459	5	16
CBT - Extended time (Percent)	1	21.4	4.7	29.1
CBT - Frequent breaks (Number)	23	338	3	8
CBT - Frequent breaks (Percent)	.4	15.7	2.8	14.5
CBT - Number assessed (Number)	6,367	2,148	107	55
Total - Some test items/questions read aloud (Number)	104	1,236	74	32
Total - Some test items/questions read aloud (Percent)	.1	6.2	2.4	4.6
Total - All test items/questions read aloud (Number)	37	1,329	17	50
Total - All test items/questions read aloud (Percent)	0	6.6	.6	7.2
Total - Small group setting (Number)	1,155	10,940	365	315
Total - Small group setting (Percent)	1.2	54.6	11.9	45.6
Total - Extended time (Number)	1,162	1,517	77	50
Total - Extended time (Percent)	1.2	7.6	2.5	7.2
Total - Frequent breaks (Number)	89	1,461	11	34
Total - Frequent breaks (Percent)	.1	7.3	.4	4.9
Total - Number assessed (Number)	98,862	20,033	3,068	691

APPENDIX M: CUT SCORES AND SCALE TRANSFORMATIONS

Subject	Grade	Scaling Intercept	Scaling Slope	Lowest Observed Scaled Score	Scaled Score Cut: Bel. Basic/ Basic	Scaled Score Cut: Basic/ Prof.	Scaled Score Cut: Prof./ Adv.
Mathematics	3	956.31	100	600	923	1000	1110
Mathematics	4	981.92	100	600	908	1000	1107
Mathematics	5	961.69	100	600	901	1000	1113
Mathematics	6	931.41	100	600	897	1000	1105
Mathematics	7	956.16	100	600	904	1000	1109
Mathematics	8	951.76	100	600	906	1000	1108
ELA	3	962.47	100	600	905	1000	1143
ELA	4	957.49	100	600	887	1000	1107
ELA	5	958.32	100	600	893	1000	1139
ELA	6	940.78	100	600	875	1000	1115
ELA	7	947.65	100	600	845	1000	1130
ELA	8	961.11	100	600	886	1000	1130
Science	4	1225.65	176.75	1050	1150	1275	1483
Science	8	1196.64	191.54	925	1150	1275	1464

APPENDIX N: RAW-TO-SCALED SCORE CONVERSION TABLES

Grade 3 English Language Arts

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-4.8403	1.8382	600	184	2	0.0	2	0.0	1
1	-3.6044	1.0225	602	102	6	0.0	8	0.0	1
2	-2.8661	0.7382	675	74	14	0.0	22	0.0	1
3	-2.4158	0.6147	720	61	41	0.0	63	0.1	1
4	-2.0837	0.5425	754	54	98	0.1	161	0.1	1
5	-1.8164	0.4941	780	49	287	0.2	448	0.4	1
6	-1.59	0.459	803	46	559	0.5	1007	0.8	1
7	-1.3919	0.4322	823	43	950	0.8	1957	1.6	1
8	-1.2144	0.4111	840	41	1433	1.2	3390	2.8	2
9	-1.0525	0.394	856	39	1931	1.6	5321	4.4	4
10	-0.9029	0.3799	871	38	2443	2.0	7764	6.4	5
11	-0.7631	0.3682	885	37	2895	2.4	10659	8.8	8
12	-0.6313	0.3583	898	36	3142	2.6	13801	11.4	10
13	-0.5059	0.35	911	35	3304	2.7	17105	14.2	13
14	-0.386	0.3429	923	34	3480	2.9	20585	17.1	16
15	-0.2705	0.3369	934	34	3356	2.8	23941	19.9	18
16	-0.1587	0.3319	945	33	3435	2.8	27376	22.7	21
17	-0.05	0.3278	956	33	3574	3.0	30950	25.7	24
18	0.0563	0.3244	967	32	3604	3.0	34554	28.7	27
19	0.1606	0.3217	977	32	3717	3.1	38271	31.7	30
20	0.2635	0.3198	987	32	3765	3.1	42036	34.9	33
21	0.3653	0.3185	998	32	3885	3.2	45921	38.1	36
22	0.4665	0.3178	1008	32	3855	3.2	49776	41.3	40
23	0.5674	0.3177	1018	32	4218	3.5	53994	44.8	43
24	0.6685	0.3182	1028	32	4165	3.5	58159	48.2	47
25	0.7701	0.3194	1038	32	4337	3.6	62496	51.8	50
26	0.8727	0.3212	1048	32	4332	3.6	66828	55.4	54
27	0.9766	0.3237	1058	32	4395	3.6	71223	59.1	57
28	1.0824	0.3269	1069	33	4415	3.7	75638	62.7	61
29	1.1906	0.3309	1080	33	4287	3.6	79925	66.3	65
30	1.3016	0.3357	1091	34	4415	3.7	84340	70.0	68
31	1.4162	0.3415	1102	34	4401	3.7	88741	73.6	72
32	1.5352	0.3484	1114	35	4049	3.4	92790	77.0	75
33	1.6593	0.3566	1126	36	4017	3.3	96807	80.3	79
34	1.7898	0.3663	1139	37	3887	3.2	100694	83.5	82

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
35	1.9281	0.3778	1153	38	3680	3.1	104374	86.6	85
36	2.076	0.3917	1168	39	3417	2.8	107791	89.4	88
37	2.2359	0.4086	1184	41	2988	2.5	110779	91.9	91
38	2.4112	0.4295	1201	43	2705	2.2	113484	94.1	93
39	2.6069	0.4561	1221	46	2274	1.9	115758	96.0	95
40	2.8305	0.4911	1243	49	1810	1.5	117568	97.5	97
41	3.0947	0.5395	1270	54	1292	1.1	118860	98.6	98
42	3.4234	0.6118	1302	61	883	0.7	119743	99.3	99
43	3.8698	0.7355	1347	74	550	0.5	120293	99.8	99
44	4.6039	1.0203	1420	102	229	0.2	120522	100.0	99
45	5.8366	1.837	1544	184	42	0.0	120564	100.0	99

Grade 4 English Language Arts

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.3592	1.8356	600	184	0	0.0	0	0.0	0
1	-4.1301	1.0177	600	102	0	0.0	0	0.0	0
2	-3.4015	0.7315	617	73	7	0.0	7	0.0	1
3	-2.9613	0.6065	661	61	7	0.0	14	0.0	1
4	-2.6394	0.5328	693	53	23	0.0	37	0.0	1
5	-2.3827	0.4831	719	48	46	0.0	83	0.1	1
6	-2.1672	0.4467	740	45	103	0.1	186	0.2	1
7	-1.9804	0.4188	759	42	206	0.2	392	0.3	1
8	-1.8144	0.3965	776	40	311	0.3	703	0.6	1
9	-1.6645	0.3783	791	38	499	0.4	1202	1.0	1
10	-1.5272	0.3632	804	36	711	0.6	1913	1.6	1
11	-1.4	0.3503	817	35	930	0.8	2843	2.3	2
12	-1.2812	0.3393	829	34	1184	1.0	4027	3.3	3
13	-1.1693	0.3299	840	33	1332	1.1	5359	4.4	4
14	-1.0633	0.3216	851	32	1529	1.2	6888	5.6	5
15	-0.9622	0.3145	861	31	1780	1.4	8668	7.0	6
16	-0.8653	0.3082	871	31	1946	1.6	10614	8.6	8
17	-0.772	0.3027	880	30	2089	1.7	12703	10.3	9
18	-0.6818	0.2979	889	30	2158	1.8	14861	12.1	11
19	-0.5944	0.2937	898	29	2079	1.7	16940	13.8	13
20	-0.5092	0.29	906	29	2176	1.8	19116	15.5	15
21	-0.426	0.2869	915	29	2180	1.8	21296	17.3	16
22	-0.3446	0.2841	923	28	2161	1.8	23457	19.0	18
23	-0.2645	0.2818	931	28	2143	1.7	25600	20.8	20
24	-0.1856	0.2799	939	28	2247	1.8	27847	22.6	22
25	-0.1077	0.2783	946	28	2232	1.8	30079	24.4	24
26	-0.0306	0.2771	954	28	2263	1.8	32342	26.3	25
27	0.0459	0.2763	962	28	2366	1.9	34708	28.2	27
28	0.1221	0.2757	969	28	2440	2.0	37148	30.2	29
29	0.198	0.2755	977	28	2512	2.0	39660	32.2	31
30	0.2739	0.2756	984	28	2483	2.0	42143	34.2	33
31	0.35	0.276	992	28	2685	2.2	44828	36.4	35
32	0.4263	0.2767	1000	28	2731	2.2	47559	38.6	38
33	0.5031	0.2777	1007	28	2809	2.3	50368	40.9	40
34	0.5807	0.2791	1015	28	2905	2.4	53273	43.3	42
35	0.659	0.2809	1023	28	3109	2.5	56382	45.8	45
36	0.7385	0.283	1031	28	3288	2.7	59670	48.4	47

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	0.8193	0.2855	1039	29	3313	2.7	62983	51.1	50
38	0.9016	0.2884	1047	29	3518	2.9	66501	54.0	53
39	0.9857	0.2917	1055	29	3678	3.0	70179	57.0	55
40	1.0719	0.2955	1064	30	3712	3.0	73891	60.0	58
41	1.1605	0.2999	1073	30	3842	3.1	77733	63.1	62
42	1.2519	0.3047	1082	30	3890	3.2	81623	66.3	65
43	1.3463	0.3101	1091	31	3928	3.2	85551	69.5	68
44	1.4444	0.3162	1101	32	3942	3.2	89493	72.7	71
45	1.5464	0.3229	1111	32	3975	3.2	93468	75.9	74
46	1.6531	0.3304	1122	33	4081	3.3	97549	79.2	78
47	1.7649	0.3386	1133	34	3791	3.1	101340	82.3	81
48	1.8826	0.3477	1145	35	3550	2.9	104890	85.2	84
49	2.007	0.3578	1157	36	3262	2.6	108152	87.8	86
50	2.1389	0.3688	1171	37	3036	2.5	111188	90.3	89
51	2.2794	0.3809	1185	38	2699	2.2	113887	92.5	91
52	2.4295	0.3943	1200	39	2256	1.8	116143	94.3	93
53	2.5908	0.409	1216	41	1909	1.5	118052	95.8	95
54	2.7648	0.4254	1233	42	1522	1.2	119574	97.1	96
55	2.9536	0.444	1252	44	1091	0.9	120665	98.0	98
56	3.1601	0.4655	1272	47	888	0.7	121553	98.7	98
57	3.3887	0.4915	1295	49	629	0.5	122182	99.2	99
58	3.6461	0.5246	1321	52	442	0.4	122624	99.6	99
59	3.9443	0.5699	1351	57	240	0.2	122864	99.7	99
60	4.3062	0.6379	1387	64	134	0.1	122998	99.9	99
61	4.7843	0.7561	1435	76	104	0.1	123102	99.9	99
62	5.5481	1.0341	1511	103	65	0.1	123167	100.0	99
63	6.8	1.8442	1636	184	5	0.0	123172	100.0	99

Grade 5 English Language Arts

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.4609	1.8377	600	184	0	0.0	0	0.0	0
1	-4.2264	1.0215	600	102	0	0.0	0	0.0	0
2	-3.4898	0.7371	609	74	5	0.0	5	0.0	1
3	-3.0413	0.6134	654	61	9	0.0	14	0.0	1
4	-2.7109	0.5408	687	54	25	0.0	39	0.0	1
5	-2.4454	0.492	713	49	30	0.0	69	0.1	1
6	-2.2213	0.4564	736	46	68	0.1	137	0.1	1
7	-2.0257	0.429	755	43	160	0.1	297	0.2	1
8	-1.8512	0.4072	773	41	274	0.2	571	0.4	1
9	-1.6928	0.3892	789	39	422	0.3	993	0.8	1
10	-1.5472	0.3743	803	37	629	0.5	1622	1.3	1
11	-1.412	0.3615	817	36	872	0.7	2494	2.0	2
12	-1.2853	0.3506	829	35	992	0.8	3486	2.7	2
13	-1.1657	0.3412	841	34	1312	1.0	4798	3.8	3
14	-1.0522	0.333	853	33	1499	1.2	6297	4.9	4
15	-0.9437	0.3258	864	33	1753	1.4	8050	6.3	6
16	-0.8397	0.3195	874	32	1962	1.5	10012	7.8	7
17	-0.7394	0.314	884	31	2290	1.8	12302	9.6	9
18	-0.6424	0.3092	894	31	2507	2.0	14809	11.6	11
19	-0.5481	0.3049	903	30	2706	2.1	17515	13.7	13
20	-0.4562	0.3013	912	30	2808	2.2	20323	15.9	15
21	-0.3665	0.2981	921	30	2966	2.3	23289	18.3	17
22	-0.2784	0.2954	930	30	2939	2.3	26228	20.6	19
23	-0.1919	0.293	939	29	3056	2.4	29284	23.0	22
24	-0.1066	0.2911	947	29	3158	2.5	32442	25.4	24
25	-0.0223	0.2895	956	29	3400	2.7	35842	28.1	27
26	0.0611	0.2882	964	29	3158	2.5	39000	30.6	29
27	0.1439	0.2872	972	29	3457	2.7	42457	33.3	32
28	0.2261	0.2866	980	29	3465	2.7	45922	36.0	35
29	0.3081	0.2862	989	29	3539	2.8	49461	38.8	37
30	0.39	0.2861	997	29	3441	2.7	52902	41.5	40
31	0.4719	0.2862	1005	29	3657	2.9	56559	44.3	43
32	0.5539	0.2867	1013	29	3673	2.9	60232	47.2	46
33	0.6363	0.2874	1021	29	3591	2.8	63823	50.0	49
34	0.7191	0.2884	1030	29	3636	2.9	67459	52.9	51
35	0.8027	0.2898	1038	29	3791	3.0	71250	55.9	54
36	0.8871	0.2914	1046	29	3960	3.1	75210	59.0	57

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	0.9726	0.2934	1055	29	3825	3.0	79035	62.0	60
38	1.0593	0.2957	1063	30	3785	3.0	82820	64.9	63
39	1.1475	0.2984	1072	30	3822	3.0	86642	67.9	66
40	1.2375	0.3015	1081	30	3675	2.9	90317	70.8	69
41	1.3294	0.305	1090	30	3641	2.9	93958	73.7	72
42	1.4237	0.309	1100	31	3530	2.8	97488	76.4	75
43	1.5206	0.3135	1110	31	3388	2.7	100876	79.1	78
44	1.6204	0.3186	1119	32	3324	2.6	104200	81.7	80
45	1.7237	0.3242	1130	32	3162	2.5	107362	84.2	83
46	1.8308	0.3305	1140	33	2996	2.3	110358	86.5	85
47	1.9423	0.3375	1152	34	2755	2.2	113113	88.7	88
48	2.0588	0.3452	1163	34	2489	2.0	115602	90.6	90
49	2.181	0.3539	1175	35	2213	1.7	117815	92.4	92
50	2.3096	0.3635	1188	36	2048	1.6	119863	94.0	93
51	2.4456	0.3743	1202	37	1772	1.4	121635	95.4	95
52	2.5901	0.3864	1216	39	1434	1.1	123069	96.5	96
53	2.7447	0.4001	1232	40	1226	1.0	124295	97.4	97
54	2.9109	0.4158	1248	42	928	0.7	125223	98.2	98
55	3.0913	0.4341	1266	43	731	0.6	125954	98.7	98
56	3.2891	0.456	1286	46	566	0.4	126520	99.2	99
57	3.5091	0.4829	1308	48	395	0.3	126915	99.5	99
58	3.7586	0.5175	1333	52	247	0.2	127162	99.7	99
59	4.0501	0.5646	1362	56	153	0.1	127315	99.8	99
60	4.4069	0.6347	1398	63	96	0.1	127411	99.9	99
61	4.8821	0.7549	1445	75	77	0.1	127488	100.0	99
62	5.6451	1.0343	1522	103	51	0.0	127539	100.0	99
63	6.8979	1.8447	1647	184	11	0.0	127550	100.0	99

Grade 6 English Language Arts

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.5636	1.8494	600	185	0	0.0	0	0.0	0
1	-4.2989	1.0422	600	104	0	0.0	0	0.0	0
2	-3.5206	0.7642	600	76	0	0.0	0	0.0	0
3	-3.0328	0.6434	637	64	3	0.0	3	0.0	1
4	-2.6664	0.5715	673	57	16	0.0	19	0.0	1
5	-2.3687	0.5219	703	52	28	0.0	47	0.0	1
6	-2.1162	0.4845	729	48	78	0.1	125	0.1	1
7	-1.8961	0.4548	751	46	147	0.1	272	0.2	1
8	-1.7004	0.4304	770	43	221	0.2	493	0.4	1
9	-1.5241	0.4099	788	41	369	0.3	862	0.7	1
10	-1.3634	0.3924	804	39	462	0.4	1324	1.0	1
11	-1.2154	0.3773	819	38	707	0.6	2031	1.6	1
12	-1.0781	0.3641	832	36	909	0.7	2940	2.3	2
13	-0.9497	0.3526	845	35	1178	0.9	4118	3.2	3
14	-0.829	0.3424	857	34	1465	1.1	5583	4.4	4
15	-0.7149	0.3334	869	33	1657	1.3	7240	5.7	5
16	-0.6064	0.3254	880	33	2088	1.6	9328	7.3	6
17	-0.5029	0.3183	890	32	2362	1.9	11690	9.2	8
18	-0.4036	0.3119	900	31	2594	2.0	14284	11.2	10
19	-0.3081	0.3062	909	31	2674	2.1	16958	13.3	12
20	-0.2159	0.3011	919	30	2732	2.1	19690	15.4	14
21	-0.1266	0.2966	927	30	2762	2.2	22452	17.6	17
22	-0.0398	0.2926	936	29	2817	2.2	25269	19.8	19
23	0.0447	0.2891	945	29	2983	2.3	28252	22.1	21
24	0.1274	0.286	953	29	3087	2.4	31339	24.6	23
25	0.2084	0.2834	961	28	2924	2.3	34263	26.9	26
26	0.2881	0.2812	969	28	3147	2.5	37410	29.3	28
27	0.3666	0.2793	977	28	3113	2.4	40523	31.8	31
28	0.4442	0.2779	984	28	3217	2.5	43740	34.3	33
29	0.5211	0.2768	992	28	3407	2.7	47147	37.0	36
30	0.5975	0.2761	1000	28	3335	2.6	50482	39.6	38
31	0.6736	0.2757	1007	28	3371	2.6	53853	42.2	41
32	0.7496	0.2758	1015	28	3505	2.7	57358	45.0	44
33	0.8258	0.2762	1022	28	3489	2.7	60847	47.7	46
34	0.9023	0.2771	1030	28	3635	2.8	64482	50.6	49
35	0.9794	0.2783	1038	28	3465	2.7	67947	53.3	52
36	1.0573	0.28	1046	28	3632	2.8	71579	56.1	55

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.1362	0.2821	1053	28	3827	3.0	75406	59.1	58
38	1.2165	0.2847	1061	28	3637	2.9	79043	62.0	61
39	1.2984	0.2877	1070	29	3787	3.0	82830	64.9	63
40	1.3822	0.2913	1078	29	3741	2.9	86571	67.9	66
41	1.4683	0.2955	1087	30	3698	2.9	90269	70.8	69
42	1.557	0.3003	1095	30	3669	2.9	93938	73.6	72
43	1.6488	0.3058	1105	31	3700	2.9	97638	76.5	75
44	1.7442	0.312	1114	31	3398	2.7	101036	79.2	78
45	1.8438	0.3191	1124	32	3435	2.7	104471	81.9	81
46	1.9481	0.327	1134	33	3283	2.6	107754	84.5	83
47	2.0578	0.3359	1145	34	3063	2.4	110817	86.9	86
48	2.174	0.3459	1157	35	2842	2.2	113659	89.1	88
49	2.2975	0.3572	1169	36	2561	2.0	116220	91.1	90
50	2.4296	0.37	1183	37	2325	1.8	118545	92.9	92
51	2.5718	0.3844	1197	38	1931	1.5	120476	94.4	94
52	2.7258	0.4007	1212	40	1668	1.3	122144	95.8	95
53	2.8937	0.4193	1229	42	1405	1.1	123549	96.9	96
54	3.0784	0.4407	1247	44	1123	0.9	124672	97.7	97
55	3.2834	0.4653	1268	46	877	0.7	125549	98.4	98
56	3.5132	0.4939	1291	49	692	0.5	126241	99.0	99
57	3.7737	0.5276	1317	53	471	0.4	126712	99.3	99
58	4.0731	0.5679	1347	57	333	0.3	127045	99.6	99
59	4.4237	0.6182	1382	62	228	0.2	127273	99.8	99
60	4.8474	0.6874	1424	69	147	0.1	127420	99.9	99
61	5.3938	0.8012	1479	80	86	0.1	127506	100.0	99
62	6.2283	1.0677	1562	107	41	0.0	127547	100.0	99
63	7.5291	1.8627	1692	186	13	0.0	127560	100.0	99

Grade 7 English Language Arts

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.4065	1.8361	600	184	0	0.0	0	0.0	0
1	-4.1759	1.0189	600	102	0	0.0	0	0.0	0
2	-3.4445	0.7337	603	73	0	0.0	0	0.0	0
3	-3.0005	0.6098	647	61	3	0.0	3	0.0	1
4	-2.6742	0.5373	680	54	7	0.0	10	0.0	1
5	-2.4122	0.4888	706	49	20	0.0	30	0.0	1
6	-2.1909	0.4536	728	45	37	0.0	67	0.1	1
7	-1.9976	0.4268	748	43	104	0.1	171	0.1	1
8	-1.8247	0.4055	765	41	192	0.2	363	0.3	1
9	-1.6674	0.3883	781	39	278	0.2	641	0.5	1
10	-1.5223	0.3739	795	37	412	0.3	1053	0.8	1
11	-1.387	0.3619	809	36	547	0.4	1600	1.3	1
12	-1.2599	0.3516	821	35	751	0.6	2351	1.9	2
13	-1.1395	0.3427	833	34	938	0.7	3289	2.6	2
14	-1.0247	0.3349	845	33	1227	1.0	4516	3.6	3
15	-0.9149	0.3281	856	33	1359	1.1	5875	4.7	4
16	-0.8092	0.3222	866	32	1570	1.2	7445	5.9	5
17	-0.7071	0.3169	876	32	1699	1.3	9144	7.3	7
18	-0.6081	0.3123	886	31	1972	1.6	11116	8.8	8
19	-0.5119	0.3081	896	31	2204	1.7	13320	10.6	10
20	-0.4181	0.3045	905	30	2251	1.8	15571	12.4	11
21	-0.3265	0.3012	914	30	2347	1.9	17918	14.2	13
22	-0.2366	0.2983	923	30	2423	1.9	20341	16.1	15
23	-0.1484	0.2958	932	30	2597	2.1	22938	18.2	17
24	-0.0615	0.2936	941	29	2732	2.2	25670	20.4	19
25	0.0241	0.2917	949	29	2964	2.4	28634	22.7	22
26	0.1087	0.2901	958	29	3112	2.5	31746	25.2	24
27	0.1924	0.2887	966	29	3305	2.6	35051	27.8	27
28	0.2755	0.2876	975	29	3488	2.8	38539	30.6	29
29	0.3579	0.2867	983	29	3536	2.8	42075	33.4	32
30	0.4399	0.2861	991	29	3769	3.0	45844	36.4	35
31	0.5217	0.2858	999	29	3990	3.2	49834	39.6	38
32	0.6034	0.2857	1007	29	4193	3.3	54027	42.9	41
33	0.685	0.2859	1015	29	4088	3.2	58115	46.1	45
34	0.7668	0.2863	1024	29	4417	3.5	62532	49.6	48
35	0.849	0.287	1032	29	4433	3.5	66965	53.1	51
36	0.9317	0.2881	1040	29	4414	3.5	71379	56.7	55

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.015	0.2894	1048	29	4436	3.5	75815	60.2	58
38	1.0993	0.2911	1057	29	4436	3.5	80251	63.7	62
39	1.1846	0.2932	1065	29	4237	3.4	84488	67.1	65
40	1.2713	0.2957	1074	30	4192	3.3	88680	70.4	69
41	1.3596	0.2987	1083	30	4154	3.3	92834	73.7	72
42	1.4499	0.3021	1092	30	3862	3.1	96696	76.7	75
43	1.5423	0.3061	1101	31	3767	3.0	100463	79.7	78
44	1.6374	0.3107	1110	31	3492	2.8	103955	82.5	81
45	1.7356	0.3159	1120	32	3317	2.6	107272	85.1	84
46	1.8372	0.3219	1130	32	3063	2.4	110335	87.6	86
47	1.943	0.3287	1141	33	2919	2.3	113254	89.9	89
48	2.0536	0.3364	1152	34	2422	1.9	115676	91.8	91
49	2.1697	0.3452	1164	35	2133	1.7	117809	93.5	93
50	2.2922	0.3552	1176	36	1872	1.5	119681	95.0	94
51	2.4224	0.3665	1189	37	1586	1.3	121267	96.2	96
52	2.5614	0.3796	1203	38	1268	1.0	122535	97.3	97
53	2.7112	0.3946	1218	39	1016	0.8	123551	98.1	98
54	2.8736	0.4119	1234	41	809	0.6	124360	98.7	98
55	3.0516	0.4323	1252	43	597	0.5	124957	99.2	99
56	3.2489	0.4566	1271	46	403	0.3	125360	99.5	99
57	3.4706	0.4861	1294	49	266	0.2	125626	99.7	99
58	3.7246	0.5232	1319	52	166	0.1	125792	99.8	99
59	4.0235	0.5726	1349	57	110	0.1	125902	99.9	99
60	4.3909	0.6441	1386	64	68	0.1	125970	100.0	99
61	4.8795	0.7646	1434	76	23	0.0	125993	100.0	99
62	5.6583	1.0424	1512	104	4	0.0	125997	100.0	99
63	6.9231	1.8495	1639	185	1	0.0	125998	100.0	99

Grade 8 English Language Arts

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.606	1.8355	600	184	0	0.0	0	0.0	0
1	-4.377	1.0177	600	102	1	0.0	1	0.0	1
2	-3.6482	0.7318	600	73	3	0.0	4	0.0	1
3	-3.2075	0.607	640	61	4	0.0	8	0.0	1
4	-2.8848	0.5337	673	53	16	0.0	24	0.0	1
5	-2.627	0.4842	698	48	31	0.0	55	0.0	1
6	-2.4104	0.448	720	45	73	0.1	128	0.1	1
7	-2.2224	0.4201	739	42	125	0.1	253	0.2	1
8	-2.0554	0.3978	756	40	213	0.2	466	0.4	1
9	-1.9046	0.3795	771	38	375	0.3	841	0.7	1
10	-1.7665	0.364	784	36	534	0.4	1375	1.1	1
11	-1.6389	0.3509	797	35	734	0.6	2109	1.7	1
12	-1.5198	0.3395	809	34	917	0.7	3026	2.5	2
13	-1.408	0.3296	820	33	1161	0.9	4187	3.4	3
14	-1.3023	0.3209	831	32	1298	1.1	5485	4.4	4
15	-1.2018	0.3133	841	31	1632	1.3	7117	5.8	5
16	-1.1058	0.3065	851	31	1771	1.4	8888	7.2	6
17	-1.0136	0.3006	860	30	1829	1.5	10717	8.7	8
18	-0.9249	0.2954	869	30	2032	1.6	12749	10.3	10
19	-0.839	0.2908	877	29	1993	1.6	14742	11.9	11
20	-0.7556	0.2869	886	29	2035	1.6	16777	13.6	13
21	-0.6743	0.2834	894	28	1994	1.6	18771	15.2	14
22	-0.5948	0.2805	902	28	1919	1.6	20690	16.8	16
23	-0.5169	0.278	909	28	2125	1.7	22815	18.5	18
24	-0.4402	0.2759	917	28	2136	1.7	24951	20.2	19
25	-0.3646	0.2742	925	27	2153	1.7	27104	21.9	21
26	-0.2898	0.2728	932	27	2117	1.7	29221	23.7	23
27	-0.2157	0.2718	939	27	2196	1.8	31417	25.4	25
28	-0.142	0.2712	947	27	2310	1.9	33727	27.3	26
29	-0.0685	0.2708	954	27	2326	1.9	36053	29.2	28
30	0.0048	0.2708	961	27	2404	1.9	38457	31.1	30
31	0.0782	0.2711	969	27	2425	2.0	40882	33.1	32
32	0.1518	0.2717	976	27	2662	2.2	43544	35.3	34
33	0.2259	0.2726	984	27	2739	2.2	46283	37.5	36
34	0.3005	0.2739	991	27	2864	2.3	49147	39.8	39
35	0.3759	0.2754	998	28	2894	2.3	52041	42.1	41
36	0.4523	0.2774	1006	28	3039	2.5	55080	44.6	43

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	0.5299	0.2798	1014	28	3235	2.6	58315	47.2	46
38	0.6089	0.2825	1022	28	3343	2.7	61658	49.9	49
39	0.6896	0.2857	1030	29	3449	2.8	65107	52.7	51
40	0.7723	0.2894	1038	29	3585	2.9	68692	55.6	54
41	0.8572	0.2936	1046	29	3647	3.0	72339	58.6	57
42	0.9448	0.2984	1055	30	3869	3.1	76208	61.7	60
43	1.0354	0.3038	1064	30	3953	3.2	80161	64.9	63
44	1.1295	0.3099	1074	31	4049	3.3	84210	68.2	67
45	1.2277	0.3168	1083	32	4062	3.3	88272	71.5	70
46	1.3305	0.3246	1094	32	3919	3.2	92191	74.6	73
47	1.4387	0.3334	1104	33	3926	3.2	96117	77.8	76
48	1.5532	0.3435	1116	34	3861	3.1	99978	81.0	79
49	1.6751	0.3551	1128	35	3780	3.1	103758	84.0	82
50	1.8058	0.3683	1141	37	3412	2.8	107170	86.8	85
51	1.9471	0.3838	1155	38	3153	2.6	110323	89.3	88
52	2.1013	0.4019	1171	40	2928	2.4	113251	91.7	91
53	2.2714	0.4235	1188	42	2585	2.1	115836	93.8	93
54	2.4615	0.4493	1207	45	2166	1.8	118002	95.5	95
55	2.6774	0.4807	1228	48	1740	1.4	119742	97.0	96
56	2.9267	0.5191	1253	52	1342	1.1	121084	98.0	97
57	3.2202	0.5655	1282	57	929	0.8	122013	98.8	98
58	3.5712	0.6201	1317	62	584	0.5	122597	99.3	99
59	3.9942	0.6811	1360	68	350	0.3	122947	99.5	99
60	4.5050	0.7499	1411	75	262	0.2	123209	99.8	99
61	5.1386	0.851	1474	85	173	0.1	123382	99.9	99
62	6.0474	1.098	1565	110	99	0.1	123481	100.0	99
63	7.3898	1.877	1699	188	22	0.0	123503	100.0	99

Grade 3 Mathematics

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.0384	1.835	600	183	0	0.0	0	0.0	0
1	-3.8106	1.017	600	102	2	0.0	2	0.0	1
2	-3.0831	0.731	648	73	16	0.0	18	0.0	1
3	-2.6432	0.6065	692	61	41	0.0	59	0.0	1
4	-2.3209	0.5336	724	53	126	0.1	185	0.2	1
5	-2.0628	0.4848	750	48	308	0.3	493	0.4	1
6	-1.8454	0.4494	772	45	561	0.5	1054	0.9	1
7	-1.6558	0.4224	791	42	988	0.8	2042	1.7	1
8	-1.4865	0.4011	807	40	1403	1.2	3445	2.9	2
9	-1.3326	0.3839	823	38	1930	1.6	5375	4.5	4
10	-1.1908	0.3697	837	37	2285	1.9	7660	6.4	5
11	-1.0586	0.3578	850	36	2537	2.1	10197	8.5	7
12	-0.9342	0.3477	863	35	2680	2.2	12877	10.7	10
13	-0.8163	0.3392	874	34	2878	2.4	15755	13.1	12
14	-0.7038	0.3318	885	33	2917	2.4	18672	15.5	14
15	-0.5959	0.3255	896	32	2780	2.3	21452	17.8	17
16	-0.4918	0.32	907	32	2817	2.3	24269	20.1	19
17	-0.3909	0.3153	917	31	2764	2.3	27033	22.4	21
18	-0.2928	0.3112	926	31	2770	2.3	29803	24.7	24
19	-0.197	0.3078	936	31	2893	2.4	32696	27.1	26
20	-0.1032	0.3049	945	30	2855	2.4	35551	29.5	28
21	-0.0111	0.3025	954	30	2775	2.3	38326	31.8	31
22	0.0798	0.3005	963	30	2908	2.4	41234	34.2	33
23	0.1696	0.299	972	30	2882	2.4	44116	36.6	35
24	0.2586	0.2978	981	30	2994	2.5	47110	39.1	38
25	0.3471	0.2971	990	30	2983	2.5	50093	41.5	40
26	0.4352	0.2967	999	30	2994	2.5	53087	44.0	43
27	0.5233	0.2967	1008	30	3141	2.6	56228	46.6	45
28	0.6114	0.2971	1016	30	3092	2.6	59320	49.2	48
29	0.6999	0.2979	1025	30	3072	2.5	62392	51.7	50
30	0.789	0.2991	1034	30	3062	2.5	65454	54.3	53
31	0.8789	0.3007	1043	30	3222	2.7	68676	56.9	56
32	0.9699	0.3027	1052	30	3222	2.7	71898	59.6	58
33	1.0622	0.3052	1061	30	3316	2.7	75214	62.4	61
34	1.1562	0.3082	1071	31	3289	2.7	78503	65.1	64
35	1.2523	0.3117	1080	31	3356	2.8	81859	67.9	66
36	1.3507	0.3159	1090	32	3303	2.7	85162	70.6	69

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.452	0.3208	1100	32	3251	2.7	88413	73.3	72
38	1.5566	0.3265	1110	33	3165	2.6	91578	75.9	75
39	1.6654	0.3332	1121	33	3130	2.6	94708	78.5	77
40	1.7789	0.341	1133	34	3118	2.6	97826	81.1	80
41	1.8983	0.3503	1145	35	2951	2.4	100777	83.6	82
42	2.0248	0.3614	1157	36	2959	2.5	103736	86.0	85
43	2.1602	0.3748	1171	37	2958	2.5	106694	88.5	87
44	2.3066	0.3912	1185	39	2650	2.2	109344	90.7	90
45	2.4675	0.4117	1201	41	2448	2.0	111792	92.7	92
46	2.6476	0.438	1219	44	2287	1.9	114079	94.6	94
47	2.8542	0.4728	1240	47	2030	1.7	116109	96.3	95
48	3.1002	0.5215	1265	52	1615	1.3	117724	97.6	97
49	3.4089	0.5945	1295	59	1270	1.1	118994	98.7	98
50	3.8336	0.7199	1338	72	950	0.8	119944	99.5	99
51	4.544	1.0081	1409	101	482	0.4	120426	99.9	99
52	5.7589	1.8298	1530	183	178	0.1	120604	100.0	99

Grade 4 Mathematics

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.5895	1.8379	600	184	3	0.0	3	0.0	1
1	-4.3546	1.0217	600	102	3	0.0	6	0.0	1
2	-3.6179	0.737	622	74	10	0.0	16	0.0	1
3	-3.1695	0.6131	666	61	26	0.0	42	0.0	1
4	-2.8395	0.5405	699	54	89	0.1	131	0.1	1
5	-2.5744	0.4917	726	49	204	0.2	335	0.3	1
6	-2.3505	0.4562	748	46	485	0.4	820	0.7	1
7	-2.1549	0.4291	768	43	892	0.7	1712	1.4	1
8	-1.9802	0.4076	785	41	1372	1.1	3084	2.5	2
9	-1.8212	0.3902	801	39	1964	1.6	5048	4.1	3
10	-1.6747	0.3758	815	37	2539	2.1	7587	6.2	5
11	-1.5381	0.3637	829	36	3034	2.5	10621	8.6	7
12	-1.4096	0.3534	842	35	3423	2.8	14044	11.4	10
13	-1.2879	0.3447	854	34	3508	2.8	17552	14.2	13
14	-1.1717	0.3372	865	34	3578	2.9	21130	17.1	16
15	-1.0602	0.3307	876	33	3653	3.0	24783	20.1	19
16	-0.9527	0.3252	887	32	3711	3.0	28494	23.1	22
17	-0.8486	0.3204	897	32	3635	2.9	32129	26.1	25
18	-0.7472	0.3164	908	32	3593	2.9	35722	29.0	28
19	-0.6482	0.313	917	31	3572	2.9	39294	31.9	30
20	-0.5512	0.3101	927	31	3460	2.8	42754	34.7	33
21	-0.4557	0.3078	936	31	3351	2.7	46105	37.4	36
22	-0.3616	0.306	946	31	3398	2.8	49503	40.2	39
23	-0.2683	0.3047	955	30	3424	2.8	52927	42.9	42
24	-0.1758	0.3038	964	30	3464	2.8	56391	45.7	44
25	-0.0836	0.3034	974	30	3299	2.7	59690	48.4	47
26	0.0085	0.3034	983	30	3292	2.7	62982	51.1	50
27	0.1006	0.3038	992	30	3291	2.7	66273	53.8	52
28	0.1932	0.3047	1001	30	3252	2.6	69525	56.4	55
29	0.2863	0.3059	1010	31	3209	2.6	72734	59.0	58
30	0.3804	0.3076	1020	31	3237	2.6	75971	61.6	60
31	0.4757	0.3097	1029	31	3218	2.6	79189	64.2	63
32	0.5724	0.3123	1039	31	3196	2.6	82385	66.8	66
33	0.6708	0.3154	1049	31	2957	2.4	85342	69.2	68
34	0.7714	0.3189	1059	32	2996	2.4	88338	71.7	70
35	0.8744	0.323	1069	32	3005	2.4	91343	74.1	73
36	0.9803	0.3277	1079	33	2941	2.4	94284	76.5	75

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.0894	0.333	1090	33	2835	2.3	97119	78.8	78
38	1.2022	0.3391	1101	34	2724	2.2	99843	81.0	80
39	1.3195	0.3459	1113	35	2836	2.3	102679	83.3	82
40	1.4418	0.3537	1125	35	2684	2.2	105363	85.5	84
41	1.5701	0.3628	1138	36	2590	2.1	107953	87.6	87
42	1.7055	0.3734	1152	37	2375	1.9	110328	89.5	89
43	1.8495	0.386	1166	39	2300	1.9	112628	91.4	90
44	2.0043	0.4014	1181	40	2101	1.7	114729	93.1	92
45	2.1729	0.4207	1198	42	2019	1.6	116748	94.7	94
46	2.3602	0.4458	1217	45	1752	1.4	118500	96.1	95
47	2.5735	0.4795	1238	48	1563	1.3	120063	97.4	97
48	2.8254	0.5271	1263	53	1254	1.0	121317	98.4	98
49	3.1401	0.5996	1295	60	906	0.7	122223	99.1	99
50	3.5711	0.7246	1338	72	624	0.5	122847	99.6	99
51	4.2892	1.0124	1410	101	332	0.3	123179	99.9	99
52	5.5109	1.8327	1532	183	107	0.1	123286	100.0	99

Grade 5 Mathematics

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.0248	1.8346	600	183	2	0.0	2	0.0	1
1	-3.7978	1.0163	600	102	10	0.0	12	0.0	1
2	-3.0715	0.7303	655	73	10	0.0	22	0.0	1
3	-2.6324	0.606	698	61	50	0.0	72	0.1	1
4	-2.3106	0.5332	731	53	154	0.1	226	0.2	1
5	-2.053	0.4845	756	48	403	0.3	629	0.5	1
6	-1.8356	0.4493	778	45	838	0.7	1467	1.1	1
7	-1.646	0.4226	797	42	1390	1.1	2857	2.2	2
8	-1.4766	0.4015	814	40	2206	1.7	5063	4.0	3
9	-1.3224	0.3844	829	38	3032	2.4	8095	6.3	5
10	-1.1801	0.3703	843	37	3712	2.9	11807	9.3	8
11	-1.0474	0.3585	857	36	4200	3.3	16007	12.5	11
12	-0.9225	0.3485	869	35	4517	3.5	20524	16.1	14
13	-0.8041	0.34	881	34	4652	3.6	25176	19.7	18
14	-0.6911	0.3326	892	33	4506	3.5	29682	23.3	21
15	-0.5826	0.3262	903	33	4555	3.6	34237	26.8	25
16	-0.4781	0.3207	913	32	4313	3.4	38550	30.2	29
17	-0.3768	0.3158	923	32	4300	3.4	42850	33.6	32
18	-0.2784	0.3116	933	31	4127	3.2	46977	36.8	35
19	-0.1825	0.308	943	31	3948	3.1	50925	39.9	38
20	-0.0886	0.3049	952	30	3882	3.0	54807	43.0	41
21	0.0036	0.3022	961	30	3800	3.0	58607	45.9	44
22	0.0942	0.3	970	30	3704	2.9	62311	48.8	47
23	0.1837	0.2982	979	30	3561	2.8	65872	51.6	50
24	0.2722	0.2968	988	30	3450	2.7	69322	54.3	53
25	0.36	0.2958	997	30	3339	2.6	72661	56.9	56
26	0.4473	0.2952	1005	29	3301	2.6	75962	59.5	58
27	0.5343	0.2949	1014	29	3349	2.6	79311	62.2	61
28	0.6213	0.2951	1023	29	3246	2.5	82557	64.7	63
29	0.7085	0.2957	1031	29	3051	2.4	85608	67.1	66
30	0.7962	0.2967	1040	30	3028	2.4	88636	69.5	68
31	0.8847	0.2982	1049	30	2896	2.3	91532	71.7	71
32	0.9742	0.3003	1058	30	2832	2.2	94364	74.0	73
33	1.0651	0.3029	1067	30	2815	2.2	97179	76.2	75
34	1.1578	0.3061	1076	31	2685	2.1	99864	78.3	77
35	1.2527	0.3101	1085	31	2567	2.0	102431	80.3	79
36	1.3503	0.3149	1095	31	2488	1.9	104919	82.2	81

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.4513	0.3207	1105	32	2460	1.9	107379	84.2	83
38	1.5562	0.3275	1116	33	2381	1.9	109760	86.0	85
39	1.6661	0.3356	1127	34	2218	1.7	111978	87.8	87
40	1.7819	0.3453	1138	34	2178	1.7	114156	89.5	89
41	1.905	0.3567	1151	36	1992	1.6	116148	91.0	90
42	2.0371	0.3705	1164	37	1903	1.5	118051	92.5	92
43	2.1804	0.3872	1178	39	1837	1.4	119888	94.0	93
44	2.3382	0.4077	1194	41	1615	1.3	121503	95.2	95
45	2.5146	0.4332	1211	43	1476	1.2	122979	96.4	96
46	2.7161	0.4659	1232	47	1199	0.9	124178	97.3	97
47	2.953	0.5092	1255	51	1057	0.8	125235	98.2	98
48	3.2422	0.5694	1284	57	871	0.7	126106	98.8	98
49	3.616	0.6589	1321	66	662	0.5	126768	99.4	99
50	4.1446	0.8067	1374	81	477	0.4	127245	99.7	99
51	5.0292	1.1127	1462	111	264	0.2	127509	99.9	99
52	6.4242	1.9073	1601	191	83	0.1	127592	100.0	99

Grade 6 Mathematics

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.0533	1.8378	600	184	0	0.0	0	0.0	0
1	-3.8186	1.0216	600	102	2	0.0	2	0.0	1
2	-3.082	0.7369	624	74	7	0.0	9	0.0	1
3	-2.6338	0.613	669	61	29	0.0	38	0.0	1
4	-2.304	0.5403	701	54	80	0.1	118	0.1	1
5	-2.0392	0.4914	728	49	181	0.1	299	0.2	1
6	-1.8156	0.4558	750	45	457	0.4	756	0.6	1
7	-1.6206	0.4285	769	43	843	0.7	1599	1.3	1
8	-1.4465	0.4068	787	41	1360	1.1	2959	2.3	2
9	-1.2883	0.389	803	39	2055	1.6	5014	3.9	3
10	-1.1428	0.3743	817	37	2795	2.2	7809	6.1	5
11	-1.0075	0.3618	830	36	3497	2.7	11306	8.9	7
12	-0.8805	0.3511	843	35	4029	3.2	15335	12.0	10
13	-0.7605	0.3419	855	34	4366	3.4	19701	15.5	14
14	-0.6464	0.3338	866	33	4491	3.5	24192	19.0	17
15	-0.5374	0.3268	877	33	4458	3.5	28650	22.5	21
16	-0.4326	0.3206	888	32	4390	3.4	33040	25.9	24
17	-0.3316	0.3152	898	31	4281	3.4	37321	29.3	28
18	-0.2337	0.3105	907	31	4159	3.3	41480	32.5	31
19	-0.1387	0.3063	917	31	4102	3.2	45582	35.8	34
20	-0.0459	0.3027	926	30	3948	3.1	49530	38.8	37
21	0.0448	0.2996	935	30	3890	3.1	53420	41.9	40
22	0.1337	0.297	944	30	3751	2.9	57171	44.8	43
23	0.2213	0.2948	953	29	3748	2.9	60919	47.8	46
24	0.3077	0.2931	961	29	3520	2.8	64439	50.5	49
25	0.3932	0.2918	970	29	3478	2.7	67917	53.3	52
26	0.478	0.2909	978	29	3386	2.7	71303	55.9	55
27	0.5625	0.2904	986	29	3276	2.6	74579	58.5	57
28	0.6468	0.2903	995	29	3217	2.5	77796	61.0	60
29	0.7311	0.2906	1003	29	3048	2.4	80844	63.4	62
30	0.8157	0.2914	1012	29	3026	2.4	83870	65.8	65
31	0.901	0.2926	1020	29	2912	2.3	86782	68.1	67
32	0.987	0.2942	1029	29	2805	2.2	89587	70.3	69
33	1.0742	0.2964	1037	30	2812	2.2	92399	72.5	71
34	1.1628	0.2991	1046	30	2626	2.1	95025	74.5	74
35	1.2532	0.3023	1055	30	2670	2.1	97695	76.6	76
36	1.3458	0.3063	1064	31	2495	2.0	100190	78.6	78

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.441	0.3111	1074	31	2427	1.9	102617	80.5	80
38	1.5395	0.3167	1084	32	2408	1.9	105025	82.4	81
39	1.6419	0.3235	1094	32	2339	1.8	107364	84.2	83
40	1.7491	0.3316	1105	33	2205	1.7	109569	85.9	85
41	1.8622	0.3413	1116	34	2188	1.7	111757	87.7	87
42	1.9826	0.353	1128	35	2054	1.6	113811	89.3	88
43	2.1121	0.3672	1141	37	1989	1.6	115800	90.8	90
44	2.2533	0.3848	1155	38	1917	1.5	117717	92.3	92
45	2.4096	0.4066	1170	41	1850	1.5	119567	93.8	93
46	2.586	0.4345	1188	43	1715	1.3	121282	95.1	94
47	2.7903	0.4711	1208	47	1577	1.2	122859	96.4	96
48	3.0354	0.5215	1233	52	1439	1.1	124298	97.5	97
49	3.3452	0.5963	1264	60	1218	1.0	125516	98.4	98
50	3.7731	0.723	1307	72	1034	0.8	126550	99.3	99
51	4.4892	1.0116	1378	101	662	0.5	127212	99.8	99
52	5.7097	1.8322	1500	183	284	0.2	127496	100.0	99

Grade 7 Mathematics

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.3739	1.8393	600	184	0	0.0	0	0.0	0
1	-4.1357	1.0239	600	102	2	0.0	2	0.0	1
2	-3.395	0.7394	618	74	9	0.0	11	0.0	1
3	-2.9434	0.6155	663	61	37	0.0	48	0.0	1
4	-2.6107	0.5427	696	54	104	0.1	152	0.1	1
5	-2.3434	0.4938	723	49	305	0.2	457	0.4	1
6	-2.1176	0.4582	745	46	664	0.5	1121	0.9	1
7	-1.9203	0.431	765	43	1220	1.0	2341	1.9	1
8	-1.744	0.4095	782	41	2015	1.6	4356	3.5	3
9	-1.5836	0.392	798	39	3027	2.4	7383	5.9	5
10	-1.4357	0.3776	813	38	3986	3.2	11369	9.0	7
11	-1.2978	0.3655	827	36	4717	3.7	16086	12.8	11
12	-1.168	0.3552	840	35	5105	4.1	21191	16.8	15
13	-1.0451	0.3464	852	35	5176	4.1	26367	21.0	19
14	-0.9278	0.3388	864	34	5134	4.1	31501	25.0	23
15	-0.8152	0.3323	875	33	4852	3.9	36353	28.9	27
16	-0.7068	0.3266	885	33	4514	3.6	40867	32.5	31
17	-0.6017	0.3217	896	32	4166	3.3	45033	35.8	34
18	-0.4996	0.3175	906	32	3922	3.1	48955	38.9	37
19	-0.3999	0.3139	916	31	3681	2.9	52636	41.8	40
20	-0.3024	0.3109	926	31	3380	2.7	56016	44.5	43
21	-0.2065	0.3084	935	31	3347	2.7	59363	47.2	46
22	-0.112	0.3064	945	31	3223	2.6	62586	49.7	48
23	-0.0186	0.3049	954	30	3183	2.5	65769	52.3	51
24	0.074	0.3038	963	30	3088	2.5	68857	54.7	54
25	0.1661	0.3032	972	30	2994	2.4	71851	57.1	56
26	0.258	0.3031	981	30	2943	2.3	74794	59.5	58
27	0.35	0.3034	990	30	2907	2.3	77701	61.8	61
28	0.4422	0.3043	1000	30	2826	2.2	80527	64.0	63
29	0.5352	0.3056	1009	30	2856	2.3	83383	66.3	65
30	0.6291	0.3074	1018	31	2955	2.3	86338	68.6	67
31	0.7243	0.3098	1028	31	2887	2.3	89225	70.9	70
32	0.8212	0.3128	1037	31	2823	2.2	92048	73.2	72
33	0.9201	0.3163	1047	32	2791	2.2	94839	75.4	74
34	1.0214	0.3205	1057	32	2782	2.2	97621	77.6	76
35	1.1257	0.3254	1068	32	2673	2.1	100294	79.7	79
36	1.2334	0.331	1078	33	2768	2.2	103062	81.9	81

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.345	0.3374	1089	34	2630	2.1	105692	84.0	83
38	1.4613	0.3446	1101	34	2572	2.0	108264	86.1	85
39	1.5827	0.3526	1113	35	2528	2.0	110792	88.1	87
40	1.7103	0.3617	1126	36	2325	1.8	113117	89.9	89
41	1.8448	0.372	1139	37	2228	1.8	115345	91.7	91
42	1.9874	0.3836	1153	38	2070	1.6	117415	93.3	93
43	2.1397	0.3971	1168	40	1900	1.5	119315	94.8	94
44	2.3036	0.413	1185	41	1606	1.3	120921	96.1	95
45	2.482	0.4324	1202	43	1426	1.1	122347	97.2	97
46	2.6793	0.4569	1222	46	1128	0.9	123475	98.1	98
47	2.9024	0.4891	1244	49	884	0.7	124359	98.8	98
48	3.1629	0.5341	1270	53	626	0.5	124985	99.3	99
49	3.483	0.6022	1302	60	435	0.3	125420	99.7	99
50	3.9135	0.721	1345	72	250	0.2	125670	99.9	99
51	4.6193	1.0019	1416	100	114	0.1	125784	100.0	99
52	5.8198	1.8216	1536	182	24	0.0	125808	100.0	99

Grade 8 Mathematics

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-5.4356	1.8363	600	184	2	0.0	2	0.0	1
1	-4.2049	1.0188	600	102	1	0.0	3	0.0	1
2	-3.4741	0.733	606	73	8	0.0	11	0.0	1
3	-3.0317	0.6083	650	61	35	0.0	46	0.0	1
4	-2.7075	0.5351	682	53	104	0.1	150	0.1	1
5	-2.4482	0.4858	708	49	271	0.2	421	0.3	1
6	-2.23	0.45	730	45	675	0.5	1096	0.9	1
7	-2.04	0.4226	749	42	1115	0.9	2211	1.8	1
8	-1.8707	0.401	765	40	1738	1.4	3949	3.2	3
9	-1.7171	0.3834	781	38	2419	2.0	6368	5.2	4
10	-1.5758	0.3688	795	37	3155	2.6	9523	7.7	6
11	-1.4444	0.3566	808	36	3602	2.9	13125	10.7	9
12	-1.321	0.3461	820	35	4140	3.4	17265	14.0	12
13	-1.2044	0.3372	832	34	4148	3.4	21413	17.4	16
14	-1.0933	0.3295	843	33	4312	3.5	25725	20.9	19
15	-0.987	0.3228	853	32	4138	3.4	29863	24.2	23
16	-0.8847	0.3169	864	32	4076	3.3	33939	27.6	26
17	-0.7859	0.3118	874	31	3860	3.1	37799	30.7	29
18	-0.6901	0.3074	883	31	3727	3.0	41526	33.7	32
19	-0.5968	0.3035	892	30	3637	3.0	45163	36.7	35
20	-0.5057	0.3002	901	30	3620	2.9	48783	39.6	38
21	-0.4165	0.2973	910	30	3435	2.8	52218	42.4	41
22	-0.3289	0.2948	919	29	3355	2.7	55573	45.1	44
23	-0.2426	0.2928	928	29	3408	2.8	58981	47.9	46
24	-0.1573	0.2912	936	29	3199	2.6	62180	50.5	49
25	-0.0729	0.2899	945	29	3227	2.6	65407	53.1	52
26	0.0109	0.289	953	29	3291	2.7	68698	55.8	54
27	0.0942	0.2885	961	29	3136	2.5	71834	58.3	57
28	0.1774	0.2884	969	29	3070	2.5	74904	60.8	60
29	0.2607	0.2886	978	29	2975	2.4	77879	63.2	62
30	0.3441	0.2893	986	29	2873	2.3	80752	65.6	64
31	0.4281	0.2903	994	29	2818	2.3	83570	67.8	67
32	0.5128	0.2918	1003	29	2819	2.3	86389	70.1	69
33	0.5985	0.2938	1011	29	2802	2.3	89191	72.4	71
34	0.6855	0.2963	1020	30	2740	2.2	91931	74.6	74
35	0.7742	0.2994	1029	30	2622	2.1	94553	76.8	76
36	0.8649	0.3031	1038	30	2484	2.0	97037	78.8	78

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	0.9581	0.3076	1047	31	2501	2.0	99538	80.8	80
38	1.0544	0.3131	1057	31	2503	2.0	102041	82.8	82
39	1.1544	0.3197	1067	32	2362	1.9	104403	84.8	84
40	1.259	0.3275	1077	33	2346	1.9	106749	86.7	86
41	1.3694	0.3371	1088	34	2200	1.8	108949	88.4	88
42	1.4869	0.3487	1100	35	2090	1.7	111039	90.1	89
43	1.6133	0.3629	1113	36	2038	1.7	113077	91.8	91
44	1.7513	0.3806	1126	38	1879	1.5	114956	93.3	93
45	1.9044	0.4026	1142	40	1700	1.4	116656	94.7	94
46	2.0776	0.4309	1159	43	1528	1.2	118184	95.9	95
47	2.279	0.4681	1179	47	1435	1.2	119619	97.1	97
48	2.5214	0.5192	1203	52	1175	1.0	120794	98.1	98
49	2.8291	0.5948	1234	59	964	0.8	121758	98.8	98
50	3.2557	0.7224	1277	72	763	0.6	122521	99.5	99
51	3.9715	1.0117	1348	101	457	0.4	122978	99.8	99
52	5.1925	1.8326	1470	183	208	0.2	123186	100.0	99

Grade 4 Science

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-4.332	1.834	1050	324	1	0.0	1	0.0	1
1	-3.1068	1.0151	1050	179	1	0.0	2	0.0	1
2	-2.383	0.7286	1050	129	9	0.0	11	0.0	1
3	-1.9465	0.6038	1050	107	31	0.0	42	0.0	1
4	-1.6273	0.5307	1050	94	67	0.1	109	0.1	1
5	-1.3723	0.4818	1050	85	192	0.2	301	0.2	1
6	-1.1576	0.4464	1050	79	397	0.3	698	0.6	1
7	-0.9706	0.4195	1051	74	715	0.6	1413	1.1	1
8	-0.8038	0.3983	1081	70	1145	0.9	2558	2.1	2
9	-0.6521	0.3812	1108	67	1636	1.3	4194	3.4	3
10	-0.5122	0.3671	1132	65	1994	1.6	6188	5.0	4
11	-0.3818	0.3554	1155	63	2412	2.0	8600	7.0	6
12	-0.2591	0.3456	1177	61	2725	2.2	11325	9.2	8
13	-0.1426	0.3372	1197	60	2987	2.4	14312	11.6	10
14	-0.0313	0.3302	1217	58	3094	2.5	17406	14.1	13
15	0.0757	0.3241	1236	57	3220	2.6	20626	16.8	15
16	0.1791	0.319	1254	56	3282	2.7	23908	19.4	18
17	0.2794	0.3147	1272	56	3420	2.8	27328	22.2	21
18	0.3773	0.3111	1289	55	3549	2.9	30877	25.1	24
19	0.4731	0.3081	1306	54	3534	2.9	34411	28.0	27
20	0.5673	0.3057	1322	54	3695	3.0	38106	31.0	29
21	0.6602	0.3039	1339	54	3766	3.1	41872	34.0	32
22	0.7521	0.3025	1355	53	3867	3.1	45739	37.2	36
23	0.8433	0.3017	1371	53	3999	3.2	49738	40.4	39
24	0.9342	0.3014	1387	53	4107	3.3	53845	43.7	42
25	1.0251	0.3015	1403	53	4254	3.5	58099	47.2	45
26	1.1161	0.3021	1419	53	4336	3.5	62435	50.7	49
27	1.2077	0.3032	1435	53	4376	3.6	66811	54.3	52
28	1.3001	0.3048	1451	54	4261	3.5	71072	57.7	56
29	1.3937	0.307	1468	54	4310	3.5	75382	61.2	59
30	1.4887	0.3097	1485	55	4523	3.7	79905	64.9	63
31	1.5857	0.3131	1502	55	4337	3.5	84242	68.4	67
32	1.685	0.3172	1519	56	4293	3.5	88535	71.9	70
33	1.7871	0.3221	1537	57	4254	3.5	92789	75.4	74
34	1.8927	0.3279	1556	58	4112	3.3	96901	78.7	77
35	2.0024	0.3348	1575	59	4044	3.3	100945	82.0	80
36	2.1172	0.343	1595	61	3615	2.9	104560	84.9	83

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	2.2381	0.3527	1617	62	3395	2.8	107955	87.7	86
38	2.3664	0.3642	1639	64	3164	2.6	111119	90.3	89
39	2.5041	0.3782	1663	67	2831	2.3	113950	92.6	91
40	2.6535	0.3953	1690	70	2440	2.0	116390	94.6	94
41	2.8179	0.4165	1719	74	2093	1.7	118483	96.3	95
42	3.0023	0.4434	1751	78	1603	1.3	120086	97.6	97
43	3.2143	0.479	1789	85	1244	1.0	121330	98.6	98
44	3.4667	0.5281	1833	93	866	0.7	122196	99.3	99
45	3.783	0.6015	1889	106	500	0.4	122696	99.7	99
46	4.2168	0.7267	1966	128	268	0.2	122964	99.9	99
47	4.9378	1.0138	2093	179	109	0.1	123073	100.0	99
48	6.1611	1.8332	2309	324	20	0.0	123093	100.0	99

Grade 8 Science

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
0	-4.9017	1.8355	925	352	4	0.0	4	0.0	1
1	-3.6727	1.0178	925	195	1	0.0	5	0.0	1
2	-2.9436	0.7322	925	140	13	0.0	18	0.0	1
3	-2.5018	0.6081	925	116	27	0.0	45	0.0	1
4	-2.1775	0.5355	925	103	96	0.1	141	0.1	1
5	-1.9174	0.4871	925	93	194	0.2	335	0.3	1
6	-1.6976	0.452	925	86	406	0.3	741	0.6	1
7	-1.5055	0.4255	925	81	774	0.6	1515	1.2	1
8	-1.3336	0.4046	940	77	1185	1.0	2700	2.2	2
9	-1.1768	0.3878	970	74	1622	1.3	4322	3.5	3
10	-1.0318	0.374	998	72	2021	1.6	6343	5.2	4
11	-0.8963	0.3626	1024	69	2493	2.0	8836	7.2	6
12	-0.7683	0.353	1048	67	2719	2.2	11555	9.4	8
13	-0.6466	0.345	1072	66	3030	2.5	14585	11.9	11
14	-0.53	0.3381	1094	65	3155	2.6	17740	14.5	13
15	-0.4177	0.3324	1115	64	3372	2.7	21112	17.2	16
16	-0.3089	0.3275	1136	63	3395	2.8	24507	20.0	19
17	-0.203	0.3234	1156	62	3554	2.9	28061	22.9	21
18	-0.0995	0.32	1176	61	3543	2.9	31604	25.8	24
19	0.002	0.3173	1195	61	3752	3.1	35356	28.8	27
20	0.102	0.3152	1214	60	3803	3.1	39159	31.9	30
21	0.2008	0.3136	1233	60	3842	3.1	43001	35.1	33
22	0.2987	0.3125	1252	60	4142	3.4	47143	38.4	37
23	0.3962	0.312	1270	60	4170	3.4	51313	41.8	40
24	0.4935	0.3119	1289	60	4364	3.6	55677	45.4	44
25	0.5909	0.3124	1308	60	4530	3.7	60207	49.1	47
26	0.6888	0.3134	1326	60	4621	3.8	64828	52.9	51
27	0.7874	0.3149	1345	60	4755	3.9	69583	56.7	55
28	0.8872	0.317	1364	61	4943	4.0	74526	60.8	59
29	0.9885	0.3197	1383	61	5031	4.1	79557	64.9	63
30	1.0918	0.3231	1403	62	4977	4.1	84534	68.9	67
31	1.1974	0.3272	1423	63	4956	4.0	89490	73.0	71
32	1.3061	0.3322	1444	63	4881	4.0	94371	76.9	75
33	1.4184	0.3381	1465	65	4535	3.7	98906	80.6	79
34	1.535	0.3451	1488	66	4391	3.6	103297	84.2	82
35	1.6569	0.3534	1511	68	3751	3.1	107048	87.3	86
36	1.7852	0.3632	1535	69	3488	2.8	110536	90.1	89

Raw Score	IRT Difficulty Estimate	IRT Difficulty SE	Scale Score	Scale Score SE	Frequency	Percent	Cumulative Frequency	Cumulative Percent	Percentile
37	1.9212	0.3748	1561	72	3018	2.5	113554	92.6	91
38	2.0668	0.3886	1589	74	2521	2.1	116075	94.6	94
39	2.2242	0.4052	1619	77	2022	1.6	118097	96.3	95
40	2.3964	0.4254	1652	81	1547	1.3	119644	97.5	97
41	2.5877	0.4502	1688	86	1152	0.9	120796	98.5	98
42	2.8042	0.4814	1730	92	821	0.7	121617	99.2	99
43	3.055	0.5217	1777	100	552	0.5	122169	99.6	99
44	3.3549	0.576	1834	110	269	0.2	122438	99.8	99
45	3.7304	0.654	1906	125	139	0.1	122577	99.9	99
46	4.238	0.7813	2003	149	54	0.0	122631	100.0	99
47	5.0506	1.0624	2158	203	21	0.0	122652	100.0	99
48	6.3492	1.864	2406	357	2	0.0	122654	100.0	99

APPENDIX O: LINKING ITEM STATISTICS

Due to the transition to pre-equating rather than post-equating, the Linking Item Statistics are provided for all operational (OP) items and equating block (EB) items. Linking (LK) items are a subset of operational items. The item status (OP, LK, and EB) is shown as Item Status. Prior to 2019, only LK and EB items were reported in Appendix O due to the equating design – but since the transition, all previously estimated item parameters (IRT difficulty parameters) are used for equating to the base scale and are provided. Form numbers equal to 0 represent that the item was included on all forms for the 2018-2019 PSSA.

Mathematics Grade 3

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
714985	MC	OP	0	2	8	43	2016	0.60	0.59	0.0464	0.0581
702233	MC	OP	0	3	1	49	2016	0.59	0.59	0.0668	0.1635
699437	MC	OP	0	6	9	46	2016	0.73	0.73	-0.7258	-0.5995
794390	MC	OP	0	7	1	39	2017	0.39	0.40	1.1571	1.1356
714261	MC	OP	0	9	1	50	2017	0.72	0.75	-0.6813	-0.7202
714767	MC	OP	0	11	9	44	2017	0.52	0.53	0.4856	0.5495
808746	MC	OP	0	12	6	40	2017	0.77	0.80	-0.9279	-1.0431
879204	MC	OP	0	14	4	49	2018	0.40	0.39	1.1007	1.2403
714735	MC	OP	0	15	4	42	2016	0.62	0.62	-0.0514	0.0265
808552	MC	OP	0	16	2	42	2017	0.46	0.45	0.8200	0.8783
808699	MC	OP	0	17	9	47	2018	0.56	0.60	0.2629	0.1560
808702	MC	OP	0	18	6	50	2018	0.57	0.61	0.2410	0.1255
808735	MC	OP	0	19	3	21	2018	0.48	0.48	0.7211	0.7202
879198	MC	OP	0	20	7	23	2018	0.51	0.54	0.5520	0.3938
808693	MC	OP	0	27	9	22	2018	0.65	0.73	-0.1906	-0.6188
808862	MC	OP	0	28	2	47	2017	0.64	0.71	-0.1574	-0.4625
714427	MC	OP	0	29	8	48	2018	0.80	0.81	-1.1288	-1.1382
808860	MC	OP	0	31	9	49	2018	0.33	0.38	1.4881	1.3471
715873	MC	OP	0	33	6	50	2016	0.43	0.46	0.9754	0.8213
700111	MC	OP	0	37	2	41	2016	0.71	0.68	-0.6046	-0.3493
714008	MC	OP	0	40	7	41	2016	0.82	0.79	-1.3295	-1.0454
895195	MC	OP	0	44	7	22	2018	0.38	0.40	1.2345	1.1523
808741	MC	OP	0	45	7	39	2017	0.60	0.57	0.0839	0.3320
699429	MC	OP	0	46	6	43	2016	0.75	0.76	-0.8041	-0.7810
699562	MC	LK	0	1	0	1	2018	0.72	0.73	-0.6664	-0.6057
714147	MC	LK	0	4	0	4	2018	0.65	0.68	-0.1931	-0.2562
713292	MC	LK	0	5	0	5	2018	0.56	0.55	0.3975	0.4878
808557	MC	LK	0	8	0	8	2018	0.65	0.69	-0.2356	-0.3570
713485	MC	LK	0	10	0	10	2018	0.56	0.57	0.2410	0.2869

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
794394	MC	LK	0	13	0	13	2018	0.66	0.66	-0.3117	-0.2571
714740	MC	LK	0	30	0	30	2018	0.53	0.55	0.4432	0.4041
808722	MC	LK	0	32	0	32	2018	0.59	0.62	0.1845	-0.0004
808748	MC	LK	0	34	0	34	2018	0.46	0.46	0.7703	0.8006
714977	MC	LK	0	35	0	35	2018	0.55	0.56	0.3059	0.3198
808554	MC	LK	0	36	0	36	2018	0.48	0.48	0.7172	0.7793
808698	MC	LK	0	38	0	38	2018	0.46	0.47	0.8818	0.8534
665206	MC	LK	0	39	0	39	2018	0.47	0.46	0.6984	0.8534
808733	MC	LK	0	41	0	41	2018	0.49	0.49	0.6580	0.7226
808732	MC	LK	0	42	0	42	2018	0.52	0.52	0.4797	0.5322
808677	MC	LK	0	43	0	43	2018	0.38	0.39	1.2225	1.1944
893233	MC	EB	8	14	5	50	2018	0.57	0.60	0.2140	0.1453
893243	MC	EB	7	14	7	47	2018	0.52	0.54	0.4969	0.4878
893246	MC	EB	6	14	1	49	2018	0.46	0.48	0.7128	0.7460
893251	MC	EB	6	14	7	21	2018	0.54	0.54	0.4032	0.4662
893256	MC	EB	3	14	6	49	2018	0.79	0.78	-1.0754	-0.8826
893268	MC	EB	9	14	9	21	2018	0.68	0.67	-0.3735	-0.1959
879199	MC	EB	2	22	5	22	2018	0.54	0.53	0.4126	0.4755
879179	MC	EB	1	26	8	49	2018	0.51	0.50	0.5421	0.5115
895213	MC	EB	5	44	5	48	2018	0.44	0.44	0.8846	0.9499
895225	MC	EB	5	44	3	22	2018	0.77	0.80	-0.9572	-1.0490
895228	MC	EB	1	44	8	23	2018	0.68	0.66	-0.3575	-0.2448
895232	MC	EB	9	44	9	50	2018	0.39	0.38	1.1508	1.2816
897747	MC	EB	7	44	5	23	2018	0.37	0.38	1.2937	1.2763
897752	MC	EB	2	50	3	50	2018	0.46	0.46	0.8079	0.8657
897759	MC	EB	4	50	6	48	2018	0.58	0.59	0.1966	0.1884
897766	MC	EB	8	50	2	24	2018	0.44	0.48	0.9083	0.7552
897771	MC	EB	4	50	3	24	2018	0.47	0.51	0.7826	0.6186
897838	MC	EB	3	50	8	22	2018	0.56	0.61	0.2803	0.0742
899235	OE	OP	0	25	5	52	2018	0.43	0.47	0.9849	0.8248
815958	OE	LK	0	26	0	26	2018	0.36	0.37	1.2577	1.2853
730073	OE	LK	0	51	0	51	2018	0.43	0.45	0.9786	0.8648

Mathematics Grade 4

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
897785	MC	OP	0	1	4	4	2018	0.87	0.89	-2.2287	-2.5140
895221	MC	OP	0	3	6	4	2018	0.58	0.60	-0.3956	-0.4642
895218	MC	OP	0	4	7	47	2018	0.52	0.53	-0.0501	-0.0458
714163	MC	OP	0	5	5	45	2017	0.51	0.44	0.0840	0.4059
808586	MC	OP	0	7	2	46	2017	0.61	0.65	-0.4790	-0.7365
808576	MC	OP	0	8	9	47	2018	0.36	0.37	0.7837	0.7127
714547	MC	OP	0	10	7	44	2017	0.69	0.71	-0.9033	-1.1338
808579	MC	OP	0	12	9	44	2017	0.74	0.73	-1.2180	-1.1337
808574	MC	OP	0	13	6	39	2017	0.30	0.29	1.1675	1.1944
895251	MC	OP	0	15	8	48	2018	0.43	0.46	0.3975	0.2936
700106	MC	OP	0	19	8	40	2016	0.56	0.60	-0.2266	-0.4326
714166	MC	OP	0	20	7	48	2016	0.50	0.55	0.0586	-0.1339
699464	MC	OP	0	29	2	49	2016	0.30	0.33	1.2372	1.0008
897774	MC	OP	0	30	1	50	2018	0.71	0.76	-1.1935	-1.3221
713478	MC	OP	0	32	6	48	2016	0.63	0.65	-0.6059	-0.7110
713473	MC	OP	0	33	6	49	2016	0.36	0.35	0.8415	0.8179
713475	MC	OP	0	37	1	43	2017	0.47	0.47	0.1647	0.2091
703513	MC	OP	0	38	8	47	2016	0.47	0.49	0.2183	0.1885
713090	MC	OP	0	39	2	42	2017	0.80	0.79	-1.6534	-1.7024
714551	MC	OP	0	41	5	41	2016	0.84	0.84	-1.9961	-2.0121
714159	MC	OP	0	43	8	44	2016	0.37	0.36	0.7843	0.8376
714658	MC	OP	0	44	5	46	2016	0.63	0.61	-0.6342	-0.4114
715537	MC	OP	0	45	6	41	2016	0.66	0.67	-0.7769	-0.8573
713032	MC	OP	0	46	4	41	2017	0.56	0.52	-0.2171	0.0000
713771	MC	LK	0	2	0	2	2018	0.75	0.77	-1.3208	-1.4834
702993	MC	LK	0	6	0	6	2018	0.72	0.73	-1.2416	-1.1954
808773	MC	LK	0	9	0	9	2018	0.59	0.60	-0.3576	-0.3931
713751	MC	LK	0	11	0	11	2018	0.59	0.59	-0.4383	-0.3954
714233	MC	LK	0	14	0	14	2018	0.35	0.34	0.9089	0.9268
808801	MC	LK	0	16	0	16	2018	0.41	0.40	0.5134	0.5715
713747	MC	LK	0	17	0	17	2018	0.42	0.44	0.4074	0.3520
794399	MC	LK	0	18	0	18	2018	0.52	0.52	-0.0321	-0.0076
714229	MC	LK	0	27	0	27	2018	0.37	0.39	0.6208	0.6135
714188	MC	LK	0	28	0	28	2018	0.55	0.56	-0.2446	-0.3095
699460	MC	LK	0	31	0	31	2018	0.42	0.43	0.4610	0.4163
715543	MC	LK	0	34	0	34	2018	0.52	0.54	-0.0566	-0.1543

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
702987	MC	LK	0	35	0	35	2018	0.52	0.56	-0.0616	-0.1978
808799	MC	LK	0	36	0	36	2018	0.62	0.63	-0.6183	-0.6227
808651	MC	LK	0	40	0	40	2018	0.50	0.52	0.0113	-0.0244
699461	MC	LK	0	42	0	42	2018	0.61	0.60	-0.6394	-0.5101
897849	MC	EB	9	1	1	24	2018	0.33	0.35	0.8034	0.8696
895241	MC	EB	5	3	7	22	2018	0.50	0.50	0.0312	0.0709
895242	MC	EB	3	3	2	24	2018	0.66	0.66	-0.8203	-0.8011
808796	MC	EB	6	9	5	23	2018	0.45	0.44	0.3083	0.3680
879193	MC	EB	1	16	7	24	2018	0.50	0.52	0.0353	-0.1405
879203	MC	EB	8	16	7	48	2018	0.45	0.46	0.2866	0.2783
893276	MC	EB	3	16	2	49	2018	0.82	0.80	-1.8112	-1.7152
893278	MC	EB	5	16	5	47	2018	0.41	0.41	0.5281	0.5622
893279	MC	EB	4	16	6	47	2018	0.37	0.42	0.6974	0.4836
893285	MC	EB	6	16	3	50	2018	0.40	0.45	0.5310	0.3525
893295	MC	EB	7	16	2	23	2018	0.42	0.43	0.4391	0.4229
714185	MC	EB	1	20	6	50	2018	0.45	0.43	0.2514	0.3503
893305	MC	EB	2	22	8	22	2018	0.35	0.37	0.8106	0.7718
895216	MC	EB	8	22	4	23	2018	0.42	0.43	0.4162	0.4033
897776	MC	EB	7	30	3	48	2018	0.56	0.60	-0.2721	-0.4533
713474	MC	EB	9	33	5	50	2018	0.66	0.64	-0.7575	-0.6550
895244	MC	EB	2	49	4	49	2018	0.40	0.41	0.5294	0.5167
895250	MC	EB	4	49	9	22	2018	0.74	0.73	-1.2407	-1.1722
899236	OE	OP	0	26	7	52	2018	0.33	0.33	1.1162	1.1382
792328	OE	LK	0	25	0	25	2018	0.45	0.45	0.3156	0.3276
702245	OE	LK	0	51	0	51	2018	0.34	0.33	0.8714	0.9834

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ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
893302	MC	OP	0	1	9	4	2018	0.72	0.65	-0.8826	-0.5541
713911	MC	OP	0	3	1	5	2016	0.65	0.64	-0.5899	-0.4178
808599	MC	OP	0	4	9	47	2018	0.31	0.33	1.3001	1.1010
897794	MC	OP	0	5	6	22	2018	0.59	0.61	-0.2046	-0.2971
897867	MC	OP	0	7	5	24	2018	0.34	0.34	1.1744	1.0389
701869	MC	OP	0	8	3	47	2016	0.50	0.58	0.2383	-0.0198
714045	MC	OP	0	10	3	48	2016	0.67	0.68	-0.6362	-0.6762
897791	MC	OP	0	12	5	48	2018	0.38	0.32	0.9459	1.1688
701927	MC	OP	0	14	6	46	2016	0.52	0.51	0.1602	0.1601
714924	MC	OP	0	16	6	45	2017	0.70	0.65	-0.7748	-0.5123
808827	MC	OP	0	19	5	22	2018	0.69	0.68	-0.7640	-0.6793
714779	MC	OP	0	20	2	42	2016	0.70	0.71	-0.7867	-0.7865
808821	MC	OP	0	27	9	22	2018	0.48	0.47	0.3878	0.3986
808829	MC	OP	0	30	2	39	2017	0.37	0.36	0.9583	0.9709
808592	MC	OP	0	32	3	47	2018	0.68	0.74	-0.7537	-0.9781
808648	MC	OP	0	33	3	24	2018	0.38	0.39	0.9072	0.9149
700484	MC	OP	0	34	4	40	2016	0.39	0.39	0.8328	0.8082
808806	MC	OP	0	35	6	46	2017	0.53	0.54	0.1088	0.0244
808836	MC	OP	0	36	3	39	2017	0.47	0.48	0.4092	0.3622
703081	MC	OP	0	37	7	40	2016	0.42	0.40	0.6651	0.7272
714052	MC	OP	0	41	4	40	2017	0.49	0.46	0.3228	0.3974
808817	MC	OP	0	42	5	42	2017	0.36	0.34	1.0124	1.0681
714053	MC	OP	0	43	7	49	2016	0.31	0.36	1.2595	0.9356
808607	MC	OP	0	46	4	46	2017	0.40	0.38	0.8047	0.8410
713790	MC	LK	0	2	0	2	2018	0.46	0.47	0.4964	0.4097
713778	MC	LK	0	6	0	6	2018	0.63	0.63	-0.4231	-0.4512
701870	MC	LK	0	9	0	9	2018	0.58	0.57	-0.1129	-0.0398
808661	MC	LK	0	11	0	11	2018	0.48	0.47	0.3931	0.3771
808831	MC	LK	0	13	0	13	2018	0.46	0.48	0.4643	0.3282
808830	MC	LK	0	15	0	15	2018	0.37	0.34	0.9525	1.0345
714416	MC	LK	0	17	0	17	2018	0.42	0.40	0.6292	0.7471
703021	MC	LK	0	18	0	18	2018	0.59	0.57	-0.2446	-0.0628
700546	MC	LK	0	28	0	28	2018	0.70	0.70	-0.8554	-0.7510
808616	MC	LK	0	29	0	29	2018	0.39	0.43	0.8335	0.6307
808811	MC	LK	0	31	0	31	2018	0.61	0.60	-0.3273	-0.2650
701871	MC	LK	0	38	0	38	2018	0.69	0.69	-0.7185	-0.6668

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
675696	MC	LK	0	39	0	39	2018	0.55	0.54	0.1303	0.1071
713933	MC	LK	0	40	0	40	2018	0.55	0.55	-0.0039	-0.0240
808622	MC	LK	0	44	0	44	2018	0.46	0.46	0.4960	0.4318
701942	MC	LK	0	45	0	45	2018	0.39	0.40	0.8643	0.8259
893312	MC	EB	3	1	2	50	2018	0.31	0.31	1.3197	1.2445
893321	MC	EB	9	1	3	48	2018	0.33	0.35	1.1397	1.0002
895257	MC	EB	8	1	3	49	2018	0.44	0.46	0.5358	0.4284
895263	MC	EB	5	1	9	48	2018	0.35	0.37	1.0876	0.9214
895268	MC	EB	1	1	4	50	2018	0.64	0.63	-0.4322	-0.3942
895270	MC	EB	6	1	5	23	2018	0.51	0.49	0.2099	0.2998
895273	MC	EB	4	1	8	24	2018	0.48	0.47	0.3588	0.4019
895275	MC	EB	6	1	5	47	2018	0.38	0.39	0.9285	0.8289
895280	MC	EB	4	1	4	48	2018	0.54	0.51	0.0972	0.2172
897789	MC	EB	7	1	8	47	2018	0.34	0.33	1.1315	1.1843
897852	MC	EB	5	5	6	23	2018	0.36	0.36	1.0162	0.9660
897854	MC	EB	7	5	9	23	2018	0.52	0.50	0.1716	0.3167
897855	MC	EB	8	5	3	22	2018	0.43	0.41	0.5853	0.6981
897868	MC	EB	3	7	7	23	2018	0.43	0.41	0.6200	0.6833
808805	MC	EB	9	11	4	23	2018	0.39	0.36	0.8730	0.9615
879185	MC	EB	2	23	8	23	2018	0.43	0.42	0.6518	0.6494
897856	MC	EB	2	48	8	48	2018	0.59	0.60	-0.1952	-0.2161
897859	MC	EB	1	48	1	22	2018	0.57	0.56	-0.2125	-0.0758
713541	OE	OP	0	51	6	52	2018	0.34	0.34	1.4846	1.2073
810790	OE	LK	0	25	0	25	2018	0.33	0.34	1.1730	1.0509
714927	OE	LK	0	26	0	26	2018	0.36	0.34	0.9813	1.0396

Mathematics Grade 6

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
714910	MC	OP	0	2	9	5	2016	0.54	0.48	0.2054	0.4674
719317	MC	OP	0	3	3	4	2018	0.47	0.49	0.5618	0.4670
896619	MC	OP	0	4	7	48	2018	0.35	0.35	1.2173	1.2239
897330	MC	OP	0	6	6	48	2018	0.33	0.36	1.2967	1.0732
812573	MC	OP	0	7	7	24	2018	0.42	0.45	0.8567	0.5987
811378	MC	OP	0	8	9	45	2017	0.54	0.54	0.2288	0.1664
703102	MC	OP	0	9	1	44	2017	0.33	0.34	1.2644	1.1763
811384	MC	OP	0	10	5	47	2018	0.37	0.41	1.0903	0.8397
735207	MC	OP	0	11	2	47	2018	0.69	0.71	-0.5858	-0.7518
811377	MC	OP	0	13	9	42	2017	0.40	0.39	0.9041	0.8928
813729	MC	OP	0	17	4	44	2017	0.52	0.53	0.3074	0.2550
812574	MC	OP	0	18	9	47	2018	0.42	0.42	0.8292	0.8865
897327	MC	OP	0	27	6	49	2018	0.44	0.45	0.7007	0.6799
816057	MC	OP	0	28	3	47	2018	0.55	0.55	0.1842	0.2705
896626	MC	OP	0	29	9	49	2018	0.69	0.73	-0.5793	-0.8824
719301	MC	OP	0	30	6	43	2017	0.31	0.31	1.4038	1.3935
801334	MC	OP	0	32	4	47	2018	0.86	0.89	-1.7413	-1.8713
817180	MC	OP	0	35	5	22	2018	0.78	0.79	-1.1170	-1.1694
892773	MC	OP	0	38	9	48	2018	0.61	0.63	-0.1298	-0.2065
714888	MC	OP	0	39	2	41	2017	0.49	0.47	0.4632	0.5470
812567	MC	OP	0	42	6	23	2018	0.57	0.58	0.0563	0.0709
812575	MC	OP	0	43	4	41	2017	0.31	0.31	1.4219	1.4829
813126	MC	OP	0	44	7	47	2018	0.77	0.78	-1.0447	-1.0871
719271	MC	OP	0	46	4	49	2016	0.34	0.33	1.2453	1.2738
719289	MC	LK	0	1	0	1	2018	0.58	0.57	-0.0115	0.0272
714845	MC	LK	0	5	0	5	2018	0.77	0.76	-1.0492	-0.9682
801976	MC	LK	0	12	0	12	2018	0.70	0.70	-0.6300	-0.5328
812079	MC	LK	0	14	0	14	2018	0.59	0.61	-0.0440	-0.1449
712516	MC	LK	0	15	0	15	2018	0.55	0.53	0.1392	0.1390
801978	MC	LK	0	16	0	16	2018	0.78	0.79	-1.2050	-1.2250
714842	MC	LK	0	19	0	19	2018	0.52	0.53	0.3001	0.2167
701834	MC	LK	0	20	0	20	2018	0.54	0.54	0.2412	0.2262
799256	MC	LK	0	31	0	31	2018	0.51	0.49	0.2929	0.3763
811381	MC	LK	0	33	0	33	2018	0.44	0.42	0.7513	0.7276
801980	MC	LK	0	34	0	34	2018	0.55	0.55	0.1609	0.1738
813118	MC	LK	0	36	0	36	2018	0.34	0.36	1.2478	1.0747

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
812576	MC	LK	0	37	0	37	2018	0.42	0.42	0.8359	0.8359
816052	MC	LK	0	40	0	40	2018	0.66	0.67	-0.4613	-0.5061
714836	MC	LK	0	41	0	41	2018	0.58	0.62	0.0069	-0.2345
798642	MC	LK	0	45	0	45	2018	0.62	0.59	-0.1557	-0.1069
896621	MC	EB	6	4	4	50	2018	0.52	0.48	0.3404	0.4827
896622	MC	EB	5	4	5	50	2018	0.44	0.42	0.7405	0.7848
900252	MC	EB	8	6	5	49	2018	0.57	0.56	0.0617	0.0975
900434	MC	EB	1	6	4	49	2018	0.66	0.63	-0.3841	-0.2880
897322	MC	EB	2	24	6	24	2018	0.76	0.75	-0.9995	-0.9436
897328	MC	EB	6	27	9	22	2018	0.49	0.48	0.4774	0.5126
896971	MC	EB	7	29	8	48	2018	0.50	0.54	0.4003	0.2139
896973	MC	EB	3	29	5	24	2018	0.60	0.58	-0.0914	-0.0289
878731	MC	EB	7	35	8	24	2018	0.52	0.52	0.3065	0.3094
878732	MC	EB	5	35	6	22	2018	0.47	0.47	0.5688	0.5723
892778	MC	EB	9	38	3	24	2018	0.34	0.34	1.2485	1.2668
892780	MC	EB	3	38	3	49	2018	0.59	0.58	-0.0240	0.0334
878736	MC	EB	2	50	8	50	2018	0.32	0.33	1.3523	1.3347
878737	MC	EB	8	50	5	23	2018	0.49	0.49	0.4773	0.4328
891810	MC	EB	4	51	2	23	2018	0.72	0.73	-0.7698	-0.7981
891812	MC	EB	1	51	9	24	2018	0.41	0.41	0.8883	0.8170
891813	MC	EB	9	51	2	49	2018	0.67	0.66	-0.4680	-0.4455
892483	MC	EB	4	51	8	49	2018	0.54	0.56	0.2325	0.1093
880032	OE	OP	0	51	1	52	2018	0.50	0.53	0.3629	0.2304
713179	OE	LK	0	25	0	25	2018	0.36	0.34	1.0598	1.1362
713120	OE	LK	0	26	0	26	2018	0.24	0.24	1.6310	1.6153

Mathematics Grade 7

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
890988	MC	OP	0	2	7	4	2018	0.39	0.37	0.6769	0.5955
889982	MC	OP	0	3	2	4	2018	0.47	0.49	0.2040	0.0695
812795	MC	OP	0	4	5	41	2017	0.48	0.50	0.1728	-0.0487
799257	MC	OP	0	5	4	47	2017	0.35	0.36	0.8475	0.7585
880359	MC	OP	0	7	9	50	2018	0.42	0.44	0.5222	0.2649
893203	MC	OP	0	8	9	49	2018	0.36	0.33	0.8269	0.8411
812788	MC	OP	0	9	7	22	2018	0.66	0.71	-0.7543	-1.0702
812678	MC	OP	0	11	1	47	2018	0.69	0.72	-1.0830	-1.2210
816210	MC	OP	0	12	9	22	2018	0.45	0.44	0.3162	0.2034
714851	MC	OP	0	13	1	43	2017	0.44	0.44	0.3278	0.2437
815657	MC	OP	0	17	5	42	2017	0.48	0.45	0.1709	0.3359
812682	MC	OP	0	19	8	47	2018	0.38	0.40	0.7286	0.5856
878182	MC	OP	0	20	7	47	2018	0.68	0.70	-0.9033	-1.0203
813367	MC	OP	0	27	9	47	2018	0.79	0.83	-1.6076	-2.0231
798647	MC	OP	0	28	9	49	2017	0.41	0.38	0.5431	0.6279
815662	MC	OP	0	30	4	47	2018	0.46	0.49	0.2801	-0.0084
735215	MC	OP	0	32	2	43	2017	0.37	0.43	0.7455	0.3094
816205	MC	OP	0	34	3	22	2018	0.55	0.56	-0.2152	-0.3537
712503	MC	OP	0	35	1	49	2016	0.32	0.32	0.9839	0.9801
804829	MC	OP	0	36	7	49	2017	0.33	0.35	0.9928	0.7189
816201	MC	OP	0	37	6	41	2017	0.40	0.47	0.6121	0.0674
801996	MC	OP	0	39	6	23	2018	0.60	0.61	-0.4449	-0.5740
817822	MC	OP	0	42	6	47	2018	0.46	0.43	0.3181	0.3256
817815	MC	OP	0	46	4	23	2018	0.53	0.53	-0.0867	-0.0946
735244	MC	LK	0	1	0	1	2018	0.46	0.46	0.2173	0.1010
804827	MC	LK	0	6	0	6	2018	0.55	0.55	-0.1809	-0.2801
812786	MC	LK	0	10	0	10	2018	0.89	0.85	-2.2699	-2.1123
815655	MC	LK	0	14	0	14	2018	0.49	0.48	0.1203	0.1053
801333	MC	LK	0	15	0	15	2018	0.62	0.59	-0.5693	-0.5007
798645	MC	LK	0	16	0	16	2018	0.61	0.58	-0.5573	-0.4426
678675	MC	LK	0	18	0	18	2018	0.65	0.64	-0.8273	-0.7697
735246	MC	LK	0	29	0	29	2018	0.50	0.46	0.0525	0.0683
815641	MC	LK	0	31	0	31	2018	0.58	0.57	-0.3526	-0.3698
804834	MC	LK	0	33	0	33	2018	0.41	0.40	0.5083	0.5379
696725	MC	LK	0	38	0	38	2018	0.68	0.60	-0.9636	-0.5528
666595	MC	LK	0	40	0	40	2018	0.56	0.53	-0.3114	-0.2605

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
812794	MC	LK	0	41	0	41	2018	0.59	0.56	-0.5026	-0.3531
815676	MC	LK	0	43	0	43	2018	0.60	0.58	-0.4521	-0.3929
815680	MC	LK	0	44	0	44	2018	0.71	0.70	-1.1506	-1.0394
700523	MC	LK	0	45	0	45	2018	0.72	0.70	-1.1696	-1.0439
893197	MC	EB	4	2	1	22	2018	0.38	0.37	0.6714	0.6522
880364	MC	EB	5	7	5	48	2018	0.30	0.31	1.1975	0.9647
880366	MC	EB	6	7	6	24	2018	0.45	0.43	0.3656	0.3387
880410	MC	EB	6	7	8	49	2018	0.43	0.39	0.4340	0.5292
880411	MC	EB	8	7	5	50	2018	0.66	0.61	-0.7704	-0.5691
812789	MC	EB	9	9	4	50	2018	0.47	0.47	0.2533	0.1354
878184	MC	EB	2	24	3	24	2018	0.53	0.52	-0.0937	-0.1252
878186	MC	EB	9	24	3	23	2018	0.43	0.44	0.4526	0.2976
877779	MC	EB	5	42	9	24	2018	0.39	0.38	0.6836	0.5806
877785	MC	EB	2	48	1	48	2018	0.40	0.39	0.5246	0.5612
896129	MC	EB	3	51	2	23	2018	0.61	0.57	-0.5422	-0.4346
896130	MC	EB	7	51	5	49	2018	0.62	0.59	-0.5835	-0.4505
900387	MC	EB	1	51	2	48	2018	0.51	0.48	-0.0079	0.0355
900394	MC	EB	7	51	4	22	2018	0.54	0.56	-0.1489	-0.3382
902417	MC	EB	3	51	6	49	2018	0.39	0.36	0.6661	0.7022
902796	MC	EB	8	51	7	23	2018	0.38	0.34	0.7343	0.8506
902819	MC	EB	1	51	5	24	2018	0.34	0.32	0.9821	0.8868
902857	MC	EB	4	51	9	48	2018	0.62	0.58	-0.5895	-0.4346
893909	OE	OP	0	51	4	52	2018	0.25	0.28	1.7513	1.4311
713542	OE	LK	0	25	0	25	2018	0.34	0.32	0.9860	0.9009
713567	OE	LK	0	26	0	26	2018	0.22	0.21	1.6926	1.5114

Mathematics Grade 8

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
879849	MC	OP	0	1	9	4	2018	0.62	0.63	-0.6759	-0.8872
889980	MC	OP	0	2	2	4	2018	0.42	0.46	0.3586	0.0654
816568	MC	OP	0	4	9	42	2017	0.59	0.64	-0.5091	-0.8383
703016	MC	OP	0	5	1	49	2016	0.41	0.44	0.3613	0.1974
724101	MC	OP	0	6	9	44	2017	0.50	0.50	-0.0208	-0.1820
712508	MC	OP	0	9	4	47	2017	0.55	0.58	-0.2853	-0.4781
813612	MC	OP	0	10	3	22	2018	0.51	0.52	-0.1542	-0.2299
812800	MC	OP	0	13	7	46	2017	0.54	0.56	-0.2134	-0.4340
735230	MC	OP	0	14	9	48	2017	0.51	0.60	-0.0918	-0.5581
903530	MC	OP	0	16	7	50	2018	0.73	0.76	-1.3126	-1.5658
812807	MC	OP	0	17	8	47	2018	0.59	0.59	-0.5081	-0.6167
894658	MC	OP	0	19	1	50	2018	0.41	0.39	0.3322	0.4130
813609	MC	OP	0	27	1	23	2018	0.51	0.55	-0.1815	-0.4972
799408	MC	OP	0	28	7	41	2017	0.62	0.65	-0.6341	-0.9218
735270	MC	OP	0	31	6	48	2016	0.45	0.46	0.1946	0.0910
735885	MC	OP	0	32	4	49	2018	0.40	0.42	0.4607	0.2542
735886	MC	OP	0	35	4	43	2017	0.52	0.51	-0.1462	-0.1979
798646	MC	OP	0	36	1	48	2017	0.40	0.41	0.4291	0.3160
719337	MC	OP	0	37	9	45	2017	0.34	0.37	0.8101	0.5798
804842	MC	OP	0	38	3	47	2018	0.63	0.67	-0.7659	-0.9578
813611	MC	OP	0	40	1	41	2017	0.40	0.41	0.4101	0.2985
812798	MC	OP	0	42	1	43	2017	0.58	0.59	-0.4682	-0.5651
804841	MC	OP	0	44	2	47	2018	0.58	0.58	-0.5003	-0.5092
897317	MC	OP	0	46	3	24	2018	0.61	0.55	-0.6767	-0.4147
735267	MC	LK	0	3	0	3	2018	0.42	0.41	0.3633	0.3957
701839	MC	LK	0	7	0	7	2018	0.38	0.37	0.4952	0.6023
799412	MC	LK	0	8	0	8	2018	0.61	0.58	-0.5940	-0.3954
714901	MC	LK	0	11	0	11	2018	0.61	0.58	-0.6629	-0.4624
804832	MC	LK	0	12	0	12	2018	0.84	0.83	-2.1067	-1.9198
701932	MC	LK	0	15	0	15	2018	0.37	0.35	0.6476	0.5418
701859	MC	LK	0	18	0	18	2018	0.45	0.46	0.2024	0.0474
804831	MC	LK	0	20	0	20	2018	0.57	0.56	-0.4580	-0.3412
812671	MC	LK	0	29	0	29	2018	0.34	0.33	0.7804	0.8191
815814	MC	LK	0	30	0	30	2018	0.77	0.76	-1.5502	-1.5066
703135	MC	LK	0	33	0	33	2018	0.37	0.39	0.5792	0.3712
805695	MC	LK	0	34	0	34	2018	0.52	0.53	-0.1649	-0.2078

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
700443	MC	LK	0	39	0	39	2018	0.65	0.66	-0.8348	-0.8743
665684	MC	LK	0	41	0	41	2018	0.62	0.59	-0.7152	-0.5643
719330	MC	LK	0	43	0	43	2018	0.50	0.50	-0.2472	-0.1931
816605	MC	LK	0	45	0	45	2018	0.52	0.54	-0.2577	-0.2865
880723	MC	EB	4	1	3	48	2018	0.38	0.41	0.5223	0.3597
880730	MC	EB	6	1	8	50	2018	0.46	0.49	0.1654	-0.0825
887635	MC	EB	3	1	7	24	2018	0.35	0.35	0.7090	0.6945
894650	MC	EB	7	2	7	23	2018	0.40	0.40	0.4515	0.3654
894655	MC	EB	5	2	8	22	2018	0.44	0.42	0.2365	0.2879
735256	MC	EB	9	14	1	49	2018	0.40	0.41	0.3896	0.3204
895734	MC	EB	8	19	5	50	2018	0.43	0.39	0.3153	0.4380
895741	MC	EB	7	19	6	47	2018	0.55	0.58	-0.3362	-0.4976
888729	MC	EB	2	24	2	24	2018	0.43	0.38	0.2943	0.5544
888734	MC	EB	1	24	9	50	2018	0.62	0.56	-0.6803	-0.4794
816384	MC	EB	9	30	1	24	2018	0.43	0.44	0.2240	0.1947
816609	MC	EB	4	45	4	24	2018	0.50	0.47	-0.0890	0.0560
899256	MC	EB	2	48	8	48	2018	0.46	0.45	0.1736	0.1838
902460	MC	EB	3	48	7	48	2018	0.31	0.29	0.9252	1.0038
902462	MC	EB	8	48	3	23	2018	0.46	0.47	0.1277	0.0229
902465	MC	EB	1	48	5	22	2018	0.54	0.50	-0.2914	-0.2251
902470	MC	EB	6	48	6	22	2018	0.58	0.56	-0.4586	-0.4607
903527	MC	EB	5	48	4	50	2018	0.65	0.61	-0.8517	-0.6844
809560	OE	OP	0	26	6	51	2017	0.31	0.26	0.8101	1.0860
713552	OE	LK	0	25	0	25	2018	0.44	0.45	0.1522	0.0994
696723	OE	LK	0	51	0	51	2018	0.36	0.37	0.6473	0.5184

ELA Grade 3

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
808524	MC	OP	0	3	4	41	2018	0.42	0.42	1.1901	1.1355
655397	MC	OP	0	4	4	7	2017	0.35	0.36	1.5588	1.4706
655093	MC	OP	0	5	9	41	2018	0.51	0.50	0.7800	0.7913
878877	MC	OP	0	7	1	26	2018	0.49	0.49	0.8317	0.7554
878882	MC	OP	0	8	1	27	2018	0.78	0.80	-0.7351	-0.9593
878880	MC	OP	0	10	1	29	2018	0.63	0.71	0.1421	-0.3197
878883	MC	OP	0	11	1	30	2018	0.54	0.54	0.6036	0.5243
878875	MC	OP	0	12	1	33	2018	0.35	0.42	1.5453	1.0422
672011	MC	OP	0	13	9	41	2016	0.73	0.67	-0.5574	-0.1422
740692	MC	OP	0	14	9	42	2016	0.73	0.70	-0.5298	-0.2380
672008	MC	OP	0	15	9	46	2016	0.86	0.83	-1.5255	-1.1425
678425	MC	OP	0	16	9	47	2016	0.57	0.54	0.3491	0.4323
672010	MC	OP	0	18	9	50	2016	0.49	0.48	0.7333	0.8619
808528	MC	OP	0	37	5	41	2018	0.34	0.34	1.6217	1.6104
652805	MC	OP	0	38	2	7	2017	0.52	0.51	0.6651	0.6986
895052	MC	OP	0	43	6	26	2018	0.61	0.62	0.2358	0.1033
895059	MC	OP	0	44	6	28	2018	0.53	0.54	0.6475	0.5376
895053	MC	OP	0	45	6	29	2018	0.56	0.59	0.4859	0.2702
895056	MC	OP	0	46	6	31	2018	0.58	0.55	0.4233	0.5320
895055	MC	OP	0	47	6	33	2018	0.56	0.57	0.5035	0.3463
652477	MC	LK	0	1	0	2	2018	0.65	0.65	-0.0357	0.0340
741264	MC	LK	0	2	0	37	2018	0.39	0.36	1.4046	1.4605
655105	MC	LK	0	39	0	38	2018	0.42	0.44	1.1917	1.0142
715006	MC	LK	0	40	0	40	2018	0.56	0.57	0.4656	0.3952
800714	MC	LK	0	49	0	49	2018	0.34	0.35	1.6226	1.5636
800715	MC	LK	0	50	0	50	2018	0.68	0.67	-0.1460	-0.1203
800700	MC	LK	0	51	0	51	2018	0.66	0.65	-0.0043	-0.0034
800709	MC	LK	0	52	0	52	2018	0.74	0.73	-0.4830	-0.4412
800711	MC	LK	0	53	0	53	2018	0.51	0.51	0.7532	0.7504
893330	MC	EB	6-9	11	8	34	2018	0.56	0.54	0.5094	0.5220
893331	MC	EB	6-9	11	8	29	2018	0.42	0.46	1.2338	0.9316
893333	MC	EB	6-9	11	8	30	2018	0.77	0.80	-0.6585	-0.9312
893334	MC	EB	6-9	11	8	32	2018	0.50	0.52	0.8526	0.6568
893338	MC	EB	6-9	11	8	33	2018	0.65	0.61	0.0768	0.1714
893339	MC	EB	6-9	11	8	28	2018	0.54	0.54	0.6272	0.5296
896260	MC	EB	1-5	20	2	28	2018	0.49	0.54	0.8084	0.5732

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
896261	MC	EB	1-5	21	2	26	2018	0.67	0.69	-0.0776	-0.2641
904088	MC	EB	7	21	5	42	2018	0.40	0.39	1.2957	1.2632
904090	MC	EB	1	21	8	6	2018	0.80	0.76	-0.8509	-0.6426
896259	MC	EB	1-5	22	2	31	2018	0.66	0.67	-0.0747	-0.1471
896255	MC	EB	1-5	23	2	32	2018	0.69	0.71	-0.1992	-0.3430
896252	MC	EB	1-5	24	2	33	2018	0.48	0.50	0.8787	0.7175
896254	MC	EB	1-5	25	2	35	2018	0.63	0.58	0.1348	0.3248
809165	MC	EB	8	37	1	41	2018	0.47	0.47	0.9359	0.8968
653142	MC	EB	9	38	2	3	2018	0.38	0.38	1.3989	1.3420
904092	MC	EB	2	41	4	6	2018	0.55	0.48	0.5392	0.8064
904094	MC	EB	3	41	6	6	2018	0.69	0.61	-0.1552	0.1907
904096	MC	EB	4	41	8	42	2018	0.47	0.49	0.9880	0.8050
904097	MC	EB	5	41	9	42	2018	0.55	0.58	0.5533	0.3696
904098	MC	EB	6	41	4	42	2018	0.72	0.70	-0.3908	-0.2762
878878	ESR	OP	0	9	1	28	2018	0.57	0.60	0.3820	0.1760
672007	ESR	OP	0	17	9	49	2016	0.62	0.60	0.1216	0.2551
895050	ESR	OP	0	48	6	34	2018	0.54	0.57	0.6030	0.4180
800699	ESR	LK	0	54	0	54	2018	0.56	0.55	0.5024	0.5026
678426	OE	OP	0	19	9	51	2016	0.51	0.47	0.6513	0.9355
806625	OE	LK	0	55	0	55	2018	0.45	0.42	0.9822	1.2244

ELA Grade 4

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
741162	MC	OP	0	3	2	12	2017	0.44	0.49	1.0563	0.8379
741160	MC	OP	0	4	8	51	2018	0.52	0.58	0.6008	0.4177
809175	MC	OP	0	5	4	51	2018	0.79	0.77	-0.8922	-0.7472
895060	MC	OP	0	7	8	37	2018	0.53	0.57	0.5657	0.3275
895062	MC	OP	0	8	8	38	2018	0.68	0.72	-0.2316	-0.4604
895063	MC	OP	0	9	8	39	2018	0.56	0.60	0.4011	0.3239
895067	MC	OP	0	10	8	40	2018	0.69	0.72	-0.2551	-0.4425
895068	MC	OP	0	11	8	41	2018	0.42	0.41	1.1312	1.2575
895061	MC	OP	0	12	8	42	2018	0.59	0.62	0.2749	0.1490
895064	MC	OP	0	13	8	43	2018	0.74	0.79	-0.5445	-0.7469
895088	MC	OP	0	16	3	37	2018	0.67	0.63	-0.1159	0.1714
895089	MC	OP	0	17	3	38	2018	0.62	0.62	0.1081	0.1233
895080	MC	OP	0	18	3	40	2018	0.44	0.45	1.0354	1.0563
895085	MC	OP	0	19	3	41	2018	0.55	0.53	0.4754	0.6232
895087	MC	OP	0	20	3	43	2018	0.72	0.73	-0.4050	-0.3958
895084	MC	OP	0	22	3	45	2018	0.36	0.37	1.4486	1.5631
654921	MC	OP	0	47	2	48	2018	0.66	0.68	-0.1251	-0.2036
655928	MC	OP	0	48	2	18	2017	0.57	0.57	0.4162	0.4793
894360	MC	OP	0	53	5	37	2018	0.71	0.73	-0.3501	-0.4441
894351	MC	OP	0	55	5	41	2018	0.56	0.58	0.4367	0.4331
894353	MC	OP	0	57	5	44	2018	0.59	0.58	0.2889	0.3147
894354	MC	OP	0	58	5	45	2018	0.57	0.61	0.3865	0.2983
653180	MC	LK	0	1	0	3	2018	0.61	0.62	0.1893	0.2824
655786	MC	LK	0	2	0	4	2018	0.61	0.61	0.1862	0.2483
739700	MC	LK	0	23	0	23	2018	0.59	0.59	0.2822	0.3322
739701	MC	LK	0	24	0	24	2018	0.53	0.53	0.5977	0.6032
739702	MC	LK	0	25	0	25	2018	0.47	0.51	0.7264	0.6050
739699	MC	LK	0	27	0	27	2018	0.78	0.77	-0.8110	-0.7169
739704	MC	LK	0	28	0	28	2018	0.58	0.58	0.3599	0.4340
739705	MC	LK	0	29	0	29	2018	0.52	0.52	0.6587	0.7411
809178	MC	LK	0	49	0	49	2018	0.43	0.42	0.9719	1.1893
741170	MC	LK	0	50	0	50	2018	0.44	0.43	0.9900	1.1248
896273	MC	EB	6-9	17	1	40	2018	0.58	0.64	0.3243	0.0503
896275	MC	EB	6-9	17	1	42	2018	0.68	0.67	-0.1982	-0.1059
896276	MC	EB	6-9	17	1	36	2018	0.65	0.68	-0.0390	-0.1425
896278	MC	EB	6-9	17	1	38	2018	0.50	0.52	0.7247	0.7086

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
896279	MC	EB	6-9	17	1	43	2018	0.66	0.72	-0.1021	-0.3762
896280	MC	EB	6-9	17	1	37	2018	0.70	0.73	-0.3061	-0.4135
893342	MC	EB	1-5	30	6	37	2018	0.74	0.79	-0.5921	-0.8526
893347	MC	EB	1-5	31	6	38	2018	0.75	0.80	-0.6487	-0.8846
893343	MC	EB	1-5	32	6	39	2018	0.76	0.77	-0.6856	-0.6700
893349	MC	EB	1-5	33	6	40	2018	0.56	0.56	0.4267	0.4718
893341	MC	EB	1-5	34	6	41	2018	0.66	0.68	-0.0926	-0.1437
893340	MC	EB	1-5	35	6	44	2018	0.36	0.47	1.4435	0.9344
904085	MC	EB	2	51	4	6	2018	0.49	0.49	0.7323	0.8484
904086	MC	EB	3	51	3	6	2018	0.66	0.64	-0.0901	0.0395
904087	MC	EB	4	51	9	52	2018	0.60	0.59	0.1985	0.3366
904101	MC	EB	5	51	8	6	2018	0.49	0.50	0.7690	0.7514
904103	MC	EB	7	51	8	52	2018	0.50	0.49	0.7154	0.8456
904080	MC	EB	8	59	7	52	2018	0.81	0.82	-0.9995	-1.0323
904081	MC	EB	9	59	3	52	2018	0.72	0.71	-0.4496	-0.3189
904082	MC	EB	6	59	4	52	2018	0.45	0.43	0.9442	1.1531
904083	MC	EB	1	59	1	6	2018	0.66	0.64	-0.0834	-0.0349
895066	ESR	OP	0	14	8	44	2018	0.58	0.60	0.2241	0.2363
895065	ESR	OP	0	15	8	45	2018	0.51	0.54	0.6941	0.6063
895083	ESR	OP	0	21	3	44	2018	0.69	0.69	-0.1355	-0.0707
894352	ESR	OP	0	54	5	40	2018	0.77	0.75	-0.6062	-0.4880
894355	ESR	OP	0	56	5	42	2018	0.71	0.73	-0.2235	-0.2503
739703	ESR	LK	0	26	0	26	2018	0.59	0.58	0.3097	0.4121
896355	TDA	OP	0	59	5	46	2018	0.43	0.42	1.2737	1.4336

ELA Grade 5

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
811674	MC	OP	0	3	8	50	2018	0.68	0.69	-0.1847	-0.2092
811671	MC	OP	0	4	1	50	2018	0.28	0.27	1.8412	1.7710
811673	MC	OP	0	5	3	50	2018	0.84	0.84	-1.1893	-1.1830
809624	MC	OP	0	7	6	53	2017	0.54	0.54	0.5061	0.4730
809626	MC	OP	0	8	6	29	2018	0.87	0.87	-1.5242	-1.5094
809623	MC	OP	0	9	6	31	2018	0.67	0.68	-0.1226	-0.2386
809620	MC	OP	0	10	6	32	2018	0.37	0.37	1.3330	1.3188
809618	MC	OP	0	11	6	33	2018	0.64	0.63	0.0403	0.0553
809621	MC	OP	0	12	6	34	2018	0.66	0.65	-0.0586	-0.0292
893366	MC	OP	0	14	6	35	2018	0.80	0.75	-0.9191	-0.7829
893362	MC	OP	0	15	6	36	2018	0.78	0.76	-0.8066	-0.7681
893360	MC	OP	0	17	6	39	2018	0.58	0.60	0.3138	0.2478
893367	MC	OP	0	19	6	43	2018	0.69	0.70	-0.2716	-0.2948
893364	MC	OP	0	20	6	44	2018	0.59	0.56	0.2698	0.2611
811676	MC	OP	0	47	4	50	2018	0.29	0.29	1.7464	1.7776
811672	MC	OP	0	48	2	50	2018	0.47	0.49	0.8664	0.6368
895904	MC	OP	0	53	8	35	2018	0.50	0.49	0.7083	0.6511
895905	MC	OP	0	54	8	37	2018	0.48	0.46	0.8280	0.8468
895898	MC	OP	0	55	8	38	2018	0.59	0.57	0.2915	0.3739
895899	MC	OP	0	56	8	39	2018	0.87	0.87	-1.5243	-1.5025
895902	MC	OP	0	57	8	42	2018	0.60	0.62	0.2121	0.0512
652259	MC	LK	0	1	0	49	2018	0.60	0.61	0.2470	0.1846
656116	MC	LK	0	2	0	4	2018	0.58	0.57	0.3377	0.3634
741011	MC	LK	0	21	0	20	2018	0.59	0.56	0.2860	0.3636
741121	MC	LK	0	22	0	21	2018	0.50	0.48	0.6695	0.6907
741079	MC	LK	0	24	0	23	2018	0.36	0.36	1.4249	1.3791
741059	MC	LK	0	25	0	24	2018	0.52	0.50	0.5734	0.6245
741099	MC	LK	0	27	0	26	2018	0.46	0.45	0.8860	0.8954
741100	MC	LK	0	28	0	27	2018	0.49	0.48	0.7743	0.7635
741098	MC	LK	0	29	0	28	2018	0.44	0.45	1.0314	0.8999
811677	MC	LK	0	49	0	48	2018	0.37	0.37	1.3203	1.3403
741052	MC	LK	0	50	0	5	2018	0.68	0.65	-0.2889	-0.0791
895090	MC	EB	6-9	19	7	36	2018	0.66	0.67	-0.0722	-0.1953
895091	MC	EB	6-9	19	7	44	2018	0.66	0.71	-0.1103	-0.3960
895092	MC	EB	6-9	19	7	37	2018	0.53	0.53	0.5833	0.5383
895093	MC	EB	6-9	19	7	39	2018	0.50	0.50	0.7326	0.6546

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
895095	MC	EB	6-9	19	7	38	2018	0.66	0.67	-0.0849	-0.2074
895099	MC	EB	6-9	19	7	35	2018	0.50	0.45	0.7133	0.8945
897161	MC	EB	1-5	30	4	36	2018	0.47	0.47	0.8155	0.8357
897158	MC	EB	1-5	31	4	37	2018	0.55	0.54	0.4663	0.4581
897159	MC	EB	1-5	32	4	38	2018	0.70	0.73	-0.3485	-0.5166
897164	MC	EB	1-5	33	4	40	2018	0.58	0.59	0.2981	0.2229
897167	MC	EB	1-5	34	4	41	2018	0.56	0.60	0.3817	0.1718
897160	MC	EB	1-5	35	4	43	2018	0.53	0.53	0.5477	0.4753
905557	MC	EB	2	51	9	6	2018	0.46	0.45	0.9059	0.9373
905558	MC	EB	3	51	4	6	2018	0.30	0.28	1.7236	1.8210
905559	MC	EB	4	51	5	6	2018	0.77	0.75	-0.7505	-0.6957
905560	MC	EB	5	51	6	6	2018	0.70	0.66	-0.2819	-0.1504
905551	MC	EB	7	59	9	51	2018	0.55	0.53	0.4382	0.5208
905552	MC	EB	8	59	4	51	2018	0.67	0.65	-0.1635	-0.0921
905553	MC	EB	9	59	5	51	2018	0.51	0.53	0.6571	0.5047
905555	MC	EB	1	59	7	6	2018	0.73	0.72	-0.4576	-0.4408
905556	MC	EB	6	59	8	6	2018	0.84	0.82	-1.2688	-1.1345
809622	ESR	OP	0	13	6	61	2017	0.56	0.55	0.3777	0.3898
893361	ESR	OP	0	16	6	37	2018	0.76	0.75	-0.4478	-0.4274
893365	ESR	OP	0	18	6	40	2018	0.47	0.45	0.9345	1.0260
895901	ESR	OP	0	58	8	44	2018	0.62	0.62	0.1160	0.0303
741035	ESR	LK	0	23	0	22	2018	0.42	0.39	1.0409	1.1304
741109	ESR	LK	0	26	0	25	2018	0.49	0.47	0.7278	0.7818
898474	TDA	OP	0	59	8	45	2018	0.43	0.44	1.1855	1.2688

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ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
741249	MC	OP	0	3	9	51	2018	0.44	0.40	1.2636	1.4264
812370	MC	OP	0	4	2	51	2018	0.30	0.30	2.1062	2.0182
903936	MC	OP	0	5	5	6	2018	0.45	0.43	1.2820	1.3135
897132	MC	OP	0	7	9	37	2018	0.54	0.55	0.8126	0.7565
897136	MC	OP	0	8	9	39	2018	0.82	0.83	-0.8193	-0.9557
897130	MC	OP	0	9	9	40	2018	0.30	0.32	2.0288	1.8904
897137	MC	OP	0	10	9	41	2018	0.73	0.76	-0.2181	-0.4399
897129	MC	OP	0	11	9	42	2018	0.59	0.60	0.5481	0.5112
897131	MC	OP	0	13	9	44	2018	0.59	0.58	0.5618	0.6014
804592	MC	OP	0	23	7	50	2017	0.89	0.82	-1.4653	-0.8229
804594	MC	OP	0	24	7	51	2017	0.57	0.54	0.5915	0.7167
804600	MC	OP	0	26	7	56	2017	0.68	0.64	0.0326	0.2517
804591	MC	OP	0	27	7	57	2017	0.56	0.52	0.6504	0.9056
804597	MC	OP	0	28	7	58	2017	0.57	0.51	0.5758	0.9384
812417	MC	OP	0	47	8	51	2018	0.70	0.67	-0.0333	0.1079
812371	MC	OP	0	48	5	51	2018	0.57	0.57	0.6854	0.6237
897143	MC	OP	0	53	4	36	2018	0.68	0.69	0.0871	0.0120
897141	MC	OP	0	54	4	37	2018	0.76	0.75	-0.3966	-0.3553
897142	MC	OP	0	55	4	38	2018	0.58	0.55	0.6446	0.7251
897147	MC	OP	0	56	4	39	2018	0.54	0.52	0.8409	0.8614
897140	MC	OP	0	57	4	42	2018	0.65	0.61	0.2580	0.4638
679273	MC	LK	0	1	0	2	2018	0.77	0.78	-0.4375	-0.4702
672284	MC	LK	0	2	0	3	2018	0.68	0.68	-0.0012	0.0856
816094	MC	LK	0	14	0	12	2018	0.47	0.43	1.2144	1.3270
816098	MC	LK	0	16	0	14	2018	0.60	0.58	0.5433	0.5835
816097	MC	LK	0	17	0	15	2018	0.50	0.49	1.0117	1.0113
816090	MC	LK	0	18	0	16	2018	0.70	0.69	-0.0150	0.0751
816092	MC	LK	0	19	0	17	2018	0.37	0.37	1.6441	1.5822
816091	MC	LK	0	20	0	18	2018	0.43	0.44	1.3501	1.2384
816100	MC	LK	0	22	0	20	2018	0.55	0.54	0.7642	0.8129
675839	MC	LK	0	49	0	5	2018	0.49	0.47	1.0635	1.1986
812419	MC	LK	0	50	0	49	2018	0.42	0.39	1.3164	1.4439
903937	MC	EB	5	5	6	6	2018	0.59	0.60	0.5284	0.4953
895100	MC	EB	6-9	22	8	44	2018	0.50	0.54	0.9720	0.7847
895105	MC	EB	6-9	22	8	41	2018	0.55	0.54	0.7758	0.7636
895106	MC	EB	6-9	22	8	42	2018	0.38	0.41	1.5748	1.3994

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
895107	MC	EB	6-9	22	8	40	2018	0.59	0.66	0.5422	0.1801
895108	MC	EB	6-9	22	8	37	2018	0.67	0.69	0.1247	0.0246
895109	MC	EB	6-9	22	8	36	2018	0.69	0.70	0.0567	-0.0234
895915	MC	EB	1-5	30	1	38	2018	0.72	0.73	-0.1624	-0.1998
895912	MC	EB	1-5	31	1	41	2018	0.65	0.67	0.2104	0.1115
895917	MC	EB	1-5	32	1	42	2018	0.86	0.89	-1.1942	-1.4509
895914	MC	EB	1-5	33	1	43	2018	0.54	0.58	0.7822	0.6100
895913	MC	EB	1-5	34	1	44	2018	0.50	0.50	1.0083	0.9969
899813	MC	EB	1-5	35	1	45	2018	0.54	0.56	0.7743	0.6936
676109	MC	EB	4	49	2	4	2018	0.72	0.67	-0.1691	0.1079
903933	MC	EB	2	51	9	6	2018	0.37	0.35	1.6563	1.7235
903934	MC	EB	1	51	3	6	2018	0.65	0.59	0.2292	0.5085
903935	MC	EB	3	51	4	6	2018	0.78	0.74	-0.5009	-0.3134
903927	MC	EB	7	59	6	52	2018	0.74	0.76	-0.2544	-0.3922
903928	MC	EB	8	59	7	52	2018	0.55	0.56	0.7147	0.7047
903930	MC	EB	9	59	5	52	2018	0.59	0.56	0.5492	0.6660
903932	MC	EB	6	59	8	6	2018	0.43	0.39	1.3400	1.4765
897133	ESR	OP	0	12	9	43	2018	0.60	0.63	0.5947	0.4529
804595	ESR	OP	0	25	7	55	2017	0.44	0.42	1.1653	1.2830
804598	ESR	OP	0	29	7	59	2017	0.58	0.53	0.5323	0.7998
899936	ESR	OP	0	58	4	43	2018	0.74	0.71	-0.1881	-0.0832
816093	ESR	LK	0	15	0	13	2018	0.48	0.46	1.0981	1.1241
816099	ESR	LK	0	21	0	19	2018	0.64	0.62	0.3615	0.4537
899997	TDA	OP	0	59	4	46	2018	0.46	0.46	1.3373	1.1945

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ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
813204	MC	OP	0	3	7	50	2018	0.73	0.73	-0.3429	-0.3600
813211	MC	OP	0	4	3	50	2018	0.49	0.50	0.8833	0.8562
741176	MC	OP	0	5	9	50	2018	0.59	0.59	0.4369	0.4429
897110	MC	OP	0	7	9	35	2018	0.53	0.55	0.6869	0.6031
897117	MC	OP	0	8	9	36	2018	0.82	0.82	-0.9721	-0.8929
897116	MC	OP	0	9	9	38	2018	0.79	0.83	-0.7598	-0.9518
897115	MC	OP	0	12	9	42	2018	0.69	0.69	-0.1202	-0.1147
897112	MC	OP	0	13	9	44	2018	0.53	0.50	0.7263	0.8343
895945	MC	OP	0	21	6	35	2018	0.58	0.57	0.4781	0.6315
895944	MC	OP	0	22	6	37	2018	0.85	0.81	-1.2269	-0.9082
895939	MC	OP	0	23	6	38	2018	0.70	0.60	-0.1624	0.3092
895941	MC	OP	0	24	6	39	2018	0.68	0.59	-0.0796	0.3977
895937	MC	OP	0	25	6	40	2018	0.65	0.58	0.0772	0.3797
895943	MC	OP	0	26	6	41	2018	0.58	0.56	0.4489	0.5163
895946	MC	OP	0	27	6	43	2018	0.52	0.51	0.7367	0.7517
679165	MC	OP	0	46	8	50	2018	0.73	0.69	-0.3287	-0.1033
741182	MC	OP	0	47	5	50	2018	0.35	0.31	1.6013	1.8282
895127	MC	OP	0	52	2	36	2018	0.36	0.36	1.5212	1.4820
895128	MC	OP	0	53	2	37	2018	0.78	0.79	-0.6545	-0.6322
895123	MC	OP	0	55	2	40	2018	0.39	0.40	1.3734	1.4216
895125	MC	OP	0	56	2	41	2018	0.38	0.37	1.4215	1.4591
895120	MC	OP	0	57	2	42	2018	0.44	0.42	1.1350	1.1959
741177	MC	LK	0	1	0	48	2018	0.42	0.42	1.3456	1.1859
678246	MC	LK	0	2	0	4	2018	0.60	0.59	0.3339	0.4047
806573	MC	LK	0	14	0	13	2018	0.82	0.81	-0.8718	-0.8429
806571	MC	LK	0	15	0	14	2018	0.59	0.59	0.3296	0.4446
806568	MC	LK	0	16	0	15	2018	0.31	0.32	1.7046	1.6382
806567	MC	LK	0	17	0	16	2018	0.67	0.68	0.0424	0.1267
806565	MC	LK	0	18	0	17	2018	0.55	0.55	0.6340	0.6715
806564	MC	LK	0	20	0	20	2018	0.74	0.71	-0.3125	-0.2257
813206	MC	LK	0	48	0	47	2018	0.52	0.52	0.7806	0.7384
676114	MC	LK	0	49	0	2	2018	0.47	0.47	0.9804	1.0194
893395	MC	EB	6-9	4	8	39	2018	0.41	0.42	1.3023	1.2204
893396	MC	EB	6-9	4	8	44	2018	0.62	0.67	0.2454	0.0305
893398	MC	EB	6-9	4	8	35	2018	0.45	0.47	1.0891	0.9964
893401	MC	EB	6-9	4	8	36	2018	0.38	0.39	1.4602	1.3994

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
893402	MC	EB	6-9	4	8	37	2018	0.61	0.64	0.2979	0.1493
893403	MC	EB	6-9	4	8	38	2018	0.66	0.67	0.0647	-0.0066
894395	MC	EB	1-5	29	4	35	2018	0.60	0.61	0.3633	0.3259
894394	MC	EB	1-5	30	4	37	2018	0.60	0.60	0.3519	0.3861
894400	MC	EB	1-5	31	4	38	2018	0.69	0.69	-0.1569	-0.1118
894393	MC	EB	1-5	32	4	39	2018	0.78	0.80	-0.6990	-0.7504
894399	MC	EB	1-5	33	4	40	2018	0.49	0.52	0.8860	0.7718
894397	MC	EB	1-5	34	4	43	2018	0.44	0.47	1.1149	0.9924
903947	MC	EB	2	50	9	6	2018	0.60	0.55	0.3800	0.5843
903948	MC	EB	3	50	4	6	2018	0.44	0.44	1.1124	1.1426
903949	MC	EB	5	50	6	6	2018	0.51	0.51	0.8177	0.7970
903931	MC	EB	4	59	5	6	2018	0.67	0.61	0.0135	0.3101
903940	MC	EB	6	59	7	51	2018	0.70	0.69	-0.1734	-0.0838
903941	MC	EB	7	59	8	51	2018	0.85	0.84	-1.2102	-1.0555
903942	MC	EB	8	59	9	51	2018	0.48	0.45	0.9740	1.0900
903943	MC	EB	9	59	4	51	2018	0.68	0.72	-0.0769	-0.2552
903946	MC	EB	1	59	8	6	2018	0.64	0.62	0.1869	0.1606
897113	ESR	OP	0	10	9	39	2018	0.52	0.51	0.7674	0.7896
897108	ESR	OP	0	11	9	41	2018	0.63	0.62	0.1039	0.1665
895942	ESR	OP	0	28	6	44	2018	0.41	0.34	1.2599	1.5249
895124	ESR	OP	0	54	2	39	2018	0.40	0.38	1.1930	1.2677
895126	ESR	OP	0	58	2	44	2018	0.65	0.64	0.0250	0.0612
806570	ESR	LK	0	19	0	18	2018	0.54	0.52	0.6517	0.8029
902480	TDA	OP	0	59	2	45	2018	0.47	0.49	1.0362	1.0261

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ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
816468	MC	OP	0	3	3	50	2018	0.79	0.81	-0.9349	-1.0109
816464	MC	OP	0	4	1	50	2018	0.40	0.39	1.1761	1.2348
816533	MC	OP	0	5	4	50	2018	0.51	0.48	0.6317	0.7833
811893	MC	OP	0	15	6	29	2018	0.81	0.75	-1.0440	-0.6884
811894	MC	OP	0	16	6	30	2018	0.59	0.59	0.2277	-0.1069
811892	MC	OP	0	17	6	31	2018	0.76	0.73	-0.6793	-0.5627
811890	MC	OP	0	19	6	32	2018	0.48	0.43	0.7807	1.1562
811887	MC	OP	0	20	6	33	2018	0.82	0.75	-1.1026	-0.6420
811889	MC	OP	0	21	6	34	2018	0.65	0.63	-0.0836	0.0626
894414	MC	OP	0	22	9	35	2018	0.35	0.33	1.4082	1.6536
894412	MC	OP	0	23	9	37	2018	0.81	0.76	-1.0862	-0.6539
894415	MC	OP	0	25	9	40	2018	0.63	0.61	0.0168	0.1320
894416	MC	OP	0	26	9	41	2018	0.56	0.47	0.3889	0.7905
894420	MC	OP	0	27	9	43	2018	0.54	0.51	0.4905	0.6170
894413	MC	OP	0	28	9	44	2018	0.68	0.62	-0.2357	0.0837
741030	MC	OP	0	46	9	50	2018	0.36	0.35	1.3726	1.4401
678215	MC	OP	0	47	2	20	2017	0.29	0.28	1.7828	1.8987
897127	MC	OP	0	52	4	35	2018	0.65	0.66	-0.0852	-0.1415
897123	MC	OP	0	53	4	38	2018	0.70	0.70	-0.3446	-0.3872
897120	MC	OP	0	54	4	39	2018	0.71	0.71	-0.4283	-0.3987
897126	MC	OP	0	57	4	43	2018	0.69	0.69	-0.2675	-0.2752
897118	MC	OP	0	58	4	44	2018	0.56	0.55	0.3782	0.5132
672771	MC	LK	0	1	0	4	2018	0.51	0.53	0.6151	0.4561
741268	MC	LK	0	2	0	47	2018	0.45	0.43	0.9763	1.0479
800789	MC	LK	0	7	0	7	2018	0.77	0.76	-0.8396	-0.8251
800796	MC	LK	0	9	0	9	2018	0.39	0.40	1.2188	1.2111
800795	MC	LK	0	11	0	11	2018	0.68	0.67	-0.1568	-0.1145
800788	MC	LK	0	12	0	12	2018	0.71	0.71	-0.3631	-0.3609
800791	MC	LK	0	13	0	13	2018	0.78	0.76	-0.7904	-0.6482
800794	MC	LK	0	14	0	14	2018	0.64	0.64	-0.0692	-0.0126
741026	MC	LK	0	48	0	48	2018	0.54	0.55	0.4396	0.4574
678256	MC	LK	0	49	0	49	2018	0.74	0.74	-0.5395	-0.5623
896343	MC	EB	6-9	27	8	44	2018	0.50	0.50	0.6866	0.6838
896344	MC	EB	6-9	27	8	36	2018	0.52	0.56	0.5791	0.3993
896347	MC	EB	6-9	27	8	43	2018	0.85	0.87	-1.4028	-1.5971
896348	MC	EB	6-9	27	8	42	2018	0.73	0.73	-0.5086	-0.5222

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
896349	MC	EB	6-9	27	8	41	2018	0.58	0.60	0.2884	0.1665
896351	MC	EB	6-9	27	8	38	2018	0.79	0.81	-0.9190	-1.0657
897086	MC	EB	1-5	29	5	35	2018	0.32	0.30	1.5848	1.7130
897078	MC	EB	1-5	30	5	37	2018	0.74	0.72	-0.5865	-0.4874
897079	MC	EB	1-5	31	5	39	2018	0.73	0.70	-0.4979	-0.3455
897084	MC	EB	1-5	32	5	40	2018	0.41	0.46	1.1301	0.8627
897080	MC	EB	1-5	33	5	41	2018	0.85	0.86	-1.3469	-1.4908
897087	MC	EB	1-5	34	5	42	2018	0.61	0.63	0.1222	0.0088
903850	MC	EB	2	50	7	6	2018	0.59	0.59	0.2181	0.1782
903819	MC	EB	7	59	7	51	2018	0.53	0.51	0.5204	0.6094
903820	MC	EB	8	59	8	51	2018	0.67	0.68	-0.1690	-0.2112
903823	MC	EB	9	59	5	51	2018	0.74	0.77	-0.5603	-0.8024
903824	MC	EB	1	59	6	6	2018	0.63	0.61	0.0068	0.0987
903825	MC	EB	3	59	8	6	2018	0.56	0.52	0.3944	0.5955
903827	MC	EB	6	59	6	51	2018	0.58	0.54	0.2799	0.4772
903828	MC	EB	4	59	9	6	2018	0.62	0.58	0.0623	0.2926
903829	MC	EB	5	59	5	6	2018	0.49	0.53	0.7404	0.5511
811896	ESR	OP	0	18	1	53	2017	0.73	0.71	-0.3485	-0.2316
894417	ESR	OP	0	24	9	38	2018	0.79	0.72	-0.5782	-0.3021
897124	ESR	OP	0	55	4	40	2018	0.66	0.66	-0.2115	-0.2522
897121	ESR	OP	0	56	4	42	2018	0.67	0.63	-0.1027	0.0744
800792	ESR	LK	0	8	0	8	2018	0.68	0.68	-0.2495	-0.2579
800797	ESR	LK	0	10	0	10	2018	0.51	0.51	0.6164	0.6154
903145	TDA	OP	0	59	4	45	2018	0.49	0.49	1.0352	0.8960

Science Grade 4

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
896725	MC	OP	0	3	1	20	2018	0.65	0.74	0.2276	-0.1289
898473	MC	OP	0	4	6	22	2018	0.66	0.76	0.2291	-0.3106
896510	MC	OP	0	5	7	47	2018	0.33	0.29	1.8837	2.0092
895297	MC	OP	0	6	3	21	2018	0.54	0.56	0.8747	0.6751
894830	MC	OP	0	8	9	20	2018	0.35	0.32	1.7890	1.8688
898461	MC	OP	0	9	5	20	2018	0.64	0.64	0.3665	0.3330
896511	MC	OP	0	12	5	23	2018	0.51	0.49	0.9952	1.1133
894821	MC	OP	0	13	7	20	2018	0.60	0.61	0.5484	0.4912
894438	MC	OP	0	14	12	20	2018	0.66	0.70	0.2715	0.0259
896891	MC	OP	0	16	4	48	2018	0.55	0.56	0.8007	0.7681
894827	MC	OP	0	17	6	20	2018	0.63	0.67	0.4165	0.1850
894837	MC	OP	0	27	10	21	2018	0.74	0.80	-0.2028	-0.6554
809045	MC	OP	0	28	5	46	2018	0.59	0.65	0.6098	0.2661
811208	MC	OP	0	29	8	47	2018	0.53	0.54	0.9442	0.8202
896732	MC	OP	0	32	9	49	2018	0.31	0.31	2.0099	1.8630
896534	MC	OP	0	33	10	46	2018	0.65	0.67	0.3295	0.1949
895298	MC	OP	0	34	10	49	2018	0.73	0.79	-0.1239	-0.4829
896537	MC	OP	0	38	12	48	2018	0.61	0.61	0.5314	0.4038
896519	MC	OP	0	39	6	49	2018	0.63	0.67	0.4066	0.1664
894842	MC	OP	0	40	5	48	2018	0.36	0.36	1.7451	1.6982
811359	MC	OP	0	42	2	47	2018	0.40	0.39	1.5588	1.5995
894852	MC	OP	0	44	1	47	2018	0.57	0.58	0.6352	0.6526
670411	MC	LK	0	1	0	1	2018	0.48	0.47	1.0751	1.1210
670415	MC	LK	0	2	0	2	2018	0.68	0.67	0.1698	0.1020
704902	MC	LK	0	7	0	7	2018	0.55	0.53	0.6991	0.8967
811542	MC	LK	0	10	0	10	2018	0.50	0.49	1.0512	1.0335
672657	MC	LK	0	11	0	11	2018	0.47	0.48	1.1795	1.0683
679569	MC	LK	0	15	0	15	2018	0.35	0.35	1.8773	1.8776
809085	MC	LK	0	18	0	32	2018	0.72	0.70	-0.0825	0.0142
699637	MC	LK	0	19	0	19	2018	0.37	0.38	1.7008	1.5876
704895	MC	LK	0	30	0	30	2018	0.67	0.68	0.2449	0.1849
672655	MC	LK	0	31	0	31	2018	0.56	0.56	0.7932	0.7503
698777	MC	LK	0	35	0	35	2018	0.78	0.78	-0.4270	-0.3823
705015	MC	LK	0	36	0	36	2018	0.40	0.39	1.5166	1.5226
670414	MC	LK	0	37	0	37	2018	0.49	0.49	1.1223	1.0746
652218	MC	LK	0	41	0	41	2018	0.52	0.52	0.9877	0.9678

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
670410	MC	LK	0	43	0	43	2018	0.49	0.46	1.1901	1.2707
811772	MC	LK	0	45	0	45	2018	0.63	0.55	0.4342	0.8623
894834	MC	EB	9	8	7	21	2018	0.69	0.71	0.1000	-0.0145
898467	MC	EB	4	9	11	23	2018	0.60	0.61	0.5815	0.5046
896512	MC	EB	7	12	3	47	2018	0.73	0.72	-0.1122	-0.0718
896514	MC	EB	10	12	1	21	2018	0.35	0.40	1.7458	1.5431
896516	MC	EB	8	12	2	46	2018	0.51	0.49	0.9928	1.0714
894819	MC	EB	4	14	3	48	2018	0.46	0.44	1.2558	1.3462
809104	MC	EB	5	18	9	46	2018	0.79	0.79	-0.4849	-0.5214
894823	MC	EB	2	23	5	22	2018	0.47	0.50	1.1674	1.0342
894825	MC	EB	1	23	9	47	2018	0.73	0.69	-0.1442	-0.0165
808851	MC	EB	3	24	2	23	2018	0.52	0.52	0.9682	0.9300
809035	MC	EB	7	24	6	46	2018	0.36	0.36	1.7055	1.7046
894838	MC	EB	8	27	1	46	2018	0.64	0.66	0.2786	0.2166
894841	MC	EB	6	27	2	21	2018	0.47	0.54	1.2115	0.8607
896536	MC	EB	9	33	1	48	2018	0.38	0.41	1.5697	1.4666
895306	MC	EB	3	34	10	48	2018	0.66	0.62	0.2718	0.4583
895310	MC	EB	12	34	10	20	2018	0.59	0.57	0.6404	0.6952
896509	MC	EB	6	34	4	21	2018	0.75	0.73	-0.2619	-0.1612
896539	MC	EB	11	38	8	23	2018	0.50	0.50	1.0476	1.0312
896721	MC	EB	1	38	4	46	2018	0.51	0.44	1.0028	1.2196
896525	MC	EB	12	39	3	23	2018	0.33	0.31	1.9072	1.9684
896531	MC	EB	11	39	8	49	2018	0.43	0.39	1.4345	1.5318
894845	MC	EB	5	40	3	46	2018	0.74	0.74	-0.1797	-0.2261
879260	MC	EB	10	45	2	49	2018	0.40	0.42	1.5333	1.4376
879698	MC	EB	2	49	6	21	2018	0.61	0.61	0.4817	0.4721
800528	SCR	OP	0	24	3	52	2018	0.54	0.60	0.8667	0.5598
892619	SCR	OP	0	26	4	52	2018	0.33	0.31	1.7724	1.8540
892847	SCR	OP	0	50	10	52	2018	0.42	0.48	1.5355	1.1210
680066	SCR	LK	0	25	0	24	2018	0.51	0.52	0.9905	0.9256
737527	SCR	LK	0	51	0	26	2018	0.43	0.43	1.3838	1.3216

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ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
893933	MC	OP	0	3	4	23	2018	0.74	0.83	-0.6315	-1.2148
812473	MC	OP	0	4	11	24	2018	0.44	0.52	0.8380	0.5244
893927	MC	OP	0	5	3	23	2018	0.55	0.58	0.3046	0.1415
896037	MC	OP	0	6	12	24	2018	0.75	0.82	-0.7210	-1.2222
896723	MC	OP	0	9	5	22	2018	0.64	0.67	-0.1192	-0.2982
801700	MC	OP	0	10	4	35	2017	0.61	0.68	-0.0161	-0.3505
703690	MC	OP	0	11	5	73	2015	0.64	0.67	-0.0912	-0.2820
896032	MC	OP	0	13	12	22	2018	0.57	0.55	0.2061	0.3544
898042	MC	OP	0	15	6	49	2018	0.49	0.54	0.6048	0.4134
813688	MC	OP	0	31	5	34	2017	0.42	0.49	0.8954	0.6117
894479	MC	OP	0	32	3	50	2018	0.56	0.59	0.2565	0.1273
678476	MC	OP	0	34	12	71	2014	0.25	0.27	2.0405	1.6766
810901	MC	OP	0	35	10	73	2017	0.60	0.65	0.0009	-0.2139
810903	MC	OP	0	36	11	72	2017	0.44	0.45	0.8050	0.7820
894473	MC	OP	0	37	7	50	2018	0.55	0.56	0.3198	0.3175
896729	MC	OP	0	38	9	51	2018	0.42	0.44	0.9200	0.8167
801762	MC	OP	0	39	5	49	2018	0.73	0.73	-0.6049	-0.6577
705041	MC	OP	0	40	2	71	2016	0.74	0.72	-0.7965	-0.5687
894468	MC	OP	0	41	1	49	2018	0.65	0.67	-0.2568	-0.2728
739851	MC	OP	0	42	10	34	2016	0.50	0.52	0.5708	0.3937
810884	MC	OP	0	43	7	49	2018	0.70	0.72	-0.4253	-0.5392
894539	MC	OP	0	44	11	51	2018	0.32	0.29	1.4461	1.4364
811466	MC	LK	0	1	0	1	2018	0.66	0.67	-0.2684	-0.2824
678339	MC	LK	0	2	0	2	2018	0.47	0.43	0.6569	0.6573
810890	MC	LK	0	7	0	31	2018	0.50	0.49	0.6163	0.5454
809125	MC	LK	0	8	0	8	2018	0.68	0.68	-0.3363	-0.3170
736942	MC	LK	0	12	0	12	2018	0.55	0.55	0.2961	0.3186
715495	MC	LK	0	14	0	14	2018	0.35	0.36	1.2354	1.2242
700209	MC	LK	0	16	0	41	2018	0.49	0.47	0.5933	0.6644
730247	MC	LK	0	17	0	33	2018	0.44	0.41	0.8715	0.9021
677793	MC	LK	0	28	0	28	2018	0.51	0.53	0.4882	0.5226
673266	MC	LK	0	29	0	29	2018	0.37	0.35	1.1434	1.1888
739855	MC	LK	0	30	0	30	2018	0.44	0.46	0.8067	0.7997
812157	MC	LK	0	33	0	32	2018	0.64	0.61	-0.0066	0.1275
805232	MC	LK	0	45	0	45	2018	0.36	0.37	1.2477	1.1632
805231	MC	LK	0	46	0	46	2018	0.61	0.61	0.0842	0.0538

ID	Type	Status	Form	Item Sequence	Previous Form	Previous Item Sequence	Previous Year	Previous *P*-Value	*P*-Value	Previous IRT Difficulty Estimate	IRT Difficulty Estimate
805228	MC	LK	0	47	0	47	2018	0.60	0.61	0.0458	0.0357
805226	MC	LK	0	48	0	48	2018	0.75	0.76	-0.7340	-0.7828
812155	MC	EB	12	1	3	49	2018	0.42	0.40	0.9554	1.0460
894445	MC	EB	1	3	2	49	2018	0.54	0.55	0.3951	0.2143
894467	MC	EB	8	3	8	49	2018	0.32	0.36	1.4772	1.2632
893932	MC	EB	12	5	7	23	2018	0.68	0.70	-0.3310	-0.4586
896044	MC	EB	9	6	4	49	2018	0.60	0.62	0.1144	-0.0189
896724	MC	EB	10	9	9	22	2018	0.28	0.24	1.6636	1.8783
896033	MC	EB	7	13	1	23	2018	0.56	0.61	0.2130	0.0210
896036	MC	EB	4	13	8	51	2018	0.56	0.55	0.2580	0.2908
898046	MC	EB	11	15	10	50	2018	0.58	0.59	0.1699	0.1509
893922	MC	EB	2	24	8	24	2018	0.56	0.58	0.2516	0.1676
893923	MC	EB	4	24	6	51	2018	0.38	0.36	1.1584	1.2200
893914	MC	EB	6	25	2	51	2018	0.47	0.50	0.7116	0.5585
795300	MC	EB	8	30	10	22	2018	0.47	0.44	0.7092	0.8196
813689	MC	EB	3	31	12	49	2018	0.43	0.40	0.8947	0.9745
894474	MC	EB	5	37	4	51	2018	0.51	0.52	0.5074	0.4232
896734	MC	EB	1	38	6	24	2018	0.55	0.51	0.3325	0.3637
896889	MC	EB	3	38	1	22	2018	0.36	0.35	1.1693	1.3089
894540	MC	EB	10	44	10	24	2018	0.53	0.50	0.4205	0.5396
894546	MC	EB	9	44	6	22	2018	0.74	0.75	-0.6545	-0.7767
894547	MC	EB	7	44	5	23	2018	0.69	0.68	-0.3882	-0.3224
894551	MC	EB	11	44	9	24	2018	0.41	0.41	0.9913	0.9811
896023	MC	EB	5	44	4	22	2018	0.63	0.61	-0.0541	-0.0116
896029	MC	EB	6	44	2	23	2018	0.73	0.75	-0.6076	-0.7289
813229	MC	EB	2	51	9	49	2018	0.40	0.42	1.0406	0.9929
892621	SCR	OP	0	25	12	54	2018	0.37	0.37	1.2854	1.2401
870459	SCR	OP	0	26	4	54	2018	0.18	0.17	2.7496	2.6738
813216	SCR	OP	0	52	9	54	2018	0.36	0.36	1.1495	1.1398
702623	SCR	LK	0	27	0	25	2018	0.39	0.37	1.4731	1.5134
715425	SCR	LK	0	53	0	27	2018	0.63	0.61	-0.2210	-0.0792

APPENDIX P: RELIABILITIES

Each table in this appendix provides the number of items (N items), number of students (N), mean score (Mean), standard deviation of raw score (SD), reliability (r), standard error of measurement (SEM), overall (indicated as "All"), and disaggregated by reporting category code (see Chapter Two). For each subject and grade level, tables present reliabilities disaggregated by gender, Ethnicity, whether students had an individualized educational plan (IEP), whether students were considered an English Learner (EL), and whether students had a low-income background (Low Income).

Grade 3 English Language Arts

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	45	35	120564	24.63	9.13	0.89	3.05	ESR*MC*OE
A	All	18	13	120564	10.03	3.82	0.75	1.90	ESR*MC*OE
B	All	18	13	120564	10.44	4.15	0.78	1.94	ESR*MC*OE
D	All	9	9	120564	4.16	2.21	0.63	1.35	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	45	35	58956	25.43	9.05	0.89	3.05	ESR*MC*OE
Total	Male	45	35	61608	23.87	9.15	0.89	3.04	ESR*MC*OE
A	Female	18	13	58956	10.40	3.75	0.74	1.90	ESR*MC*OE
A	Male	18	13	61608	9.68	3.85	0.76	1.90	ESR*MC*OE
B	Female	18	13	58956	10.72	4.11	0.78	1.95	ESR*MC*OE
B	Male	18	13	61608	10.16	4.16	0.78	1.94	ESR*MC*OE
D	Female	9	9	58956	4.31	2.23	0.64	1.34	MC
D	Male	9	9	61608	4.02	2.18	0.62	1.35	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	45	35	174	22.32	8.52	0.87	3.10	ESR*MC*OE
Total	African American	45	35	17869	18.67	7.96	0.85	3.07	ESR*MC*OE
Total	Hispanic	45	35	15226	20.09	8.41	0.87	3.07	ESR*MC*OE
Total	White	45	35	76054	26.75	8.52	0.87	3.02	ESR*MC*OE
Total	Multiple Ethnicities	45	35	6152	23.73	9.21	0.89	3.06	ESR*MC*OE
Total	Asian	45	35	4980	28.68	8.99	0.89	2.96	ESR*MC*OE
Total	Pacific Islander	45	35	109	25.77	8.78	0.88	3.01	ESR*MC*OE
A	American Indian	18	13	174	9.42	3.61	0.71	1.94	ESR*MC*OE
A	African American	18	13	17869	7.71	3.51	0.70	1.92	ESR*MC*OE
A	Hispanic	18	13	15226	8.30	3.63	0.72	1.92	ESR*MC*OE
A	White	18	13	76054	10.86	3.57	0.72	1.88	ESR*MC*OE
A	Multiple Ethnicities	18	13	6152	9.70	3.87	0.76	1.91	ESR*MC*OE
A	Asian	18	13	4980	11.42	3.69	0.74	1.87	ESR*MC*OE
A	Pacific Islander	18	13	109	10.41	3.95	0.79	1.81	ESR*MC*OE
B	American Indian	18	13	174	9.13	3.80	0.72	2.00	ESR*MC*OE
B	African American	18	13	17869	7.93	3.81	0.73	1.96	ESR*MC*OE
B	Hispanic	18	13	15226	8.57	3.98	0.76	1.96	ESR*MC*OE
B	White	18	13	76054	11.32	3.88	0.75	1.92	ESR*MC*OE
B	Multiple Ethnicities	18	13	6152	10.03	4.18	0.78	1.96	ESR*MC*OE
B	Asian	18	13	4980	12.19	3.93	0.77	1.87	ESR*MC*OE
B	Pacific Islander	18	13	109	11.10	3.97	0.76	1.93	ESR*MC*OE
D	American Indian	9	9	174	3.76	2.13	0.60	1.35	MC
D	African American	9	9	17869	3.03	1.85	0.49	1.32	MC
D	Hispanic	9	9	15226	3.23	1.95	0.53	1.33	MC
D	White	9	9	76054	4.57	2.16	0.61	1.35	MC
D	Multiple Ethnicities	9	9	6152	4.00	2.20	0.63	1.34	MC
D	Asian	9	9	4980	5.08	2.38	0.69	1.31	MC
D	Pacific Islander	9	9	109	4.26	2.01	0.53	1.38	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	45	35	20759	17.88	8.37	0.87	3.03	ESR*MC*OE
A	Y	18	13	20759	7.33	3.65	0.73	1.89	ESR*MC*OE
B	Y	18	13	20759	7.50	3.96	0.76	1.93	ESR*MC*OE
D	Y	9	9	20759	3.05	1.89	0.51	1.33	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	45	35	5866	17.44	7.36	0.83	3.06	ESR*MC*OE
A	Y	18	13	5866	7.18	3.24	0.65	1.92	ESR*MC*OE
B	Y	18	13	5866	7.48	3.65	0.71	1.96	ESR*MC*OE
D	Y	9	9	5866	2.78	1.74	0.43	1.32	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	45	35	59193	20.99	8.49	0.87	3.08	ESR*MC*OE
A	Y	18	13	59193	8.64	3.65	0.72	1.92	ESR*MC*OE
B	Y	18	13	59193	8.89	3.98	0.75	1.97	ESR*MC*OE
D	Y	9	9	59193	3.46	2.00	0.55	1.34	MC

Grade 4 English Language Arts

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	63	39	123172	35.36	12.26	0.87	4.49	ESR*MC*TDA
A	All	17	13	123172	10.91	4.07	0.80	1.82	ESR*MC
B	All	21	16	123172	12.53	4.78	0.80	2.14	ESR*MC
D	All	9	9	123172	5.16	2.17	0.62	1.33	MC
E	All	16	1	123172	6.77	3.36			TDA

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	63	39	60458	36.94	12.01	0.86	4.49	ESR*MC*TDA
Total	Male	63	39	62714	33.84	12.30	0.87	4.41	ESR*MC*TDA
A	Female	17	13	60458	11.21	3.91	0.79	1.79	ESR*MC
A	Male	17	13	62714	10.61	4.19	0.81	1.85	ESR*MC
B	Female	21	16	60458	12.95	4.72	0.80	2.13	ESR*MC
B	Male	21	16	62714	12.13	4.81	0.80	2.15	ESR*MC
D	Female	9	9	60458	5.42	2.15	0.63	1.32	MC
D	Male	9	9	62714	4.91	2.16	0.61	1.34	MC
E	Female	16	1	60458	7.36	3.39			TDA
E	Male	16	1	62714	6.19	3.23			TDA

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	63	39	180	31.86	12.48	0.87	4.47	ESR*MC*TDA
Total	African American	63	39	18415	27.56	11.41	0.85	4.47	ESR*MC*TDA
Total	Hispanic	63	39	15609	29.41	11.97	0.86	4.51	ESR*MC*TDA
Total	White	63	39	77956	38.08	11.27	0.85	4.37	ESR*MC*TDA
Total	Multiple Ethnicities	63	39	5834	34.63	12.06	0.86	4.47	ESR*MC*TDA
Total	Asian	63	39	5086	41.28	11.29	0.85	4.37	ESR*MC*TDA
Total	Pacific Islander	63	39	92	33.76	12.50	0.88	4.41	ESR*MC*TDA
A	American Indian	17	13	180	9.89	4.35	0.81	1.89	ESR*MC
A	African American	17	13	18415	8.61	4.09	0.77	1.95	ESR*MC
A	Hispanic	17	13	15609	9.11	4.20	0.79	1.93	ESR*MC
A	White	17	13	77956	11.72	3.71	0.78	1.76	ESR*MC
A	Multiple Ethnicities	17	13	5834	10.78	4.06	0.80	1.83	ESR*MC
A	Asian	17	13	5086	12.41	3.61	0.79	1.66	ESR*MC
A	Pacific Islander	17	13	92	10.15	4.22	0.81	1.85	ESR*MC
B	American Indian	21	16	180	11.09	4.90	0.81	2.15	ESR*MC
B	African American	21	16	18415	9.66	4.35	0.75	2.16	ESR*MC
B	Hispanic	21	16	15609	10.44	4.58	0.78	2.17	ESR*MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
B	White	21	16	77956	13.53	4.51	0.78	2.12	ESR*MC
B	Multiple Ethnicities	21	16	5834	12.17	4.73	0.79	2.16	ESR*MC
B	Asian	21	16	5086	14.51	4.34	0.77	2.06	ESR*MC
B	Pacific Islander	21	16	92	11.88	4.95	0.81	2.16	ESR*MC
D	American Indian	9	9	180	4.57	2.05	0.55	1.38	MC
D	African American	9	9	18415	4.03	2.02	0.53	1.38	MC
D	Hispanic	9	9	15609	4.25	2.08	0.56	1.37	MC
D	White	9	9	77956	5.55	2.08	0.60	1.31	MC
D	Multiple Ethnicities	9	9	5834	5.05	2.13	0.60	1.34	MC
D	Asian	9	9	5086	6.12	2.09	0.65	1.24	MC
D	Pacific Islander	9	9	92	5.16	2.07	0.58	1.35	MC
E	American Indian	16	1	180	6.31	3.27			TDA
E	African American	16	1	18415	5.26	3.21			TDA
E	Hispanic	16	1	15609	5.61	3.30			TDA
E	White	16	1	77956	7.27	3.23			TDA
E	Multiple Ethnicities	16	1	5834	6.64	3.31			TDA
E	Asian	16	1	5086	8.24	3.36			TDA
E	Pacific Islander	16	1	92	6.57	3.23			TDA

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	22161	25.05	11.43	0.85	4.42	ESR*MC*TDA
A	Y	17	13	22161	7.70	4.08	0.77	1.96	ESR*MC
B	Y	21	16	22161	9.05	4.39	0.76	2.14	ESR*MC
D	Y	9	9	22161	3.75	2.01	0.54	1.37	MC
E	Y	16	1	22161	4.55	3.15			TDA

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	5561	24.39	10.44	0.81	4.54	ESR*MC*TDA
A	Y	17	13	5561	7.24	3.69	0.71	1.98	ESR*MC
B	Y	21	16	5561	8.68	3.87	0.69	2.15	ESR*MC
D	Y	9	9	5561	3.61	1.90	0.47	1.38	MC
E	Y	16	1	5561	4.86	3.29			TDA

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	60160	30.49	11.80	0.86	4.47	ESR*MC*TDA
A	Y	17	13	60160	9.48	4.14	0.78	1.92	ESR*MC
B	Y	21	16	60160	10.80	4.60	0.78	2.17	ESR*MC
D	Y	9	9	60160	4.44	2.08	0.57	1.37	MC
E	Y	16	1	60160	5.77	3.23			TDA

Grade 5 English Language Arts

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	63	39	127550	33.17	11.38	0.85	4.40	ESR*MC*TDA
A	All	18	13	127550	11.09	3.84	0.75	1.90	ESR*MC
B	All	20	16	127550	10.33	4.40	0.78	2.08	ESR*MC
D	All	9	9	127550	4.77	1.95	0.55	1.31	MC
E	All	16	1	127550	6.99	3.24			TDA

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	63	39	62310	34.59	11.17	0.85	4.38	ESR*MC*TDA
Total	Male	63	39	65240	31.81	11.42	0.86	4.34	ESR*MC*TDA
A	Female	18	13	62310	11.48	3.74	0.75	1.89	ESR*MC
A	Male	18	13	65240	10.71	3.89	0.76	1.92	ESR*MC
B	Female	20	16	62310	10.55	4.33	0.77	2.07	ESR*MC
B	Male	20	16	65240	10.12	4.47	0.78	2.08	ESR*MC
D	Female	9	9	62310	4.94	1.93	0.55	1.30	MC
D	Male	9	9	65240	4.60	1.95	0.54	1.32	MC
E	Female	16	1	62310	7.62	3.23			TDA
E	Male	16	1	65240	6.38	3.14			TDA

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	63	39	208	31.37	10.16	0.83	4.22	ESR*MC*TDA
Total	African American	63	39	19046	26.04	9.99	0.81	4.34	ESR*MC*TDA
Total	Hispanic	63	39	15702	27.84	10.65	0.83	4.43	ESR*MC*TDA
Total	White	63	39	81567	35.51	10.71	0.84	4.29	ESR*MC*TDA
Total	Multiple Ethnicities	63	39	5899	32.23	11.23	0.85	4.41	ESR*MC*TDA
Total	Asian	63	39	5029	39.89	11.10	0.85	4.33	ESR*MC*TDA
Total	Pacific Islander	63	39	99	34.21	11.88	0.85	4.56	ESR*MC*TDA
A	American Indian	18	13	208	10.50	3.57	0.70	1.95	ESR*MC
A	African American	18	13	19046	8.93	3.69	0.72	1.95	ESR*MC
A	Hispanic	18	13	15702	9.49	3.84	0.75	1.93	ESR*MC
A	White	18	13	81567	11.80	3.59	0.73	1.88	ESR*MC
A	Multiple Ethnicities	18	13	5899	10.84	3.82	0.75	1.91	ESR*MC
A	Asian	18	13	5029	12.90	3.45	0.73	1.80	ESR*MC
A	Pacific Islander	18	13	99	11.00	3.82	0.75	1.92	ESR*MC
B	American Indian	20	16	208	9.79	3.92	0.71	2.11	ESR*MC
B	African American	20	16	19046	7.86	3.64	0.69	2.02	ESR*MC
B	Hispanic	20	16	15702	8.43	3.89	0.72	2.05	ESR*MC
B	White	20	16	81567	11.15	4.30	0.77	2.08	ESR*MC
B	Multiple Ethnicities	20	16	5899	9.94	4.33	0.77	2.07	ESR*MC
B	Asian	20	16	5029	12.76	4.39	0.79	2.03	ESR*MC
B	Pacific Islander	20	16	99	10.87	4.67	0.81	2.04	ESR*MC
D	American Indian	9	9	208	4.52	1.93	0.55	1.29	MC
D	African American	9	9	19046	3.78	1.75	0.42	1.34	MC
D	Hispanic	9	9	15702	4.07	1.81	0.46	1.34	MC
D	White	9	9	81567	5.09	1.89	0.53	1.30	MC
D	Multiple Ethnicities	9	9	5899	4.61	1.93	0.54	1.31	MC
D	Asian	9	9	5029	5.71	2.01	0.61	1.25	MC
D	Pacific Islander	9	9	99	4.91	1.87	0.48	1.35	MC
E	American Indian	16	1	208	6.56	2.92			TDA
E	African American	16	1	19046	5.47	3.13			TDA
E	Hispanic	16	1	15702	5.85	3.26			TDA
E	White	16	1	81567	7.47	3.08			TDA
E	Multiple Ethnicities	16	1	5899	6.84	3.24			TDA
E	Asian	16	1	5029	8.52	3.26			TDA
E	Pacific Islander	16	1	99	7.43	3.48			TDA

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	23040	23.51	9.90	0.81	4.28	ESR*MC*TDA
A	Y	18	13	23040	8.02	3.65	0.72	1.95	ESR*MC
B	Y	20	16	23040	7.30	3.66	0.70	2.01	ESR*MC
D	Y	9	9	23040	3.63	1.76	0.42	1.34	MC
E	Y	16	1	23040	4.55	3.04			TDA

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	4878	22.16	8.48	0.74	4.35	ESR*MC*TDA
A	Y	18	13	4878	7.62	3.25	0.64	1.95	ESR*MC
B	Y	20	16	4878	6.62	2.95	0.54	2.00	ESR*MC
D	Y	9	9	4878	3.41	1.60	0.28	1.36	MC
E	Y	16	1	4878	4.52	3.12			TDA

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	61352	28.59	10.46	0.83	4.35	ESR*MC*TDA
A	Y	18	13	61352	9.76	3.78	0.74	1.94	ESR*MC
B	Y	20	16	61352	8.69	3.92	0.72	2.06	ESR*MC
D	Y	9	9	61352	4.16	1.82	0.47	1.33	MC
E	Y	16	1	61352	5.98	3.13			TDA

Grade 6 English Language Arts

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	63	39	127560	33.85	11.56	0.85	4.55	ESR*MC*TDA
A	All	20	15	127560	11.53	4.42	0.76	2.16	ESR*MC
B	All	18	14	127560	10.34	3.94	0.72	2.07	ESR*MC
D	All	9	9	127560	4.68	2.04	0.57	1.33	MC
E	All	16	1	127560	7.30	3.28			TDA

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	63	39	62360	35.58	11.35	0.84	4.54	ESR*MC*TDA
Total	Male	63	39	65200	32.19	11.53	0.85	4.45	ESR*MC*TDA
A	Female	20	15	62360	12.05	4.30	0.75	2.14	ESR*MC
A	Male	20	15	65200	11.04	4.48	0.77	2.17	ESR*MC
B	Female	18	14	62360	10.55	3.85	0.71	2.08	ESR*MC
B	Male	18	14	65200	10.13	4.01	0.74	2.06	ESR*MC
D	Female	9	9	62360	4.98	2.05	0.58	1.33	MC
D	Male	9	9	65200	4.38	1.98	0.55	1.33	MC
E	Female	16	1	62360	8.00	3.29			TDA
E	Male	16	1	65200	6.64	3.14			TDA

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	63	39	204	32.41	11.19	0.83	4.58	ESR*MC*TDA
Total	African American	63	39	18570	26.27	10.17	0.81	4.40	ESR*MC*TDA
Total	Hispanic	63	39	15701	28.33	10.76	0.83	4.48	ESR*MC*TDA
Total	White	63	39	82190	36.31	10.82	0.83	4.47	ESR*MC*TDA
Total	Multiple Ethnicities	63	39	5613	32.32	11.52	0.84	4.56	ESR*MC*TDA
Total	Asian	63	39	5168	40.44	11.07	0.83	4.52	ESR*MC*TDA
Total	Pacific Islander	63	39	114	33.66	10.83	0.84	4.33	ESR*MC*TDA
A	American Indian	20	15	204	11.02	4.09	0.71	2.19	ESR*MC
A	African American	20	15	18570	8.78	3.99	0.71	2.15	ESR*MC
A	Hispanic	20	15	15701	9.57	4.15	0.73	2.17	ESR*MC
A	White	20	15	82190	12.44	4.18	0.74	2.14	ESR*MC
A	Multiple Ethnicities	20	15	5613	10.92	4.43	0.76	2.17	ESR*MC
A	Asian	20	15	5168	13.65	4.10	0.75	2.04	ESR*MC
A	Pacific Islander	20	15	114	11.29	4.38	0.75	2.19	ESR*MC
B	American Indian	18	14	204	10.03	3.96	0.72	2.10	ESR*MC
B	African American	18	14	18570	8.05	3.55	0.67	2.04	ESR*MC
B	Hispanic	18	14	15701	8.73	3.73	0.69	2.06	ESR*MC
B	White	18	14	82190	11.06	3.76	0.70	2.07	ESR*MC
B	Multiple Ethnicities	18	14	5613	9.89	3.93	0.72	2.07	ESR*MC
B	Asian	18	14	5168	12.44	3.73	0.71	2.00	ESR*MC
B	Pacific Islander	18	14	114	10.38	3.76	0.69	2.10	ESR*MC
D	American Indian	9	9	204	4.34	1.98	0.55	1.33	MC
D	African American	9	9	18570	3.65	1.82	0.46	1.34	MC
D	Hispanic	9	9	15701	3.90	1.87	0.48	1.34	MC
D	White	9	9	82190	5.02	1.99	0.55	1.33	MC
D	Multiple Ethnicities	9	9	5613	4.47	2.02	0.56	1.34	MC
D	Asian	9	9	5168	5.57	2.02	0.58	1.30	MC
D	Pacific Islander	9	9	114	4.66	1.98	0.56	1.32	MC
E	American Indian	16	1	204	7.02	3.29			TDA
E	African American	16	1	18570	5.79	3.06			TDA
E	Hispanic	16	1	15701	6.13	3.16			TDA
E	White	16	1	82190	7.79	3.17			TDA
E	Multiple Ethnicities	16	1	5613	7.04	3.29			TDA
E	Asian	16	1	5168	8.79	3.37			TDA
E	Pacific Islander	16	1	114	7.33	2.91			TDA

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	22417	23.56	9.68	0.81	4.21	ESR*MC*TDA
A	Y	20	15	22417	8.06	3.87	0.70	2.12	ESR*MC
B	Y	18	14	22417	7.35	3.47	0.66	2.01	ESR*MC
D	Y	9	9	22417	3.33	1.78	0.44	1.33	MC
E	Y	16	1	22417	4.82	2.82			TDA

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	4032	20.97	7.79	0.71	4.23	ESR*MC*TDA
A	Y	20	15	4032	7.12	3.17	0.56	2.09	ESR*MC
B	Y	18	14	4032	6.54	2.80	0.49	1.99	ESR*MC
D	Y	9	9	4032	2.90	1.53	0.26	1.32	MC
E	Y	16	1	4032	4.41	2.85			TDA

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	59629	29.14	10.76	0.83	4.45	ESR*MC*TDA
A	Y	20	15	59629	9.89	4.20	0.73	2.18	ESR*MC
B	Y	18	14	59629	8.90	3.75	0.70	2.07	ESR*MC
D	Y	9	9	59629	4.04	1.91	0.51	1.34	MC
E	Y	16	1	61352	5.98	3.13			TDA

Grade 7 English Language Arts

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	63	39	125998	34.01	10.57	0.81	4.61	ESR*MC*TDA
A	All	19	15	125998	11.11	3.76	0.72	1.98	ESR*MC
B	All	19	14	125998	10.21	3.46	0.67	1.99	ESR*MC
D	All	9	9	125998	4.83	2.06	0.57	1.35	MC
E	All	16	1	125998	7.86	3.52			TDA

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	63	39	61493	36.09	10.18	0.80	4.51	ESR*MC*TDA
Total	Male	63	39	64505	32.03	10.56	0.81	4.56	ESR*MC*TDA
A	Female	19	15	61493	11.64	3.65	0.71	1.97	ESR*MC
A	Male	19	15	64505	10.61	3.79	0.73	1.99	ESR*MC
B	Female	19	14	61493	10.61	3.32	0.65	1.96	ESR*MC
B	Male	19	14	64505	9.83	3.55	0.68	2.01	ESR*MC
D	Female	9	9	61493	5.10	2.06	0.58	1.34	MC
D	Male	9	9	64505	4.57	2.04	0.55	1.36	MC
E	Female	16	1	61493	8.73	3.40			TDA
E	Male	16	1	64505	7.02	3.42			TDA

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	63	39	184	31.54	10.36	0.80	4.64	ESR*MC*TDA
Total	African American	63	39	17902	27.85	9.74	0.78	4.60	ESR*MC*TDA
Total	Hispanic	63	39	14964	28.91	10.09	0.79	4.63	ESR*MC*TDA
Total	White	63	39	82715	35.97	9.93	0.79	4.50	ESR*MC*TDA
Total	Multiple Ethnicities	63	39	5079	32.92	10.63	0.81	4.65	ESR*MC*TDA
Total	Asian	63	39	5046	40.00	10.16	0.81	4.46	ESR*MC*TDA
Total	Pacific Islander	63	39	108	36.06	9.30	0.76	4.56	ESR*MC*TDA
A	American Indian	19	15	184	10.44	3.77	0.72	2.01	ESR*MC
A	African American	19	15	17902	9.21	3.61	0.69	2.01	ESR*MC
A	Hispanic	19	15	14964	9.55	3.70	0.70	2.01	ESR*MC
A	White	19	15	82715	11.72	3.57	0.70	1.96	ESR*MC
A	Multiple Ethnicities	19	15	5079	10.86	3.83	0.73	1.99	ESR*MC
A	Asian	19	15	5046	12.81	3.53	0.70	1.94	ESR*MC
A	Pacific Islander	19	15	108	11.61	3.48	0.66	2.02	ESR*MC
B	American Indian	19	14	184	9.47	3.49	0.67	2.01	ESR*MC
B	African American	19	14	17902	8.40	3.24	0.61	2.01	ESR*MC
B	Hispanic	19	14	14964	8.75	3.29	0.62	2.02	ESR*MC
B	White	19	14	82715	10.79	3.30	0.64	1.98	ESR*MC
B	Multiple Ethnicities	19	14	5079	9.87	3.47	0.67	2.00	ESR*MC
B	Asian	19	14	5046	11.92	3.31	0.67	1.91	ESR*MC
B	Pacific Islander	19	14	108	10.63	3.04	0.57	1.99	ESR*MC
D	American Indian	9	9	184	4.46	2.04	0.54	1.39	MC
D	African American	9	9	17902	3.88	1.85	0.45	1.38	MC
D	Hispanic	9	9	14964	4.02	1.92	0.48	1.38	MC
D	White	9	9	82715	5.14	2.03	0.56	1.34	MC
D	Multiple Ethnicities	9	9	5079	4.65	2.03	0.55	1.36	MC
D	Asian	9	9	5046	5.69	2.05	0.61	1.28	MC
D	Pacific Islander	9	9	108	5.05	1.92	0.51	1.35	MC
E	American Indian	16	1	184	7.17	3.50			TDA
E	African American	16	1	17902	6.35	3.44			TDA
E	Hispanic	16	1	14964	6.58	3.49			TDA
E	White	16	1	82715	8.32	3.37			TDA
E	Multiple Ethnicities	16	1	5079	7.54	3.55			TDA
E	Asian	16	1	5046	9.59	3.40			TDA
E	Pacific Islander	16	1	108	8.78	3.39			TDA

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	21715	24.25	8.95	0.76	4.41	ESR*MC*TDA
A	Y	19	15	21715	8.15	3.46	0.67	1.99	ESR*MC
B	Y	19	14	21715	7.61	3.09	0.57	2.04	ESR*MC
D	Y	9	9	21715	3.34	1.79	0.41	1.37	MC
E	Y	16	1	21715	5.16	3.15			TDA

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	4030	22.48	8.18	0.69	4.58	ESR*MC*TDA
A	Y	19	15	4030	7.40	3.01	0.56	1.99	ESR*MC
B	Y	19	14	4030	7.13	2.73	0.44	2.05	ESR*MC
D	Y	9	9	4030	3.01	1.61	0.30	1.35	MC
E	Y	16	1	4030	4.94	3.39			TDA

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	56965	29.76	9.99	0.79	4.59	ESR*MC*TDA
A	Y	19	15	56965	9.86	3.69	0.71	2.00	ESR*MC
B	Y	19	14	56965	8.97	3.30	0.63	2.02	ESR*MC
D	Y	9	9	56965	4.16	1.95	0.50	1.38	MC
E	Y	16	1	56965	6.76	3.43			TDA

Grade 8 English Language Arts

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	63	39	123503	36.69	12.34	0.86	4.65	ESR*MC*TDA
A	All	18	14	123503	11.84	4.20	0.80	1.90	ESR*MC
B	All	20	15	123503	12.42	4.53	0.78	2.14	ESR*MC
D	All	9	9	123503	4.57	2.04	0.58	1.32	MC
E	All	16	1	123503	7.87	3.57			TDA

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	63	39	59996	39.06	11.70	0.85	4.53	ESR*MC*TDA
Total	Male	63	39	63507	34.46	12.51	0.86	4.60	ESR*MC*TDA
A	Female	18	14	59996	12.56	3.91	0.77	1.86	ESR*MC
A	Male	18	14	63507	11.16	4.35	0.80	1.93	ESR*MC
B	Female	20	15	59996	12.91	4.30	0.76	2.10	ESR*MC
B	Male	20	15	63507	11.96	4.69	0.79	2.16	ESR*MC
D	Female	9	9	59996	4.83	2.04	0.59	1.30	MC
D	Male	9	9	63507	4.32	2.00	0.56	1.33	MC
E	Female	16	1	59996	8.75	3.45			TDA
E	Male	16	1	63507	7.03	3.47			TDA

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	63	39	183	35.01	12.97	0.87	4.72	ESR*MC*TDA
Total	African American	63	39	17454	29.18	11.53	0.84	4.68	ESR*MC*TDA
Total	Hispanic	63	39	14471	30.06	12.29	0.85	4.77	ESR*MC*TDA
Total	White	63	39	81807	39.13	11.39	0.84	4.49	ESR*MC*TDA
Total	Multiple Ethnicities	63	39	4508	35.22	12.35	0.86	4.67	ESR*MC*TDA
Total	Asian	63	39	4985	43.59	11.03	0.84	4.38	ESR*MC*TDA
Total	Pacific Islander	63	39	95	36.25	12.83	0.86	4.74	ESR*MC*TDA
A	American Indian	18	14	183	11.57	4.45	0.82	1.86	ESR*MC
A	African American	18	14	17454	9.66	4.28	0.78	1.99	ESR*MC
A	Hispanic	18	14	14471	9.90	4.37	0.80	1.97	ESR*MC
A	White	18	14	81807	12.55	3.89	0.77	1.85	ESR*MC
A	Multiple Ethnicities	18	14	4508	11.42	4.26	0.80	1.91	ESR*MC
A	Asian	18	14	4985	13.71	3.50	0.76	1.72	ESR*MC
A	Pacific Islander	18	14	95	11.65	4.23	0.80	1.88	ESR*MC
B	American Indian	20	15	183	11.52	4.98	0.81	2.18	ESR*MC
B	African American	20	15	17454	9.68	4.21	0.72	2.22	ESR*MC
B	Hispanic	20	15	14471	10.15	4.45	0.75	2.21	ESR*MC
B	White	20	15	81807	13.31	4.23	0.76	2.09	ESR*MC
B	American Indian	20	16	196	11.29	4.12	12.76	2.00	MC*OE
B	Multiple Ethnicities	20	15	4508	11.91	4.54	0.77	2.17	ESR*MC
B	Asian	20	15	4985	14.52	3.99	0.76	1.95	ESR*MC
B	Pacific Islander	20	15	95	12.22	4.58	0.78	2.16	ESR*MC
D	American Indian	9	9	183	4.33	2.06	0.59	1.32	MC
D	African American	9	9	17454	3.50	1.77	0.44	1.33	MC
D	Hispanic	9	9	14471	3.58	1.85	0.49	1.32	MC
D	White	9	9	81807	4.93	1.98	0.56	1.31	MC
D	Multiple Ethnicities	9	9	4508	4.33	2.01	0.56	1.32	MC
D	Asian	9	9	4985	5.38	2.04	0.62	1.26	MC
D	Pacific Islander	9	9	95	4.80	2.21	0.67	1.28	MC
E	American Indian	16	1	183	7.58	3.64			TDA
E	African American	16	1	17454	6.34	3.48			TDA
E	Hispanic	16	1	14471	6.43	3.64			TDA
E	White	16	1	81807	8.34	3.38			TDA
E	Multiple Ethnicities	16	1	4508	7.56	3.56			TDA
E	Asian	16	1	4985	9.97	3.42			TDA
E	Pacific Islander	16	1	95	7.58	3.71			TDA

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	20986	24.90	10.50	0.82	4.40	ESR*MC*TDA
A	Y	18	14	20986	8.16	3.99	0.75	1.99	ESR*MC
B	Y	20	15	20986	8.58	4.06	0.71	2.19	ESR*MC
D	Y	9	9	20986	3.11	1.69	0.38	1.33	MC
E	Y	16	1	20986	5.04	3.07			TDA

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	3762	21.36	8.93	0.74	4.56	ESR*MC*TDA
A	Y	18	14	3762	7.05	3.40	0.66	1.97	ESR*MC
B	Y	20	15	3762	7.26	3.27	0.57	2.14	ESR*MC
D	Y	9	9	3762	2.57	1.36	0.11	1.29	MC
E	Y	16	1	3762	4.48	3.34			TDA

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	63	39	54448	31.57	12.01	0.85	4.68	ESR*MC*TDA
A	Y	18	14	54448	10.36	4.31	0.79	1.97	ESR*MC
B	Y	20	15	54448	10.63	4.42	0.75	2.21	ESR*MC
D	Y	9	9	54448	3.85	1.90	0.51	1.33	MC
E	Y	16	1	54448	6.73	3.50			TDA

Grade 3 Mathematics

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	52	43	120604	28.46	11.73	0.92	3.35	MC*OE
A	All	14	11	120604	7.27	3.45	0.74	1.75	MC*OE
B	All	15	12	120604	8.17	3.81	0.76	1.88	MC*OE
C	All	7	7	120604	4.13	1.84	0.61	1.15	MC
D	All	16	3	120604	8.88	3.90	0.78	1.81	MC*OE

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	52	43	58964	28.35	11.56	0.92	3.35	MC*OE
Total	Male	52	43	61640	28.56	11.90	0.92	3.34	MC*OE
A	Female	14	11	58964	7.23	3.41	0.73	1.75	MC*OE
A	Male	14	11	61640	7.32	3.48	0.75	1.75	MC*OE
B	Female	15	12	58964	8.12	3.78	0.75	1.89	MC*OE
B	Male	15	12	61640	8.23	3.83	0.76	1.88	MC*OE
C	Female	7	7	58964	4.16	1.81	0.60	1.15	MC
C	Male	7	7	61640	4.11	1.87	0.63	1.14	MC
D	Female	16	13	58964	8.85	3.84	0.78	1.82	MC*OE
D	Male	16	13	61640	8.91	3.96	0.79	1.81	MC*OE

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	52	43	173	25.68	11.10	0.91	3.31	MC*OE
Total	African American	52	43	17903	20.00	9.80	0.89	3.28	MC*OE
Total	Hispanic	52	43	15246	22.43	10.65	0.90	3.32	MC*OE
Total	White	52	43	76030	31.33	10.86	0.91	3.30	MC*OE
Total	Multiple Ethnicities	52	43	6156	26.82	11.53	0.92	3.36	MC*OE
Total	Asian	52	43	4988	35.45	11.15	0.92	3.18	MC*OE
Total	Pacific Islander	52	43	108	29.27	10.24	0.89	3.35	MC*OE
A	American Indian	14	11	173	6.66	3.33	0.74	1.69	MC*OE
A	African American	14	11	17903	5.00	2.97	0.70	1.64	MC*OE
A	Hispanic	14	11	15246	5.62	3.19	0.72	1.67	MC*OE
A	White	14	11	76030	8.05	3.23	0.71	1.75	MC*OE
A	Multiple Ethnicities	14	11	6156	6.85	3.40	0.73	1.75	MC*OE
A	Asian	14	11	4988	9.19	3.31	0.73	1.73	MC*OE
A	Pacific Islander	14	11	108	7.36	3.15	0.70	1.73	MC*OE
B	American Indian	15	12	173	7.21	3.69	0.75	1.84	MC*OE
B	African American	15	12	17903	5.81	3.25	0.68	1.83	MC*OE
B	Hispanic	15	12	15246	6.41	3.48	0.71	1.88	MC*OE
B	White	15	12	76030	8.98	3.62	0.74	1.84	MC*OE
B	Multiple Ethnicities	15	12	6156	7.70	3.74	0.75	1.88	MC*OE
B	Asian	15	12	4988	10.38	3.59	0.77	1.73	MC*OE
B	Pacific Islander	15	12	108	8.43	3.44	0.69	1.90	MC*OE
C	American Indian	7	7	173	3.86	1.88	0.61	1.16	MC
C	African American	7	7	17903	3.04	1.70	0.50	1.21	MC
C	Hispanic	7	7	15246	3.43	1.78	0.55	1.19	MC
C	White	7	7	76030	4.50	1.73	0.58	1.12	MC
C	Multiple Ethnicities	7	7	6156	3.94	1.85	0.61	1.16	MC
C	Asian	7	7	4988	4.94	1.70	0.61	1.06	MC
C	Pacific Islander	7	7	108	4.25	1.74	0.57	1.14	MC
D	American Indian	16	13	173	7.95	3.66	0.76	1.80	MC*OE
D	African American	16	13	17903	6.15	3.35	0.71	1.81	MC*OE
D	Hispanic	16	13	15246	6.97	3.59	0.75	1.81	MC*OE
D	White	16	13	76030	9.81	3.63	0.76	1.78	MC*OE
D	Multiple Ethnicities	16	13	6156	8.33	3.84	0.77	1.83	MC*OE
D	Asian	16	13	4988	10.94	3.70	0.78	1.74	MC*OE
D	Pacific Islander	16	13	108	9.23	3.43	0.72	1.82	MC*OE

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	20765	20.77	10.96	0.91	3.28	MC*OE
A	Y	14	11	20765	5.19	3.24	0.74	1.66	MC*OE
B	Y	15	12	20765	5.87	3.47	0.72	1.85	MC*OE
C	Y	7	7	20765	3.21	1.83	0.58	1.19	MC
D	Y	16	13	20765	6.50	3.72	0.77	1.79	MC*OE

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	5886	20.60	10.22	0.90	3.30	MC*OE
A	Y	14	11	5886	5.12	3.04	0.71	1.64	MC*OE
B	Y	15	12	5886	5.92	3.32	0.69	1.85	MC*OE
C	Y	7	7	5886	3.18	1.75	0.53	1.20	MC
D	Y	16	13	5886	6.38	3.51	0.73	1.83	MC*OE

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	59220	23.65	10.81	0.90	3.34	MC*OE
A	Y	14	11	59220	5.97	3.21	0.72	1.69	MC*OE
B	Y	15	12	59220	6.75	3.54	0.72	1.88	MC*OE
C	Y	7	7	59220	3.56	1.79	0.56	1.19	MC
D	Y	16	13	59220	7.37	3.66	0.75	1.82	MC*OE

Grade 4 Mathematics

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	52	43	123286	26.74	11.33	0.92	3.23	MC*OE
A	All	21	18	123286	10.48	4.61	0.80	2.06	MC*OE
B	All	13	10	123286	5.81	3.33	0.77	1.58	MC*OE
C	All	8	5	123286	4.48	2.04	0.54	1.39	MC*OE
D	All	10	10	123286	5.97	2.56	0.73	1.34	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	52	43	60489	26.46	11.03	0.91	3.24	MC*OE
Total	Male	52	43	62797	27.02	11.61	0.92	3.22	MC*OE
A	Female	21	18	60489	10.30	4.46	0.79	2.07	MC*OE
A	Male	21	18	62797	10.65	4.74	0.81	2.05	MC*OE
B	Female	13	10	60489	5.72	3.27	0.77	1.59	MC*OE
B	Male	13	10	62797	5.91	3.37	0.78	1.58	MC*OE
C	Female	8	5	60489	4.53	2.02	0.53	1.39	MC*OE
C	Male	8	5	62797	4.42	2.06	0.55	1.39	MC*OE
D	Female	10	10	60489	5.91	2.51	0.71	1.35	MC
D	Male	10	10	62797	6.03	2.61	0.74	1.32	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	52	43	179	23.93	10.79	0.91	3.25	MC*OE
Total	African American	52	43	18449	18.56	8.80	0.87	3.15	MC*OE
Total	Hispanic	52	43	15650	20.92	9.69	0.89	3.19	MC*OE
Total	White	52	43	77986	29.47	10.70	0.91	3.20	MC*OE
Total	Multiple Ethnicities	52	43	5836	25.36	11.10	0.92	3.23	MC*OE
Total	Asian	52	43	5094	34.18	11.05	0.92	3.13	MC*OE
Total	Pacific Islander	52	43	92	26.41	10.62	0.91	3.23	MC*OE
A	American Indian	21	18	179	9.20	4.38	0.77	2.09	MC*OE
A	African American	21	18	18449	7.46	3.75	0.72	2.00	MC*OE
A	Hispanic	21	18	15650	8.34	4.01	0.75	2.02	MC*OE
A	White	21	18	77986	11.47	4.41	0.78	2.05	MC*OE
A	Multiple Ethnicities	21	18	5836	9.99	4.52	0.79	2.06	MC*OE
A	Asian	21	18	5094	13.34	4.56	0.80	2.03	MC*OE
A	Pacific Islander	21	18	92	10.27	4.24	0.75	2.10	MC*OE
B	American Indian	13	10	179	5.17	3.21	0.76	1.58	MC*OE
B	African American	13	10	18449	3.82	2.57	0.66	1.50	MC*OE
B	Hispanic	13	10	15650	4.24	2.84	0.71	1.51	MC*OE
B	White	13	10	77986	6.48	3.25	0.76	1.59	MC*OE
B	Multiple Ethnicities	13	10	5836	5.46	3.28	0.77	1.57	MC*OE
B	Asian	13	10	5094	8.07	3.30	0.77	1.58	MC*OE
B	Pacific Islander	13	10	92	6.04	3.01	0.74	1.54	MC*OE
C	American Indian	8	5	179	4.12	2.06	0.59	1.31	MC*OE
C	African American	8	5	18449	3.07	1.79	0.47	1.30	MC*OE
C	Hispanic	8	5	15650	3.56	1.89	0.50	1.33	MC*OE
C	White	8	5	77986	4.95	1.91	0.49	1.36	MC*OE
C	Multiple Ethnicities	8	5	5836	4.28	2.01	0.53	1.38	MC*OE
C	Asian	8	5	5094	5.47	1.94	0.52	1.35	MC*OE
C	Pacific Islander	8	5	92	4.26	1.94	0.48	1.40	MC*OE
D	American Indian	10	10	179	5.44	2.51	0.70	1.39	MC
D	African American	10	10	18449	4.21	2.18	0.57	1.42	MC
D	Hispanic	10	10	15650	4.79	2.33	0.63	1.41	MC
D	White	10	10	77986	6.57	2.41	0.71	1.30	MC
D	Multiple Ethnicities	10	10	5836	5.64	2.52	0.71	1.36	MC
D	Asian	10	10	5094	7.30	2.35	0.74	1.20	MC
D	Pacific Islander	10	10	92	5.84	2.54	0.72	1.35	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	22180	19.20	9.93	0.90	3.15	MC*OE
A	Y	21	18	22180	7.56	4.10	0.76	2.00	MC*OE
B	Y	13	10	22180	3.82	2.87	0.73	1.48	MC*OE
C	Y	8	5	22180	3.33	1.91	0.51	1.34	MC*OE
D	Y	10	10	22180	4.48	2.38	0.65	1.40	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	5608	18.55	8.48	0.86	3.12	MC*OE
A	Y	21	18	5608	7.44	3.54	0.69	1.98	MC*OE
B	Y	13	10	5608	3.70	2.53	0.66	1.47	MC*OE
C	Y	8	5	5608	3.09	1.74	0.46	1.28	MC*OE
D	Y	10	10	5608	4.32	2.20	0.58	1.43	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	60218	22.02	10.01	0.90	3.21	MC*OE
A	Y	21	18	60218	8.72	4.14	0.76	2.03	MC*OE
B	Y	13	10	60218	4.55	2.92	0.72	1.53	MC*OE
C	Y	8	5	60218	3.75	1.93	0.51	1.35	MC*OE
D	Y	10	10	60218	5.01	2.40	0.66	1.40	MC

Grade 5 Mathematics

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	52	43	127592	24.41	11.18	0.91	3.33	MC*OE
A	All	27	21	127592	12.76	6.22	0.85	2.40	MC*OE
B	All	8	8	127592	4.23	1.88	0.53	1.29	MC
C	All	8	5	127592	3.56	2.02	0.53	1.39	MC*OE
D	All	9	9	127592	3.87	2.38	0.70	1.30	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	52	43	62306	24.41	10.87	0.90	3.35	MC*OE
Total	Male	52	43	65286	24.41	11.47	0.92	3.31	MC*OE
A	Female	27	21	62306	12.88	6.09	0.84	2.43	MC*OE
A	Male	27	21	65286	12.64	6.35	0.86	2.38	MC*OE
B	Female	8	8	62306	4.22	1.83	0.50	1.30	MC
B	Male	8	8	65286	4.24	1.93	0.56	1.29	MC
C	Female	8	5	62306	3.55	1.99	0.50	1.40	MC*OE
C	Male	8	5	65286	3.56	2.05	0.55	1.38	MC*OE
D	Female	9	9	62306	3.76	2.34	0.69	1.30	MC
D	Male	9	9	65286	3.97	2.42	0.71	1.30	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	52	43	208	21.22	9.74	0.88	3.32	MC*OE
Total	African American	52	43	19067	16.75	8.08	0.85	3.16	MC*OE
Total	Hispanic	52	43	15723	19.09	9.30	0.88	3.23	MC*OE
Total	White	52	43	81555	26.84	10.82	0.90	3.34	MC*OE
Total	Multiple Ethnicities	52	43	5902	22.70	10.75	0.90	3.32	MC*OE
Total	Asian	52	43	5038	32.87	11.46	0.92	3.23	MC*OE
Total	Pacific Islander	52	43	99	24.00	11.70	0.92	3.34	MC*OE
A	American Indian	27	21	208	11.22	5.74	0.83	2.39	MC*OE
A	African American	27	21	19067	8.72	4.79	0.78	2.26	MC*OE
A	Hispanic	27	21	15723	9.95	5.30	0.81	2.31	MC*OE
A	White	27	21	81555	14.03	6.03	0.84	2.41	MC*OE
A	Multiple Ethnicities	27	21	5902	11.85	6.01	0.84	2.40	MC*OE
A	Asian	27	21	5038	17.36	6.18	0.86	2.32	MC*OE
A	Pacific Islander	27	21	99	12.63	6.47	0.86	2.42	MC*OE
B	American Indian	8	8	208	3.83	1.71	0.40	1.32	MC
B	African American	8	8	19067	3.28	1.69	0.39	1.32	MC
B	Hispanic	8	8	15723	3.55	1.75	0.43	1.32	MC
B	White	8	8	81555	4.53	1.83	0.51	1.28	MC
B	Multiple Ethnicities	8	8	5902	4.01	1.84	0.50	1.30	MC
B	Asian	8	8	5038	5.32	1.89	0.60	1.19	MC
B	Pacific Islander	8	8	99	4.05	1.86	0.50	1.32	MC
C	American Indian	8	5	208	3.01	1.80	0.46	1.32	MC*OE
C	African American	8	5	19067	2.28	1.60	0.41	1.23	MC*OE
C	Hispanic	8	5	15723	2.67	1.78	0.47	1.29	MC*OE
C	White	8	5	81555	3.97	1.95	0.49	1.39	MC*OE
C	Multiple Ethnicities	8	5	5902	3.31	1.99	0.52	1.38	MC*OE
C	Asian	8	5	5038	4.84	2.09	0.52	1.44	MC*OE
C	Pacific Islander	8	5	99	3.58	2.14	0.59	1.37	MC*OE
D	American Indian	9	9	208	3.16	2.02	0.58	1.31	MC
D	African American	9	9	19067	2.47	1.68	0.44	1.26	MC
D	Hispanic	9	9	15723	2.91	1.99	0.59	1.28	MC
D	White	9	9	81555	4.32	2.39	0.70	1.31	MC
D	Multiple Ethnicities	9	9	5902	3.53	2.28	0.68	1.30	MC
D	Asian	9	9	5038	5.35	2.50	0.75	1.25	MC
D	Pacific Islander	9	9	99	3.75	2.61	0.77	1.25	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	23037	16.56	8.90	0.87	3.15	MC*OE
A	Y	27	21	23037	8.39	5.05	0.80	2.25	MC*OE
B	Y	8	8	23037	3.17	1.72	0.42	1.31	MC
C	Y	8	5	23037	2.32	1.72	0.49	1.23	MC*OE
D	Y	9	9	23037	2.69	1.92	0.56	1.26	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	4898	15.79	7.58	0.83	3.09	MC*OE
A	Y	27	21	4898	8.21	4.43	0.75	2.20	MC*OE
B	Y	8	8	4898	3.07	1.64	0.36	1.31	MC
C	Y	8	5	4898	2.12	1.53	0.39	1.20	MC*OE
D	Y	9	9	4898	2.39	1.69	0.46	1.24	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	61352	19.82	9.52	0.88	3.26	MC*OE
A	Y	27	21	61352	10.31	5.44	0.81	2.34	MC*OE
B	Y	8	8	61352	3.64	1.76	0.44	1.32	MC
C	Y	8	5	61352	2.84	1.81	0.48	1.31	MC*OE
D	Y	9	9	61352	3.04	2.03	0.60	1.29	MC

Grade 6 Mathematics

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	52	43	127496	25.88	11.48	0.91	3.46	MC*OE
A	All	20	17	127496	11.34	4.94	0.80	2.19	MC*OE
B	All	15	12	127496	6.49	3.34	0.69	1.86	MC*OE
C	All	8	5	127496	3.09	2.32	0.62	1.43	MC*OE
D	All	9	9	127496	4.97	2.23	0.68	1.27	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	52	43	62277	26.34	11.19	0.90	3.45	MC*OE
Total	Male	52	43	65219	25.45	11.72	0.91	3.45	MC*OE
A	Female	20	17	62277	11.43	4.83	0.79	2.19	MC*OE
A	Male	20	17	65219	11.24	5.04	0.81	2.18	MC*OE
B	Female	15	12	62277	6.60	3.26	0.68	1.84	MC*OE
B	Male	15	12	65219	6.39	3.40	0.70	1.87	MC*OE
C	Female	8	5	62277	3.18	2.30	0.61	1.44	MC*OE
C	Male	8	5	65219	3.00	2.34	0.64	1.41	MC*OE
D	Female	9	9	62277	5.12	2.19	0.67	1.26	MC
D	Male	9	9	65219	4.82	2.26	0.68	1.28	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	52	43	203	23.32	10.43	0.89	3.46	MC*OE
Total	African American	52	43	18561	18.04	8.31	0.85	3.27	MC*OE
Total	Hispanic	52	43	15713	20.35	9.45	0.87	3.37	MC*OE
Total	White	52	43	82121	28.29	11.10	0.90	3.44	MC*OE
Total	Multiple Ethnicities	52	43	5604	23.88	11.18	0.90	3.44	MC*OE
Total	Asian	52	43	5179	34.87	11.65	0.92	3.31	MC*OE
Total	Pacific Islander	52	43	115	25.77	11.33	0.90	3.52	MC*OE
A	American Indian	20	17	203	10.33	4.55	0.75	2.26	MC*OE
A	African American	20	17	18561	8.02	4.02	0.71	2.18	MC*OE
A	Hispanic	20	17	15713	9.02	4.40	0.74	2.23	MC*OE
A	White	20	17	82121	12.37	4.70	0.79	2.13	MC*OE
A	Multiple Ethnicities	20	17	5604	10.43	4.87	0.79	2.21	MC*OE
A	Asian	20	17	5179	14.91	4.49	0.82	1.89	MC*OE
A	Pacific Islander	20	17	115	11.43	4.96	0.80	2.22	MC*OE
B	American Indian	15	12	203	5.71	3.06	0.66	1.79	MC*OE
B	African American	15	12	18561	4.68	2.47	0.55	1.65	MC*OE
B	Hispanic	15	12	15713	5.17	2.74	0.61	1.71	MC*OE
B	White	15	12	82121	7.02	3.32	0.68	1.89	MC*OE
B	Multiple Ethnicities	15	12	5604	6.08	3.24	0.68	1.84	MC*OE
B	Asian	15	12	5179	9.01	3.74	0.73	1.96	MC*OE
B	Pacific Islander	15	12	115	6.57	3.44	0.69	1.90	MC*OE
C	American Indian	8	5	203	2.66	2.06	0.52	1.42	MC*OE
C	African American	8	5	18561	1.68	1.59	0.46	1.17	MC*OE
C	Hispanic	8	5	15713	2.14	1.87	0.52	1.29	MC*OE
C	White	8	5	82121	3.52	2.32	0.61	1.45	MC*OE
C	Multiple Ethnicities	8	5	5604	2.72	2.23	0.62	1.38	MC*OE
C	Asian	8	5	5179	4.71	2.48	0.65	1.46	MC*OE
C	Pacific Islander	8	5	115	2.94	2.28	0.61	1.42	MC*OE
D	American Indian	9	9	203	4.61	2.20	0.66	1.27	MC
D	African American	9	9	18561	3.67	1.86	0.48	1.34	MC
D	Hispanic	9	9	15713	4.03	1.98	0.55	1.33	MC
D	White	9	9	82121	5.39	2.17	0.67	1.24	MC
D	Multiple Ethnicities	9	9	5604	4.64	2.19	0.65	1.29	MC
D	Asian	9	9	5179	6.24	2.17	0.72	1.15	MC
D	Pacific Islander	9	9	115	4.83	2.16	0.63	1.31	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	22401	16.97	8.37	0.85	3.24	MC*OE
A	Y	20	17	22401	7.46	4.01	0.71	2.14	MC*OE
B	Y	15	12	22401	4.34	2.43	0.54	1.64	MC*OE
C	Y	8	5	22401	1.66	1.65	0.51	1.16	MC*OE
D	Y	9	9	22401	3.52	1.87	0.48	1.34	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	4067	16.10	6.87	0.79	3.18	MC*OE
A	Y	20	17	4067	7.13	3.54	0.64	2.13	MC*OE
B	Y	15	12	4067	4.10	2.04	0.40	1.58	MC*OE
C	Y	8	5	4067	1.49	1.42	0.39	1.11	MC*OE
D	Y	9	9	4067	3.39	1.73	0.38	1.36	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	59553	21.09	9.73	0.88	3.38	MC*OE
A	Y	20	17	59553	9.35	4.49	0.75	2.22	MC*OE
B	Y	15	12	59553	5.31	2.80	0.62	1.73	MC*OE
C	Y	8	5	59553	2.24	1.94	0.55	1.30	MC*OE
D	Y	9	9	59553	4.18	2.03	0.58	1.32	MC

Grade 7 Mathematics

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	52	43	125808	24.23	11.18	0.92	3.23	MC*OE
A	All	21	18	125808	10.36	4.90	0.84	1.97	MC*OE
B	All	14	11	125808	7.09	3.42	0.73	1.78	MC*OE
C	All	9	6	125808	2.82	2.10	0.57	1.38	MC*OE
D	All	8	8	125808	3.96	2.01	0.62	1.25	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	52	43	61413	24.51	11.00	0.91	3.23	MC*OE
Total	Male	52	43	64395	23.97	11.34	0.92	3.23	MC*OE
A	Female	21	18	61413	10.34	4.81	0.83	1.97	MC*OE
A	Male	21	18	64395	10.37	4.98	0.84	1.97	MC*OE
B	Female	14	11	61413	7.35	3.36	0.72	1.78	MC*OE
B	Male	14	11	64395	6.85	3.46	0.74	1.78	MC*OE
C	Female	9	6	61413	2.83	2.09	0.56	1.38	MC*OE
C	Male	9	6	64395	2.81	2.11	0.57	1.38	MC*OE
D	Female	8	8	61413	3.99	2.00	0.61	1.25	MC
D	Male	8	8	64395	3.94	2.03	0.62	1.24	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	52	43	183	21.57	10.43	0.91	3.20	MC*OE
Total	African American	52	43	17890	16.91	8.16	0.86	3.08	MC*OE
Total	Hispanic	52	43	14955	18.38	9.13	0.88	3.14	MC*OE
Total	White	52	43	82557	26.47	10.86	0.91	3.24	MC*OE
Total	Multiple Ethnicities	52	43	5068	22.45	10.76	0.91	3.22	MC*OE
Total	Asian	52	43	5046	32.75	11.41	0.92	3.13	MC*OE
Total	Pacific Islander	52	43	109	25.19	10.31	0.90	3.22	MC*OE
A	American Indian	21	18	183	9.32	4.73	0.82	2.00	MC*OE
A	African American	21	18	17890	7.31	3.85	0.74	1.95	MC*OE
A	Hispanic	21	18	14955	7.91	4.18	0.78	1.97	MC*OE
A	White	21	18	82557	11.29	4.75	0.83	1.95	MC*OE
A	Multiple Ethnicities	21	18	5068	9.64	4.77	0.83	1.98	MC*OE
A	Asian	21	18	5046	13.96	4.74	0.85	1.82	MC*OE
A	Pacific Islander	21	18	109	10.61	4.56	0.81	1.98	MC*OE
B	American Indian	14	11	183	6.39	3.36	0.73	1.76	MC*OE
B	African American	14	11	17890	5.07	2.74	0.63	1.66	MC*OE
B	Hispanic	14	11	14955	5.50	2.99	0.67	1.71	MC*OE
B	White	14	11	82557	7.70	3.33	0.72	1.77	MC*OE
B	Multiple Ethnicities	14	11	5068	6.59	3.34	0.72	1.77	MC*OE
B	Asian	14	11	5046	9.57	3.29	0.74	1.68	MC*OE
B	Pacific Islander	14	11	109	7.67	2.99	0.64	1.79	MC*OE
C	American Indian	9	6	183	2.28	1.85	0.56	1.23	MC*OE
C	African American	9	6	17890	1.70	1.47	0.40	1.14	MC*OE
C	Hispanic	9	6	14955	1.94	1.65	0.47	1.20	MC*OE
C	White	9	6	82557	3.15	2.12	0.55	1.43	MC*OE
C	Multiple Ethnicities	9	6	5068	2.53	1.97	0.55	1.33	MC*OE
C	Asian	9	6	5046	4.23	2.43	0.59	1.55	MC*OE
C	Pacific Islander	9	6	109	2.90	2.04	0.58	1.32	MC*OE
D	American Indian	8	8	183	3.58	1.89	0.55	1.27	MC
D	African American	8	8	17890	2.84	1.64	0.39	1.28	MC
D	Hispanic	8	8	14955	3.03	1.76	0.47	1.28	MC
D	White	8	8	82557	4.33	1.97	0.61	1.23	MC
D	Multiple Ethnicities	8	8	5068	3.69	1.98	0.59	1.26	MC
D	Asian	8	8	5046	4.99	2.08	0.69	1.16	MC
D	Pacific Islander	8	8	109	4.02	1.96	0.59	1.25	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	21630	15.33	7.51	0.84	3.04	MC*OE
A	Y	21	18	21630	6.59	3.55	0.70	1.94	MC*OE
B	Y	14	11	21630	4.48	2.51	0.58	1.62	MC*OE
C	Y	9	6	21630	1.59	1.41	0.39	1.10	MC*OE
D	Y	8	8	21630	2.66	1.62	0.39	1.27	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	4043	14.48	6.60	0.80	2.98	MC*OE
A	Y	21	18	4043	6.34	3.18	0.64	1.92	MC*OE
B	Y	14	11	4043	4.42	2.39	0.56	1.59	MC*OE
C	Y	9	6	4043	1.38	1.30	0.35	1.05	MC*OE
D	Y	8	8	4043	2.35	1.46	0.26	1.25	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	56841	19.40	9.44	0.89	3.17	MC*OE
A	Y	21	18	56841	8.36	4.30	0.79	1.98	MC*OE
B	Y	14	11	56841	5.75	3.04	0.68	1.73	MC*OE
C	Y	9	6	56841	2.08	1.73	0.49	1.24	MC*OE
D	Y	8	8	56841	3.23	1.80	0.49	1.28	MC

Grade 8 Mathematics

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	52	43	123186	25.59	11.54	0.91	3.40	MC*OE
A	All	7	7	123186	3.42	1.84	0.59	1.18	MC
B	All	28	22	123186	14.45	6.81	0.86	2.56	MC*OE
C	All	10	7	123186	4.01	2.34	0.57	1.53	MC*OE
D	All	7	7	123186	3.72	1.81	0.60	1.14	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	52	43	59849	26.46	11.14	0.91	3.41	MC*OE
Total	Male	52	43	63337	24.78	11.85	0.92	3.39	MC*OE
A	Female	7	7	59849	3.51	1.81	0.57	1.18	MC
A	Male	7	7	63337	3.33	1.86	0.60	1.18	MC
B	Female	28	22	59849	14.99	6.57	0.85	2.56	MC*OE
B	Male	28	22	63337	13.94	7.00	0.87	2.55	MC*OE
C	Female	10	7	59849	4.13	2.30	0.55	1.55	MC*OE
C	Male	10	7	63337	3.90	2.38	0.60	1.51	MC*OE
D	Female	7	7	59849	3.83	1.77	0.59	1.13	MC
D	Male	7	7	63337	3.61	1.83	0.61	1.14	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	52	43	182	23.52	11.45	0.91	3.36	MC*OE
Total	African American	52	43	17389	18.24	8.72	0.86	3.23	MC*OE
Total	Hispanic	52	43	14437	19.66	9.73	0.89	3.30	MC*OE
Total	White	52	43	81606	27.75	11.15	0.91	3.39	MC*OE
Total	Multiple Ethnicities	52	43	4490	23.47	11.13	0.91	3.39	MC*OE
Total	Asian	52	43	4988	35.11	11.53	0.92	3.21	MC*OE
Total	Pacific Islander	52	43	94	25.54	12.34	0.93	3.35	MC*OE
A	American Indian	7	7	182	3.24	1.83	0.59	1.18	MC
A	African American	7	7	17389	2.56	1.56	0.40	1.20	MC
A	Hispanic	7	7	14437	2.73	1.65	0.47	1.20	MC
A	White	7	7	81606	3.66	1.82	0.58	1.18	MC
A	Multiple Ethnicities	7	7	4490	3.17	1.79	0.56	1.19	MC
A	Asian	7	7	4988	4.65	1.84	0.66	1.08	MC
A	Pacific Islander	7	7	94	3.44	1.92	0.63	1.17	MC
B	American Indian	28	22	182	13.14	6.76	0.86	2.54	MC*OE
B	African American	28	22	17389	10.23	5.45	0.80	2.42	MC*OE
B	Hispanic	28	22	14437	10.94	5.94	0.83	2.47	MC*OE
B	White	28	22	81606	15.71	6.56	0.85	2.53	MC*OE
B	Multiple Ethnicities	28	22	4490	13.23	6.69	0.85	2.55	MC*OE
B	Asian	28	22	4988	19.82	6.42	0.87	2.35	MC*OE
B	Pacific Islander	28	22	94	14.40	7.22	0.88	2.52	MC*OE
C	American Indian	10	7	182	3.70	2.30	0.59	1.48	MC*OE
C	African American	10	7	17389	2.72	1.72	0.40	1.33	MC*OE
C	Hispanic	10	7	14437	3.03	1.94	0.49	1.39	MC*OE
C	White	10	7	81606	4.37	2.34	0.56	1.55	MC*OE
C	Multiple Ethnicities	10	7	4490	3.61	2.18	0.53	1.49	MC*OE
C	Asian	10	7	4988	5.77	2.59	0.61	1.61	MC*OE
C	Pacific Islander	10	7	94	3.97	2.43	0.63	1.48	MC*OE
D	American Indian	7	7	182	3.43	1.75	0.58	1.14	MC
D	African American	7	7	17389	2.73	1.57	0.44	1.17	MC
D	Hispanic	7	7	14437	2.95	1.65	0.49	1.17	MC
D	White	7	7	81606	4.01	1.75	0.59	1.13	MC
D	Multiple Ethnicities	7	7	4490	3.45	1.79	0.59	1.15	MC
D	Asian	7	7	4988	4.86	1.77	0.66	1.04	MC
D	Pacific Islander	7	7	94	3.73	1.92	0.65	1.14	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	20874	15.93	7.76	0.84	3.14	MC*OE
A	Y	7	7	20874	2.29	1.47	0.35	1.19	MC
B	Y	28	22	20874	8.62	4.82	0.77	2.33	MC*OE
C	Y	10	7	20874	2.52	1.64	0.39	1.28	MC*OE
D	Y	7	7	20874	2.51	1.47	0.36	1.18	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	3760	15.55	7.10	0.81	3.11	MC*OE
A	Y	7	7	3760	2.30	1.41	0.28	1.20	MC
B	Y	28	22	3760	8.50	4.45	0.73	2.30	MC*OE
C	Y	10	7	3760	2.38	1.54	0.34	1.26	MC*OE
D	Y	7	7	3760	2.36	1.40	0.29	1.18	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	52	43	54276	20.71	9.94	0.89	3.33	MC*OE
A	Y	7	7	54276	2.84	1.68	0.49	1.20	MC
B	Y	28	22	54276	11.62	6.06	0.83	2.50	MC*OE
C	Y	10	7	54276	3.18	1.99	0.50	1.41	MC*OE
D	Y	7	7	54276	3.07	1.66	0.50	1.17	MC

Grade 4 Science

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	48	43	123093	25.94	9.42	0.89	3.10	MC*SCR
A	All	25	22	123093	14.18	5.28	0.82	2.22	MC*SCR
B	All	9	8	123093	4.67	2.15	0.62	1.33	MC*SCR
C	All	8	7	123093	3.92	1.91	0.51	1.33	MC*SCR
D	All	6	6	123093	3.17	1.50	0.48	1.08	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	48	43	60402	25.71	9.12	0.88	3.11	MC*SCR
Total	Male	48	43	62691	26.16	9.69	0.90	3.09	MC*SCR
A	Female	25	22	60402	14.18	5.15	0.81	2.23	MC*SCR
A	Male	25	22	62691	14.18	5.40	0.83	2.21	MC*SCR
B	Female	9	8	60402	4.59	2.11	0.60	1.33	MC*SCR
B	Male	9	8	62691	4.75	2.19	0.63	1.32	MC*SCR
C	Female	8	7	60402	3.82	1.86	0.49	1.33	MC*SCR
C	Male	8	7	62691	4.01	1.95	0.53	1.33	MC*SCR
D	Female	6	6	60402	3.11	1.47	0.46	1.08	MC
D	Male	6	6	62691	3.23	1.52	0.50	1.07	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	48	43	179	23.81	9.65	0.89	3.14	MC*SCR
Total	African American	48	43	18419	19.13	8.10	0.85	3.13	MC*SCR
Total	Hispanic	48	43	15608	21.06	8.72	0.87	3.14	MC*SCR
Total	White	48	43	77870	28.31	8.64	0.87	3.07	MC*SCR
Total	Multiple Ethnicities	48	43	5830	25.12	9.18	0.88	3.12	MC*SCR
Total	Asian	48	43	5096	30.25	9.27	0.90	2.99	MC*SCR
Total	Pacific Islander	48	43	91	24.92	9.30	0.89	3.12	MC*SCR
A	American Indian	25	22	179	13.03	5.44	0.83	2.27	MC*SCR
A	African American	25	22	18419	10.40	4.78	0.78	2.27	MC*SCR
A	Hispanic	25	22	15608	11.49	5.04	0.80	2.27	MC*SCR
A	White	25	22	77870	15.49	4.78	0.79	2.18	MC*SCR
A	Multiple Ethnicities	25	22	5830	13.75	5.19	0.81	2.24	MC*SCR
A	Asian	25	22	5096	16.59	5.04	0.82	2.12	MC*SCR
A	Pacific Islander	25	22	91	13.73	5.03	0.80	2.27	MC*SCR
B	American Indian	9	8	179	4.28	2.17	0.61	1.35	MC*SCR
B	African American	9	8	18419	3.49	1.93	0.53	1.32	MC*SCR
B	Hispanic	9	8	15608	3.82	2.02	0.56	1.33	MC*SCR
B	White	9	8	77870	5.08	2.06	0.59	1.32	MC*SCR
B	Multiple Ethnicities	9	8	5830	4.56	2.11	0.60	1.33	MC*SCR
B	Asian	9	8	5096	5.46	2.15	0.64	1.29	MC*SCR
B	Pacific Islander	9	8	91	4.35	2.23	0.64	1.34	MC*SCR
C	American Indian	8	7	179	3.60	1.95	0.55	1.31	MC*SCR
C	African American	8	7	18419	2.91	1.67	0.39	1.30	MC*SCR
C	Hispanic	8	7	15608	3.19	1.80	0.47	1.31	MC*SCR
C	White	8	7	77870	4.27	1.85	0.48	1.34	MC*SCR
C	Multiple Ethnicities	8	7	5830	3.78	1.86	0.48	1.34	MC*SCR
C	Asian	8	7	5096	4.54	1.93	0.53	1.32	MC*SCR
C	Pacific Islander	8	7	91	3.75	1.96	0.57	1.29	MC*SCR
D	American Indian	6	6	179	2.91	1.45	0.42	1.10	MC
D	African American	6	6	18419	2.34	1.35	0.32	1.11	MC
D	Hispanic	6	6	15608	2.57	1.41	0.39	1.10	MC
D	White	6	6	77870	3.46	1.44	0.45	1.06	MC
D	Multiple Ethnicities	6	6	5830	3.02	1.48	0.47	1.08	MC
D	Asian	6	6	5096	3.66	1.51	0.53	1.04	MC
D	Pacific Islander	6	6	91	3.10	1.42	0.42	1.08	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	48	43	22143	19.96	8.88	0.88	3.13	MC*SCR
A	Y	25	22	22143	10.80	5.10	0.80	2.26	MC*SCR
B	Y	9	8	22143	3.66	2.03	0.58	1.33	MC*SCR
C	Y	8	7	22143	2.99	1.80	0.48	1.30	MC*SCR
D	Y	6	6	22143	2.51	1.43	0.40	1.11	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	48	43	5605	17.84	7.43	0.82	3.13	MC*SCR
A	Y	25	22	5605	9.75	4.50	0.75	2.27	MC*SCR
B	Y	9	8	5605	3.23	1.79	0.46	1.31	MC*SCR
C	Y	8	7	5605	2.67	1.61	0.37	1.28	MC*SCR
D	Y	6	6	5605	2.19	1.29	0.26	1.11	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	48	43	60114	22.22	8.85	0.87	3.15	MC*SCR
A	Y	25	22	60114	12.13	5.08	0.80	2.27	MC*SCR
B	Y	9	8	60114	4.02	2.05	0.58	1.33	MC*SCR
C	Y	8	7	60114	3.36	1.81	0.47	1.32	MC*SCR
D	Y	6	6	60114	2.71	1.43	0.40	1.10	MC

Grade 8 Science

Reporting Category	Overall	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	All	48	43	122654	25.13	8.81	0.88	3.03	MC*SCR
A	All	25	23	122654	13.31	5.10	0.81	2.22	MC*SCR
B	All	8	6	122654	3.96	1.71	0.52	1.19	MC*SCR
C	All	8	7	122654	4.33	1.82	0.57	1.19	MC*SCR
D	All	7	7	122654	3.54	1.61	0.45	1.19	MC

Reporting Category	Gender	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Female	48	43	59582	25.64	8.27	0.87	3.03	MC*SCR
Total	Male	48	43	63072	24.65	9.26	0.89	3.01	MC*SCR
A	Female	25	23	59582	13.67	4.86	0.79	2.22	MC*SCR
A	Male	25	23	63072	12.96	5.29	0.83	2.21	MC*SCR
B	Female	8	6	59582	4.13	1.66	0.49	1.19	MC*SCR
B	Male	8	6	63072	3.80	1.75	0.54	1.18	MC*SCR
C	Female	8	7	59582	4.30	1.72	0.51	1.20	MC*SCR
C	Male	8	7	63072	4.35	1.90	0.62	1.18	MC*SCR
D	Female	7	7	59582	3.54	1.54	0.40	1.19	MC
D	Male	7	7	63072	3.54	1.67	0.49	1.19	MC

Reporting Category	Ethnicity	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	American Indian	48	43	182	23.95	8.78	0.88	3.01	MC*SCR
Total	African American	48	43	17252	19.04	7.47	0.83	3.05	MC*SCR
Total	Hispanic	48	43	14363	20.36	8.16	0.86	3.06	MC*SCR
Total	White	48	43	81316	27.03	8.22	0.87	3.01	MC*SCR
Total	Multiple Ethnicities	48	43	4465	23.66	8.75	0.88	3.04	MC*SCR
Total	Asian	48	43	4982	30.30	8.22	0.87	2.92	MC*SCR
Total	Pacific Islander	48	43	94	25.06	9.13	0.89	3.03	MC*SCR
A	American Indian	25	23	182	12.79	5.13	0.82	2.19	MC*SCR
A	African American	25	23	17252	9.93	4.38	0.75	2.21	MC*SCR
A	Hispanic	25	23	14363	10.66	4.73	0.78	2.23	MC*SCR
A	White	25	23	81316	14.36	4.80	0.79	2.21	MC*SCR
A	Multiple Ethnicities	25	23	4465	12.49	5.05	0.81	2.22	MC*SCR
A	Asian	25	23	4982	16.18	4.74	0.80	2.13	MC*SCR
A	Pacific Islander	25	23	94	13.28	4.98	0.80	2.23	MC*SCR
B	American Indian	8	6	182	3.66	1.67	0.50	1.18	MC*SCR
B	African American	8	6	17252	3.06	1.64	0.46	1.21	MC*SCR
B	Hispanic	8	6	14363	3.23	1.70	0.50	1.20	MC*SCR
B	White	8	6	81316	4.24	1.62	0.48	1.18	MC*SCR
B	Multiple Ethnicities	8	6	4465	3.75	1.72	0.52	1.19	MC*SCR
B	Asian	8	6	4982	4.73	1.61	0.46	1.18	MC*SCR
B	Pacific Islander	8	6	94	4.10	1.65	0.43	1.24	MC*SCR
C	American Indian	8	7	182	4.22	1.82	0.57	1.19	MC*SCR
C	African American	8	7	17252	3.33	1.65	0.44	1.23	MC*SCR
C	Hispanic	8	7	14363	3.55	1.75	0.51	1.22	MC*SCR
C	White	8	7	81316	4.64	1.74	0.54	1.18	MC*SCR
C	Multiple Ethnicities	8	7	4465	4.10	1.80	0.56	1.20	MC*SCR
C	Asian	8	7	4982	5.15	1.76	0.59	1.13	MC*SCR
C	Pacific Islander	8	7	94	4.36	2.01	0.66	1.17	MC*SCR
D	American Indian	7	7	182	3.28	1.63	0.47	1.19	MC
D	African American	7	7	17252	2.71	1.44	0.31	1.20	MC
D	Hispanic	7	7	14363	2.93	1.51	0.37	1.20	MC
D	White	7	7	81316	3.79	1.56	0.42	1.19	MC
D	Multiple Ethnicities	7	7	4465	3.32	1.60	0.44	1.19	MC
D	Asian	7	7	4982	4.24	1.54	0.44	1.15	MC
D	Pacific Islander	7	7	94	3.33	1.71	0.53	1.18	MC

Reporting Category	IEP	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	48	43	20724	17.69	7.53	0.84	3.03	MC*SCR
A	Y	25	23	20724	9.08	4.29	0.74	2.20	MC*SCR
B	Y	8	6	20724	2.77	1.61	0.45	1.20	MC*SCR
C	Y	8	7	20724	3.17	1.71	0.48	1.23	MC*SCR
D	Y	7	7	20724	2.67	1.51	0.37	1.20	MC

Reporting Category	EL	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	48	43	3759	15.51	6.01	0.75	3.02	MC*SCR
A	Y	25	23	3759	8.09	3.52	0.62	2.17	MC*SCR
B	Y	8	6	3759	2.36	1.49	0.35	1.20	MC*SCR
C	Y	8	7	3759	2.67	1.49	0.31	1.23	MC*SCR
D	Y	7	7	3759	2.40	1.34	0.20	1.20	MC

Reporting Category	Low Income	Total Points	N Items	N	Mean	SD	r	SEM	Item Type(s)
Total	Y	48	43	53966	21.44	8.29	0.86	3.06	MC*SCR
A	Y	25	23	53966	11.24	4.80	0.78	2.23	MC*SCR
B	Y	8	6	53966	3.41	1.70	0.50	1.20	MC*SCR
C	Y	8	7	53966	3.72	1.76	0.52	1.22	MC*SCR
D	Y	7	7	53966	3.07	1.54	0.39	1.20	MC

APPENDIX Q: HISTORICAL STATISTICS

The tables included in this appendix present the historical statistics for number of examinees (N Count), the mean, standard deviation (SD), and maximum (Max) for raw scores and scaled scores, in addition to the percentage of students by performance level (Below Basic, Basic, Proficient, Advanced) and the percentage of students earning either proficient or advanced scores. Scaled scores remain on the same scale of measurement, and therefore, can be compared across years. Raw scores, on the other hand, cannot be compared across tests or administrations because the difficulty of the items on a test can vary across years and also due to the reduction is test length in 2018.The asterisk (*) indicates that the maximum raw score varies between 2017 and 2018 administration years due to the reduction in test length, and also indicates that the maximum earned scaled score may vary across all administrations.

Mathematics Grade 3

	2015	2016	2017	2018	2019
N Count	125309	125420	125205	122563	120604
Raw Score Mean	39.1	45.8	42.4	27.0	28.5
Raw Score SD	14.6	14.7	15.9	11.7	11.7
Raw Score Max*	72	72	72	52	52
Scaled Score Mean	1008.1	1018.1	1019.9	1017.4	1026.4
Scaled Score SD	120.5	131.5	129.7	123.1	124.9
Scaled Score Max*	1594	1564	1561	1545	1530
Percentage Bel. Basic	28.0	24.6	25.9	24.5	22.4
Percentage Basic	23.5	21.0	19.7	21.4	21.6
Percentage Proficient	28.5	28.1	28.4	31.4	29.3
Percentage Advanced	20.0	26.3	26.0	22.7	26.7
Percentage Prof. + Adv.	48.5	54.4	54.5	54.1	56.0

Mathematics Grade 4

	2015	2016	2017	2018	2019
N Count	124201	123940	125575	126481	123286
Raw Score Mean	34.6	42.9	40.5	25.8	26.7
Raw Score SD	14.3	15.6	15.1	11.7	11.3
Raw Score Max*	72	72	72	52	52
Scaled Score Mean	995.5	994.1	993.6	987.9	994.2
Scaled Score SD	108.8	127.7	118.7	120.5	124.1
Scaled Score Max*	1627	1518	1529	1514	1532
Percentage Bel. Basic	24.8	27.6	26.1	29.8	26.1
Percentage Basic	30.8	25.9	27.3	26.7	27.7
Percentage Proficient	27.5	26.7	28.5	25.8	27.2
Percentage Advanced	16.9	19.8	18.1	17.8	19.0
Percentage Prof. + Adv.	44.5	46.5	46.6	43.5	46.2

Mathematics Grade 5

	2015	2016	2017	2018	2019
N Count	126683	122983	124405	126868	127592
Raw Score Mean	35.7	38.2	37.7	26.5	24.4
Raw Score SD	15.0	16.1	15.3	11.8	11.2
Raw Score Max*	72	72	72	52	52
Scaled Score Mean	987.2	993.3	991.8	991.8	991.8
Scaled Score SD	119.9	124.5	119.7	126.1	117.5
Scaled Score Max*	1594	1548	1550	1515	1601
Percentage Bel. Basic	25.9	28.0	24.8	28.7	23.3
Percentage Basic	31.3	27.6	31.4	26.1	33.7
Percentage Proficient	27.4	25.9	27.5	27.4	27.2
Percentage Advanced	15.4	18.5	16.2	17.8	15.8
Percentage Prof. + Adv.	42.8	44.4	43.8	45.2	43.1

Mathematics Grade 6

	2015	2016	2017	2018	2019
N Count	126413	125305	123112	125385	127496
Raw Score Mean	38.5	42.0	36.7	26.6	25.9
Raw Score SD	13.7	15.9	15.2	11.3	11.5
Raw Score Max*	72	72	72	52	52
Scaled Score Mean	976.1	977.8	976.3	976.3	979.6
Scaled Score SD	104.7	129.9	115.6	117.6	119.4
Scaled Score Max*	1531	1515	1534	1490	1500
Percentage Bel. Basic	25.2	30.1	29.1	29.7	25.9
Percentage Basic	35.1	28.8	30.6	30.8	35.1
Percentage Proficient	28.4	24.1	26.1	24.8	23.2
Percentage Advanced	11.3	16.9	14.1	14.7	15.8
Percentage Prof. + Adv.	39.7	41.0	40.3	39.6	39.0

Mathematics Grade 7

	2015	2016	2017	2018	2019
N Count	126299	124959	125584	124225	125808
Raw Score Mean	35.2	36.9	36.2	26.4	24.2
Raw Score SD	14.3	15.8	16.0	11.9	11.2
Raw Score Max*	72	72	72	52	52
Scaled Score Mean	961.5	968.1	968.6	967.3	965.6
Scaled Score SD	104.0	120.4	126.7	134.2	120.1
Scaled Score Max*	1536	1541	1551	1522	1536
Percentage Bel. Basic	33.5	34.9	37.0	37.8	35.8
Percentage Basic	33.4	28.1	25.2	23.3	26.0
Percentage Proficient	23.4	23.7	22.1	22.8	24.3
Percentage Advanced	9.6	13.3	15.7	16.2	13.9
Percentage Prof. + Adv.	33.1	37.0	37.8	38.9	38.2

Mathematics Grade 8

	2015	2016	2017	2018	2019
N Count	128859	123175	123271	124780	123186
Raw Score Mean	33.2	37.8	35.9	26.7	25.6
Raw Score SD	13.4	14.9	15.2	11.5	11.5
Raw Score Max*	72	72	72	52	52
Scaled Score Mean	950.5	949.1	953.5	948.4	950.3
Scaled Score SD	101.2	123.0	118.3	123.4	116.5
Scaled Score Max*	1558	1662	1618	1638	1470
Percentage Bel. Basic	37.7	40.2	39.7	41.1	39.6
Percentage Basic	32.6	28.6	27.8	27.9	28.2
Percentage Proficient	21.8	20.7	21.9	20.2	22.3
Percentage Advanced	8.0	10.5	10.6	10.8	9.9
Percentage Prof. + Adv.	29.8	31.2	32.5	31.1	32.2

English Language Arts Grade 3

	2015	2016	2017	2018	2019
N Count	125160	125284	124923	122397	120564
Raw Score Mean	36.2	36.1	35.7	24.8	24.6
Raw Score SD	10.9	11.5	11.4	8.9	9.1
Raw Score Max*	62	62	62	45	45
Scaled Score Mean	1026.7	1031.5	1039.3	1042.1	1039
Scaled Score SD	102.6	111.5	111.2	108.3	108.9
Scaled Score Max*	1586	1628	1680	1551	1544
Percentage Bel. Basic	13.4	13.6	12.1	10.4	11.4
Percentage Basic	24.6	25.5	23.3	26.1	26.6
Percentage Proficient	49.0	45.7	47.6	44.4	45.4
Percentage Advanced	13.0	15.2	17.1	19.1	16.5
Percentage Prof. + Adv.	62.0	60.9	64.6	63.5	61.9

English Language Arts Grade 4

	2015	2016	2017	2018	2019
N Count	123986	123597	125200	126223	123172
Raw Score Mean	46.6	48.1	48.4	34.2	35.4
Raw Score SD	14.8	14.6	14.8	11.7	12.3
Raw Score Max*	84	84	84	63	63
Scaled Score Mean	1021.1	1025.3	1030.5	1029.6	1035
Scaled Score SD	112.5	116.8	112.7	109.9	112.8
Scaled Score Max*	1724	1798	1714	1652	1636
Percentage Bel. Basic	12.9	12.2	10.9	9.7	10.3
Percentage Basic	28.5	29.1	28.2	30.6	26.1
Percentage Proficient	37.0	34.0	35.3	34.7	36.3
Percentage Advanced	21.6	24.6	25.7	25.1	27.3
Percentage Prof. + Adv.	58.6	58.7	60.9	59.8	63.6

English Language Arts Grade 5

	2015	2016	2017	2018	2019
N Count	126501	122868	124183	126761	127550
Raw Score Mean	48.7	48.1	46.8	32.5	33.2
Raw Score SD	14.4	14.9	15.0	11.3	11.4
Raw Score Max*	84	84		63	63
Scaled Score Mean	1029.8	1028.9	1029.6	1029.2	1027.2
Scaled Score SD	117.5	116.5	112.3	104.5	107.2
Scaled Score Max*	1730	1728	1723	1685	1647
Percentage Bel. Basic	13.4	14.1	11.5	8.9	9.6
Percentage Basic	24.8	24.5	28.9	31.7	31.8
Percentage Proficient	44.1	45.3	43.2	45.4	42.7
Percentage Advanced	17.8	16.2	16.4	14.0	15.8
Percentage Prof. + Adv.	61.8	61.5	59.6	59.4	58.5

English Language Arts Grade 6

	2015	2016	2017	2018	2019
N Count	126331	125263	123170	125341	127560
Raw Score Mean	50.6	50.4	48.0	34.5	33.9
Raw Score SD	14.6	14.6	14.5	11.6	11.6
Raw Score Max*	84	84	84	63	63
Scaled Score Mean	1028.0	1031.1	1035.1	1041.4	1034.4
Scaled Score SD	116.5	113.6	106.2	110.5	106.8
Scaled Score Max*	1699	1721	1737	1754	1692
Percentage Bel. Basic	10.0	8.6	6.9	5.3	5.7
Percentage Basic	29.4	29.8	29.5	32.2	31.3
Percentage Proficient	39.4	38.9	41.4	36.3	42.2
Percentage Advanced	21.3	22.7	22.2	26.2	20.8
Percentage Prof. + Adv.	60.7	61.6	63.6	62.5	63.0

English Language Arts Grade 7

	2015	2016	2017	2018	2019
N Count	126228	124961	125744	124226	125998
Raw Score Mean	50.5	49.0	47.1	35.0	34.0
Raw Score SD	14.1	13.9	15.0	11.5	10.6
Raw Score Max*	84	84	84	63	63
Scaled Score Mean	1023.4	1028.7	1031.7	1032.5	1026.3
Scaled Score SD	112.6	110.4	113.5	105.8	96.9
Scaled Score Max*	1652	1720	1724	1641	1639
Percentage Bel. Basic	6.4	5.0	3.6	2.5	2.6
Percentage Basic	34.9	33.5	36.9	35.5	36.9
Percentage Proficient	41.7	43.3	40.1	44.3	45.6
Percentage Advanced	16.9	18.1	19.3	17.7	14.9
Percentage Prof. + Adv.	58.7	61.5	59.5	61.9	60.4

English Language Arts Grade 8

	2015	2016	2017	2018	2019
N Count	128889	123275	123653	124907	123503
Raw Score Mean	51.2	52.2	49.0	35.6	36.7
Raw Score SD	14.2	14.5	14.6	11.6	12.3
Raw Score Max*	84	84	84	63	63
Scaled Score Mean	1020.2	1026.0	1025.0	1027.5	1024.2
Scaled Score SD	107.3	116.2	108.9	101.4	115.8
Scaled Score Max*	1636	1677	1677	1640	1699
Percentage Bel. Basic	10.9	11.3	10.5	7.8	11.9
Percentage Basic	31.1	30.4	30.6	30.6	30.2
Percentage Proficient	43.5	40.9	42.9	47.1	41.9
Percentage Advanced	14.5	17.5	15.9	14.4	16.0
Percentage Prof. + Adv.	58.0	58.3	58.9	61.5	57.9

Science Grade 4

	2015	2016	2017	2018	2019
N Count	124309	123818	125488	126353	123093
Raw Score Mean	46.6	47.8	37.2	25.2	25.9
Raw Score SD	13.2	13.4	13.3	9.4	9.4
Raw Score Max*	68	68	68	48	48
Scaled Score Mean	1426.7	1424.6	1406.1	1412.6	1424.2
Scaled Score SD	198.9	206.3	170.9	173.6	174.2
Scaled Score Max*	2247	2208	2344	2321	2309
Percentage Bel. Basic	10.5	11.7	5.3	5.4	5.0
Percentage Basic	12.2	12.2	20.2	19.1	17.2
Percentage Proficient	36.1	36.7	41.6	39.7	39.0
Percentage Advanced	41.2	39.5	33.0	35.8	38.8
Percentage Prof. + Adv.	77.3	76.2	74.5	75.5	77.8

Science Grade 8

	2015	2016	2017	2018	2019
N Count	128733	122955	122716	124417	122654
Raw Score Mean	45.1	44.5	34.9	23.9	25.1
Raw Score SD	13.6	14.1	13.3	9.2	8.8
Raw Score Max*	68	68	68	48	48
Scaled Score Mean	1317.1	1310.4	1299.3	1305.2	1314.9
Scaled Score SD	207.6	219.2	184.0	180.9	184.2
Scaled Score Max*	2230	2278	2416	2337	2406
Percentage Bel. Basic	23.2	25.6	25.0	22.2	20.0
Percentage Basic	18.1	16.8	22.4	23.9	21.9
Percentage Proficient	31.8	30.3	31.5	33.5	35.1
Percentage Advanced	27.0	27.3	21.2	20.4	23.1
Percentage Prof. + Adv.	58.8	57.6	52.7	53.9	58.2

APPENDIX R: PSSA SCORE REPORT DEVELOPMENT

PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT (PSSA)

BACKGROUND

An important aspect of the PSSA transition to the Pennsylvania Core Standard (PCS) is the need to produce revised score reports to support the newly-aligned assessments, specifically the introduction of an English Language Arts assessment with dual reporting of the reading scores and a desire to provide greater detail for the new score reporting categories. PDE also determined that the transition represented an opportunity to reevaluate the score reports as a whole. To that end, PDE and DRC developed a plan to utilize parent and educator focus groups to guide the development of revised PSSA individual student score reports.

This document provides a high-level summary of the focus-group approach that was followed, the feedback that DRC and PDE received, and the direction in which the reports were developed as an output of the process.

THE FOCUS GROUP APPOACH

DRC facilitated seven focus groups at four different locations across the Commonwealth, chosen to provide an opportunity for "geographically-representative" participation.

- A total of 56 educators and 22 parents participated in the seven focus groups.

Prior to the focus groups, DRC collaborated with PDE to select the number and design of the score-report mock-ups that were presented at the focus group meetings.

- Two mock-up designs were selected to give participants an opportunity to visualize key differences ("Sample Student #1" and "Sample Student #2"):
    - Use of the Strength Profile versus a Just-Proficient Mean
    - Reading "Text Types" reported between Reading and Writing versus after Writing
    - ELA dual reporting footnote versions

Focus groups were scheduled for 90 minutes (with the exception of a 120-minute session with the Harrisburg educator group).

- PDE opened each focus group with an overview of the purpose.
- DRC facilitated each session using a survey-question approach (see attached).
    - Participants used the survey to record their individual feedback on particular elements of the report and were also encouraged to share their feedback during the subsequent group discussions.
    - The survey approach ultimately allowed participants to compare and contrast all elements of the two mock-up designs.
    - All written survey feedback was collected and all verbal feedback was recorded by DRC staff.

Some of the main themes of the feedback included (see table on page 4 for additional detail):

- Favorable opinion of the first page with some requests to make information easier to read (larger font, more white space)
    - There were recurring comments against the use of "superior," "satisfactory," "marginal," and "inadequate" in the Performance Level descriptors.

- Consistent input that the information became "overwhelming" with the reporting category definitions appearing within the Score reporting tables
    - There were multiple requests to rewrite the descriptions or move them away from the student's score.
- Majority of the participants preferred the Strength Profile to the Just Proficient Mean
    - Those who preferred the Just Proficient Mean were often still misinterpreting its meaning.
- Majority of the participants preferred to have the Reading Text Types reported after Writing
    - This location was perceived to provide better delineation that the text type score is additional information rather than a direct element of the total ELA score.

After the focus groups were completed, DRC compiled the feedback for PDE to review and make recommendations. A summary of the feedback is found in the table below.

Focus Group	Strength Profile	Just Proficient Mean	Other, Both, or NR	Text Types Table Placed Directly After the Reading Table	Text Types Table Placed After the Entire ELA Reporting Table	Neither, Other, or NR	ELA Dual Reporting Footnote – Version 1	ELA Dual Reporting Footnote – Version 2	Neither, Other, or NR
IU #4 – Educators (13)	11	2	0	1	8	4	2	9	2
IU #4 – Parents (4)	1	3	0	0	4	0	0	4	0
IU #10 – Educators (12)	9	2	1	1	8	3	1	8	3
IU #10 – Parents (10)	8	2	0	2	8	0	2	7	1
Philadelphia – Educators (8)	4	4	0	3	5	0	3	5	0
Philadelphia – Parents (8)	3	2	3	0	5	3	0	4	4
Harrisburg – Educators (23)	17	4	2	0	22	1	0	21	2
Total	53	19	6	7	60	11	8	58	12

A single, revised mock-up was produced to reflect the following PDE recommendations ("Sample Student 3"):

- Minor changes to Page 1 (re-arrangement, spacing, font size)
- Just Proficient Mean eliminated
- Reading Text Types reported after Writing
- All subjects reported on pages 2 and 3 with Reporting Category definitions moved to page 4

The educator focus group participants were invited to a WebEx to view the revised mock-up, provide input, and respond to a survey question about removing the Strength Profile altogether.

- DRC highlighted the changes on the revised mock up and reviewed an alternate design with the Strength Profile removed.
    - All final changes were viewed favorably by the WebEx attendees (especially the new placement of the Reporting Category definitions on page 4).
    - All-but one attendee voted to retain the Strength Profile.

The final mock-up reviewed at the WebEx was used as a basis for the development and production of the 2015 student reports. The following materials are found on the next several pages of this appendix.

- The Focus Group Survey (Parent version – Educator differed only in the "Participant Information")
- Student 1 Score Report (reviewed at the focus groups)
- Student 2 Score Report (reviewed at the focus groups)
- Student 3 Score Report (reviewed with the educators at the follow-up WebEx)

SURVEY QUESTIONS FROM PARENT FOCUS GROUP

PARTICIPANT INFORMATION

Name of student's school _____

Is this school ____ rural _____ urban ____ suburban?

Grade(s) of your student(s) _____

STUDENT REPORT VERSION 1–PAGE 1

After reviewing page 1 of the PSSA Student Report version 1, please respond to questions 1–2. A group discussion will follow.

1. How easy/difficult is it to determine how the sample student performed on the PSSA for Mathematics, English Language Arts (ELA), and Science?

   _____ very difficult
   _____ somewhat difficult
   _____ somewhat easy
   _____ very easy

   Please briefly explain why you rated this item as you did.
   _____
   _____
   _____

2. How would you rate the **readability** of page 1 of the PSSA report (e.g., font size, placement of student information, performance level definitions)?

   _____ not readable
   _____ somewhat readable
   _____ mostly readable
   _____ very readable

   Please briefly explain why you rated this item as you did.
   _____
   _____
   _____

REPORTING TABLES VERSION 1–PAGES 2, 3, AND 4

After reviewing pages 2–4 of the PSSA Student Report version 1, please respond to questions 3–7. A group discussion will follow.

3. Overall, how easy/difficult is it to understand the information in the tables (e.g., descriptions of reporting categories, the student's points, total points possible, strength profile)?

   _____ very difficult
   _____ somewhat difficult
   _____ somewhat easy
   _____ very easy

   Please briefly explain why you rated this item as you did.
   _____

   _____

   _____

4. How well did you understand the Strength Profile (high, medium, or low) ratings and the footnote information for the Strength Profile?

   _____ not understandable
   _____ somewhat understandable
   _____ mostly understandable
   _____ very understandable

   Please briefly explain why you rated this item as you did.
   _____

   _____

   _____

5. In the ELA table on page 3, points are reported for both the Reading Reporting Categories and the Reading Text Types Reporting Categories. How clear is this section of dual reporting?

   _____ not clear
   _____ somewhat clear
   _____ mostly clear
   _____ very clear

   Please briefly explain why you rated this item as you did.
   _____

   _____

OVERALL REPORT FEEDBACK VERSION 1

6. How easy/difficult was it to read and move through the report, find the next section, and find supporting material to understand the student-score information?

   _____ very difficult
   _____ somewhat difficult
   _____ somewhat easy
   _____ very easy

   Please briefly explain why you rated this item as you did.

   _____

   _____

   _____

7. How well did you understand the contents of the report (e.g., performance levels, footnotes, graphics)?

   _____ not understandable
   _____ somewhat understandable
   _____ mostly understandable
   _____ very understandable

   Please briefly explain why you rated this item as you did.

   _____

   _____

   _____

STUDENT REPORT VERSION 2–PAGES 2, 3, AND 4

After reviewing the PSSA Student Report version 2, please respond to questions 1–5. A group discussion will follow.

1. How well did you understand the Just Proficient Mean results on pages 2–4 and the footnote information for the Just Proficient Mean?

   _____ not understandable
   _____ somewhat understandable
   _____ mostly understandable
   _____ very understandable

   Please briefly explain why you rated this item as you did.

   _____

   _____

   _____

2. The reporting tables on pages 2–4 include a Just Proficient Mean for each reporting category. Now look at pages 2–4 of version 1. The reporting tables include a Strength Profile (high, medium, or low) for each reporting category. Which version of the information do you prefer and why?

   _____ version 1
   _____ version 2

   Please explain.

   _____

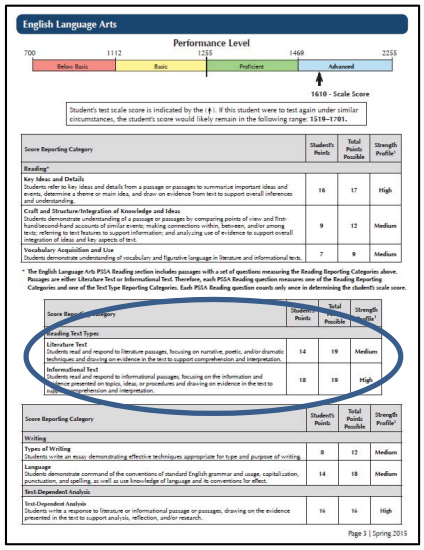
   _____

   _____

ELA REPORT TABLE–PAGE 3 OF VERSION 1 OR VERSION 2?

3. Look at version 1. The Text Types Reporting Category information follows the Reading Reporting Category information. Now look at version 2. The Text Types Reporting Category information is placed at the end of the ELA table. Which version of the order of information do you prefer and why?

_____ version 1 _____ version 2


English Language Arts

Performance Level

700 1112 1258 1469 2255

Below Basic | Basic | Proficient | Advanced

1610 - Scale Score

Student's test scale score is indicated by the (↓). If this student were to test again under similar circumstances, the student's score would likely remain in the following range: 1519–1701.

Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
Reading*			
Key Ideas and Details Students refer to key ideas and details from a passage or passages to summarize important ideas and events, determine a theme or main idea, and draw on evidence from text to support overall inferences and understanding.	16	17	High
Craft and Structure/Integration of Knowledge and Ideas Students demonstrate understanding of a passage or passages by: comparing points of view and first-hand/second-hand accounts of similar events; making connections within, between, and/or among texts; referring to text features to support information; and analyzing use of evidence to support overall integration of ideas and key aspects of text.	9	12	Medium
Vocabulary Acquisition and Use Students demonstrate understanding of vocabulary and figurative language in literature and informational texts.	7	9	Medium

* The English Language Arts PSSA Reading section includes passages with a set of questions measuring the Reading Reporting Categories above. Passages are either Literature Text or Informational Text. Therefore, each PSSA Reading question measures one of the Reading Reporting Categories and one of the Text Type Reporting Categories. Each PSSA Reading question counts only once in determining the student's scale score.

Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
Reading Text Types			
Literature Text Students read and respond to literature passages, focusing on narrative, poetic, and/or dramatic techniques and drawing on evidence in the text to support comprehension and interpretation.	14	19	Medium
Informational Text Students read and respond to informational passages, focusing on the information and evidence presented on topics, ideas, or procedures and drawing on evidence in the text to support comprehension and interpretation.	18	19	High

Score Reporting Category	Student's Points	Total Points Possible	Strength Profile*
Writing			
Types of Writing Students write an essay demonstrating effective techniques appropriate for type and purpose of writing.	8	12	Medium
Language Students demonstrate command of the conventions of standard English grammar and usage, capitalization, punctuation, and spelling, as well as use knowledge of language and its conventions for effect.	14	18	Medium
Text-Dependent Analysis			
Text-Dependent Analysis Students write a response to literature or informational passage or passages, drawing on the evidence presented in the text to support analysis, reflection, and/or research.	14	14	High

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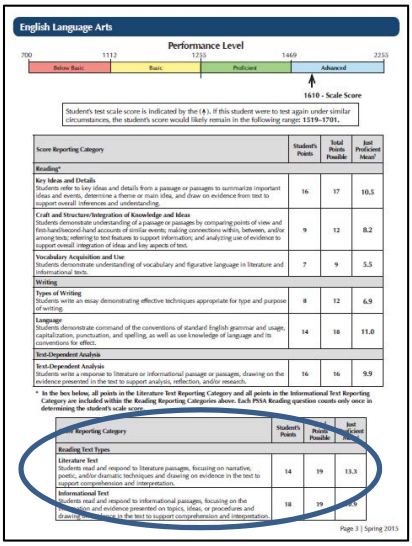
English Language Arts

Performance Level

700 1112 1258 1469 2255

Below Basic | Basic | Proficient | Advanced

1610 - Scale Score

Student's test scale score is indicated by the (↓). If this student were to test again under similar circumstances, the student's score would likely remain in the following range: 1519–1701.

Score Reporting Category	Student's Points	Total Points Possible	Just Proficient Mean*
Reading*			
Key Ideas and Details Students refer to key ideas and details from a passage or passages to summarize important ideas and events, determine a theme or main idea, and draw on evidence from text to support overall inferences and understanding.	16	17	10.5
Craft and Structure/Integration of Knowledge and Ideas Students demonstrate understanding of a passage or passages by comparing points of view and first-hand/second-hand accounts of similar events; making connections within, between, and/or among texts; referring to text features to support information; and analyzing use of evidence to support overall integration of ideas and key aspects of text.	9	12	8.2
Vocabulary Acquisition and Use Students demonstrate understanding of vocabulary and figurative language in literature and informational texts.	7	9	5.5
Writing			
Types of Writing Students write an essay demonstrating effective techniques appropriate for type and purpose of writing.	8	12	6.9
Language Students demonstrate command of the conventions of standard English grammar and usage, capitalization, punctuation, and spelling, as well as use knowledge of language and its conventions for effect.	14	18	11.0
Text-Dependent Analysis			
Text-Dependent Analysis Students write a response to literature or informational passage or passages, drawing on the evidence presented in the text to support analysis, reflection, and/or research.	16	16	9.9

* In the box below, all points in the Literature Text Reporting Category and all points in the Informational Text Reporting Category are included within the Reading Reporting Categories above. Each PSSA Reading question counts only once in determining the student's scale score.

Score Reporting Category	Student's Points	Total Points Possible	Just Proficient Mean*
Reading Text Types			
Literature Text Students read and respond to literature passages, focusing on narrative, poetic, and/or dramatic techniques and drawing on evidence in the text to support comprehension and interpretation.	14	19	13.3
Informational Text Students read and respond to informational passages, focusing on the information and evidence presented on topics, ideas, or procedures and drawing on evidence in the text to support comprehension and interpretation.	18	19	12.9

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Please explain.

_____

_____

_____

_____

_____

_____

_____

_____

_____

4. Which version of the ELA dual reporting footnote do you prefer and why?

_____ version 1

The English Language Arts PSSA Reading section includes passages with a set of questions measuring the Reading Reporting Categories above. Passages are either Literature Text or Informational Text. Therefore, each PSSA Reading question measures one of the Reading Reporting Categories and one of the Text Type Reporting Categories. Each PSSA Reading question counts only once in determining the student's scale score.

_____ version 2

In the box below, all points in the Literature Text Reporting Category and all points in the Informational Text Reporting Category are included within the Reading Reporting Categories above. Each PSSA Reading question counts only once in determining the student's scale score.

Please explain.

_____

_____

_____

REPORT OPTIONS–VERSION 1 OR VERSION 2?

5. Now that you have reviewed the two reports, please select the preferred option from each group below.

_____ Strength Profile information
_____ Just Proficient Mean information

_____ Reading Text Type table placement directly after the Reading score reporting table
_____ Reading Text Type table placement directly after the entire ELA score reporting table

_____ ELA dual reporting footnote – version 1
_____ ELA dual reporting footnote – version 2

Additional Comments and Recommendations

_____

_____

_____

_____

_____

APPENDIX S: INVESTIGATION OF PERSON FIT BY MODE AND SUBGROUP

The PSSA is administered as both a paper-pencil test (PPT) and a computer-based test (CBT). In the Standards for Educational and Psychological Testing, comparability of scores across testing conditions is emphasized to support fairness in testing, stating that, "Comparability of scores enables test users to make comparable inferences based on the scores for all test takers" (AERA et al., 2014, p. 59). Whether students are administered a PPT or CBT, test users must be able to make the same interpretations about student knowledge and skills based on students' scores. Therefore, in any testing program it is important to examine the degree to which mode may influence results.

Although there are several ways to examine the relationship between mode and student scores, sample size undoubtedly impacts the robustness of the results. In the case of PSSA, between 3% and 7% of all administrations are CBTs, where three of the paper-pencil (PPT) forms are offered in a computer-based format. Furthermore, most accommodated forms are administered as CBTs, thus providing additional limitations in the results of a formal mode study. For these reasons, traditional approaches to mode studies may not be feasible or appropriate. The count and proportion of PPT and CBT are shown in Table S-1. Chapter Ten provides additional information of PSSA administrations by mode, accommodations, and student characteristics.

Table S-1. Final N-Counts and Proportion by Mode, 2019

Subject	Grade	Count Paper	Proportion Paper	Count CBT	Proportion CBT
Mathematics	3	116402	96.52%	4202	3.48%
Mathematics	4	118522	96.14%	4764	3.86%
Mathematics	5	120699	94.60%	6893	5.40%
Mathematics	6	120540	94.54%	6956	5.46%
Mathematics	7	118520	94.21%	7288	5.79%
Mathematics	8	115991	94.16%	7195	5.84%
ELA	3	116472	96.61%	4092	3.39%
ELA	4	118530	96.23%	4642	3.77%
ELA	5	120607	94.56%	6943	5.44%
ELA	6	120291	94.30%	7269	5.70%
ELA	7	118148	93.77%	7850	6.23%
ELA	8	115927	93.87%	7576	6.13%
Science	4	117178	95.19%	5915	4.81%
Science	8	113977	92.93%	8677	7.07%

Until online participation reaches sufficiently large sample sizes, any true population differences between scores on the paper- and computer-based modes may be difficult to distinguish from differences that are attributable to sampling and random error. However, in the interim, an analysis of person fit statistics was conducted to gain insight into whether evidence of mode or student subgroup effects exist.

METHOD

Engelhard (2009) provided a framework and methods for defining measurement quality in terms of measurement invariance across conditions and subpopulations as measured by model fit (by item—differential item function and by person—differential person functioning). The method employed used residual analysis to explore differences between observed and expected responses by individuals and groups, under different conditions, and given a specified item response theory (IRT) model. Although they are not exact tests of fit, these methods allow for insight into the invariance properties of an assessment through these types of fit analyses. In this study, the preliminary focus is to examine person fit on the test level.

The IRT model used for the PSSA is based on the work of Georg Rasch. The Rasch partial credit model (RPCM; Wright and Masters, 1982) was used to calibrate PSSA items because both multiple-choice (MC) and open-ended (OE) items were part of the assessment. The RPCM extends the Rasch model (Rasch, 1960) for dichotomous (0, 1) items so that it accommodates the polytomous OE item data. Under the RPCM, for a given item with score categories, the probability of person *n* scoring *x* (*x*=0, 1, 2..., m_i) is given by:

$$P_{ni}(X = x) = \frac{\exp\sum_{j=0}^{x}(\theta_n - D_{ij})}{\sum_{k=0}^{m_i}\exp\sum_{j=0}^{k}(\theta_n - D_{ij})},$$

where θ_n represents a student's proficiency (ability) level, and D_{ij} is the step difficulty of step j on item i. For dichotomous MC items, the RPCM reduces to the standard Rasch model and the single step difficulty is referred to as the item's difficulty. The Rasch model predicts the probability of person n getting item i correct as follows:

$$P_{ni}(X = 1) = \frac{\exp(\theta_n - D_{ij})}{1 + \exp(\theta_n - D_{ij})}.$$

The Rasch model places both student ability and item difficulty (estimated in terms of log-odds or logits) on the same continuum. When the model assumptions are met, the Rasch model provides estimates of a person's ability which are independent of the items employed in the assessment, and conversely, estimates item difficulty independently of the sample of examinees. Item calibration was implemented via WINSTEPS 3.81.00 computer program (Wright and Linacre, 2014), which employs unconditional (UCON), joint-maximum-likelihood estimation (JMLE).

To produce person fit values, residuals of IRT model (essentially the differences between observed and expected responses) are summarized to create the mean square error statistics (MSE) of Infit and Outfit for items and persons. In this study, we use the unstandardized measures of Infit and Outfit, which are essentially MSE residuals and have expected values of 1.0 and a standard deviation of about 0.2 (Bond, & Fox, 2007). Such values represent adequate fit, whereas values greater than 2.0 represent more variability than expected, and less than 1.0 can mean students did not independently respond to items. In this study, person infit and outfit statistics were produced in WINSTEPS.

To assess the relationship between testing mode (i.e., computer-based or paper-pencil based) and PSSA performance, we examined differences in person infit and outfit with respect to student characteristics (e.g., whether students have an individualized educational plan (IEP)) and test characteristics (e.g., whether forms were administered as CBT or PPT). The dependent variables were person infit and person outfit, and the independent (predictor) variables included mode, whether students had an IEP, whether students were ELs, and the interaction of mode and EL, and mode and IEP.

RESULTS

Means and standard deviations were computed for infit and outfit for each independent variable. Tables S-2M, S-2E, and S-2S display a summary of person fit means, standard deviations by Mode and group (EL and IEP) for mathematics, ELA, and science, respectively. As the table shows, there are minimal differences in the means and standard deviations for each group by mode, and all person fit statistics are within acceptable ranges.

Table S-2M. Person Infit and Outfit Descriptive Statistics by Mathematics Grade, Mode, and Group

Mode	Grade	Group	N	Infit Mean	Infit SD	Outfit Mean	Outfit SD
CBT	3	EL (non-EL)	162 (4040)	1.03 (1.01)	0.17 (0.20)	1.08 (1.04)	0.23 (0.26)
PPT	3	EL (non-EL)	5724 (110678)	1.03 (1.00)	0.18 (0.21)	1.09 (1.01)	0.24 (0.25)
CBT	3	IEP (non-IEP)	1077 (3125)	1.06 (1.00)	0.17 (0.21)	1.14 (1.00)	0.26 (0.25)
PPT	3	IEP (non-IEP)	19688 (96714)	1.03 (1.00)	0.19 (0.21)	1.09 (1.00)	0.26 (0.25)
CBT	4	EL (non-EL)	163 (4601)	0.98 (1.00)	0.16 (0.21)	1.04 (1.00)	0.27 (0.30)
PPT	4	EL (non-EL)	5445 (113077)	1.02 (0.99)	0.17 (0.21)	1.09 (1.00)	0.28 (0.30)
CBT	4	IEP (non-IEP)	1403 (3361)	1.04 (0.98)	0.18 (0.22)	1.12 (0.95)	0.31 (0.27)
PPT	4	IEP (non-IEP)	20777 (97745)	1.03 (0.98)	0.19 (0.21)	1.11 (0.98)	0.31 (0.29)
CBT	5	EL (non-EL)	209 (6684)	1.05 (1.03)	0.15 (0.20)	1.15 (1.07)	0.24 (0.27)
PPT	5	EL (non-EL)	4689 (116010)	1.03 (1.01)	0.15 (0.21)	1.12 (1.04)	0.24 (0.25)
CBT	5	IEP (non-IEP)	1915 (4978)	1.06 (1.03)	0.15 (0.22)	1.16 (1.03)	0.26 (0.26)
PPT	5	IEP (non-IEP)	21122 (99577)	1.05 (1.01)	0.17 (0.21)	1.14 (1.02)	0.26 (0.24)
CBT	6	EL (non-EL)	144 (6812)	1.03 (0.98)	0.19 (0.20)	1.08 (1.01)	0.19 (0.30)
PPT	6	EL (non-EL)	3923 (116617)	1.03 (0.99)	0.19 (0.22)	1.11 (1.01)	0.25 (0.29)
CBT	6	IEP (non-IEP)	2060 (4896)	1.01 (0.96)	0.17 (0.21)	1.10 (0.97)	0.26 (0.30)
PPT	6	IEP (non-IEP)	20341 (100199)	1.04 (0.98)	0.19 (0.22)	1.12 (0.99)	0.27 (0.29)
CBT	7	EL (non-EL)	139 (7149)	1.06 (1.01)	0.14 (0.20)	1.15 (1.02)	0.23 (0.24)
PPT	7	EL (non-EL)	3904 (114616)	1.07 (1.02)	0.15 (0.22)	1.16 (1.02)	0.23 (0.25)
CBT	7	IEP (non-IEP)	2159 (5129)	1.07 (0.99)	0.15 (0.21)	1.16 (0.97)	0.23 (0.22)
PPT	7	IEP (non-IEP)	19471 (99049)	1.07 (1.01)	0.16 (0.23)	1.16 (1.00)	0.25 (0.24)
CBT	8	EL (non-EL)	138 (7057)	1.05 (0.97)	0.15 (0.17)	1.15 (1.01)	0.22 (0.21)
PPT	8	EL (non-EL)	3622 (112369)	1.06 (0.96)	0.14 (0.18)	1.16 (1.00)	0.22 (0.22)
CBT	8	IEP (non-IEP)	1981 (5214)	1.05 (0.94)	0.14 (0.17)	1.16 (0.96)	0.22 (0.19)
PPT	8	IEP (non-IEP)	18893 (97098)	1.04 (0.95)	0.15 (0.18)	1.14 (0.98)	0.22 (0.21)

Table S-2E. Person Infit and Outfit Descriptive Statistics by ELA Grade, Mode, and Group

Mode	Grade	Group	N	Infit Mean	Infit SD	Outfit Mean	Outfit SD
CBT	3	EL (non-EL)	161 (3931)	1.09 (1.05)	0.23 (0.23)	1.15 (1.04)	0.26 (0.26)
PPT	3	EL (non-EL)	5705 (110767)	1.06 (1.04)	0.21 (0.23)	1.13 (1.04)	0.28 (0.27)
CBT	3	IEP (non-IEP)	1028 (3064)	1.10 (1.04)	0.21 (0.24)	1.19 (1.00)	0.29 (0.23)
PPT	3	IEP (non-IEP)	19731 (96741)	1.07 (1.03)	0.22 (0.23)	1.14 (1.02)	0.30 (0.26)
CBT	4	EL (non-EL)	163 (4479)	1.02 (1.03)	0.28 (0.38)	1.09 (1.05)	0.28 (0.37)
PPT	4	EL (non-EL)	5398 (113132)	1.04 (0.98)	0.28 (0.33)	1.12 (1.01)	0.30 (0.34)
CBT	4	IEP (non-IEP)	1314 (3328)	1.03 (1.03)	0.30 (0.40)	1.12 (1.03)	0.33 (0.38)
PPT	4	IEP (non-IEP)	20847 (97683)	1.02 (0.98)	0.28 (0.34)	1.10 (1.00)	0.30 (0.34)
CBT	5	EL (non-EL)	210 (6733)	1.04 (1.01)	0.28 (0.34)	1.18 (1.08)	0.42 (0.42)
PPT	5	EL (non-EL)	4668 (115939)	1.04 (0.97)	0.30 (0.30)	1.17 (1.02)	0.42 (0.38)
CBT	5	IEP (non-IEP)	1865 (5078)	1.05 (1.00)	0.31 (0.35)	1.19 (1.05)	0.41 (0.42)
PPT	5	IEP (non-IEP)	21175 (99432)	1.02 (0.96)	0.29 (0.30)	1.13 (1.00)	0.40 (0.38)
CBT	6	EL (non-EL)	162 (7107)	1.15 (1.13)	0.38 (0.47)	1.25 (1.16)	0.45 (0.59)
PPT	6	EL (non-EL)	3870 (116421)	1.12 (1.08)	0.37 (0.42)	1.24 (1.10)	0.50 (0.50)
CBT	6	IEP (non-IEP)	2110 (5159)	1.10 (1.14)	0.36 (0.51)	1.20 (1.15)	0.43 (0.63)
PPT	6	IEP (non-IEP)	20307 (99984)	1.08 (1.08)	0.35 (0.43)	1.17 (1.09)	0.44 (0.51)
CBT	7	EL (non-EL)	150 (7700)	1.11 (1.06)	0.28 (0.34)	1.26 (1.10)	0.40 (0.36)
PPT	7	EL (non-EL)	3880 (114268)	1.10 (1.00)	0.31 (0.29)	1.26 (1.03)	0.45 (0.32)
CBT	7	IEP (non-IEP)	2234 (5616)	1.08 (1.05)	0.31 (0.35)	1.22 (1.06)	0.42 (0.33)
PPT	7	IEP (non-IEP)	19481 (98667)	1.05 (1.00)	0.29 (0.29)	1.18 (1.01)	0.40 (0.31)
CBT	8	EL (non-EL)	152 (7424)	0.96 (1.07)	0.28 (0.48)	1.17 (1.13)	0.44 (0.55)
PPT	8	EL (non-EL)	3610 (112317)	1.02 (1.01)	0.28 (0.40)	1.19 (1.08)	0.41 (0.54)
CBT	8	IEP (non-IEP)	2067 (5509)	1.00 (1.09)	0.31 (0.52)	1.17 (1.11)	0.40 (0.60)
PPT	8	IEP (non-IEP)	18919 (97008)	0.99 (1.02)	0.27 (0.41)	1.14 (1.07)	0.38 (0.56)

Table S-2S. Person Infit and Outfit Descriptive Statistics by Science Grade, Mode, and Group

Mode	Grade	Group	N	Infit Mean	Infit SD	Outfit Mean	Outfit SD
CBT	4	EL (non-EL)	248 (5667)	1.02 (0.99)	0.13 (0.13)	1.07 (0.98)	0.19 (0.18)
PPT	4	EL (non-EL)	5357 (111821)	1.02 (0.98)	0.13 (0.14)	1.07 (0.98)	0.20 (0.18)
CBT	4	IEP (non-IEP)	1568 (4347)	1.01 (0.99)	0.13 (0.14)	1.05 (0.96)	0.20 (0.17)
PPT	4	IEP (non-IEP)	20575 (96603)	1.02 (0.98)	0.13 (0.14)	1.06 (0.97)	0.20 (0.18)
CBT	8	EL (non-EL)	162 (8515)	1.03 (1.00)	0.13 (0.14)	1.09 (1.00)	0.21 (0.20)
PPT	8	EL (non-EL)	3597 (110380)	1.06 (0.99)	0.13 (0.14)	1.14 (0.99)	0.25 (0.20)
CBT	8	IEP (non-IEP)	2203 (6474)	1.04 (0.98)	0.14 (0.14)	1.09 (0.97)	0.23 (0.18)
PPT	8	IEP (non-IEP)	18521 (95456)	1.04 (0.98)	0.13 (0.14)	1.10 (0.98)	0.24 (0.19)

To further analyze differences in person fit, we conducted multivariate analyses in SAS to examine the main effect of mode, IEP and EL status, and interaction effects of mode and IEP, and mode and EL status. For multivariate analyses, we included forms that are offered both as PPT and CBT (forms 1, 2 and 3 for each subject and grade). Table S-3 summarizes the overall results from the generalized linear model using Infit and Outfit as the dependent variable. Statistics reported include the F Value, the associated significance value (Sig.), and the amount of variance explained by the model (R^2) or effect size. Although all significance values are less than .05, indicating statistical significance of the models, the R-square values indicate that the model explains very little variation in person fit (min = .002, max = .107). Meaning, mode, EL and IEP explain very little of person infit and outfit and therefore person fit cannot be reliably predicted by mode. After analyzing individual results, mode is a significant predictor in 12 of the 28 models, an even split between infit and outfit models, typically within the same subject and grade level. For example, mode was a significant predictor of person infit and outfit for mathematics grade 7 ($p = .04$, and $p = .004$, respectively). Furthermore, although mode for mathematics and science tended to be a stronger predictor for person fit than ELA, mode explains very little variance in person fit. R2 values provide an indication of effect size of significant findings, effect sizes less than .1 are very small.

Table S-3. Multivariate Regression Model Results by Subject and Grade Level.

Subject	Grade	Person Fit	F Value	Sig.	R-Square
Mathematics	3	Infit	60.94	<.0001	0.007
Mathematics	3	Outfit	283.73	<.0001	0.032
Mathematics	4	Infit	84.77	<.0001	0.009
Mathematics	4	Outfit	339.92	<.0001	0.037
Mathematics	5	Infit	79.04	<.0001	0.008
Mathematics	5	Outfit	397.08	<.0001	0.040
Mathematics	6	Infit	123.96	<.0001	0.013
Mathematics	6	Outfit	369.97	<.0001	0.037
Mathematics	7	Infit	167.08	<.0001	0.017
Mathematics	7	Outfit	828.90	<.0001	0.081
Mathematics	8	Infit	521.10	<.0001	0.053
Mathematics	8	Outfit	1109.33	<.0001	0.107
ELA	3	Infit	38.50	<.0001	0.005
ELA	3	Outfit	355.42	<.0001	0.040
ELA	4	Infit	39.45	<.0001	0.004
ELA	4	Outfit	133.47	<.0001	0.015
ELA	5	Infit	93.43	<.0001	0.010
ELA	5	Outfit	253.65	<.0001	0.026
ELA	6	Infit	20.96	<.0001	0.002
ELA	6	Outfit	89.41	<.0001	0.009
ELA	7	Infit	110.26	<.0001	0.012
ELA	7	Outfit	521.40	<.0001	0.052
ELA	8	Infit	46.80	<.0001	0.005
ELA	8	Outfit	641.30	<.0001	0.004
Science	4	Infit	117.00	<.0001	0.016
Science	4	Outfit	412.40	<.0001	0.055
Science	8	Infit	254.72	<.0001	0.033
Science	8	Outfit	555.76	<.0001	0.069

CONCLUSION AND FUTURE DIRECTIONS

Until the volume of CBT administrations increases, a traditional mode study may not be feasible or appropriate. The analyses conducted here provide preliminary evidence that there is little influence of mode on person infit and outfit, suggesting that the data fit the model regardless of mode, EL, and IEP status. Although the results show significance, there is very little practical significance in the results of the study. In nearly all the models analyzed, less than 10% of the variance in infit and outfit was explained by the predictors.

APPENDIX T: POST-EQUATING VALIDATION RESULTS

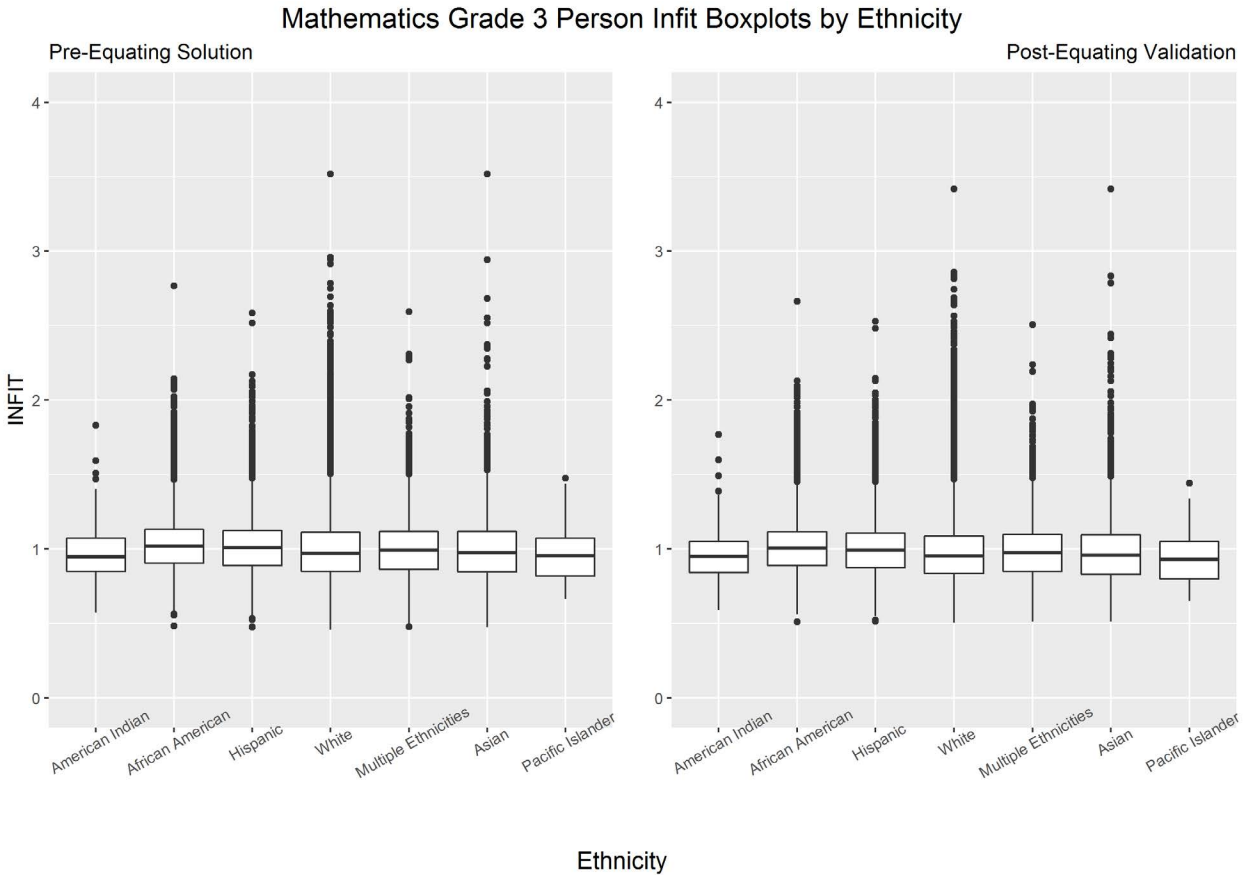
POST-EQUATING VALIDATION RESULTS

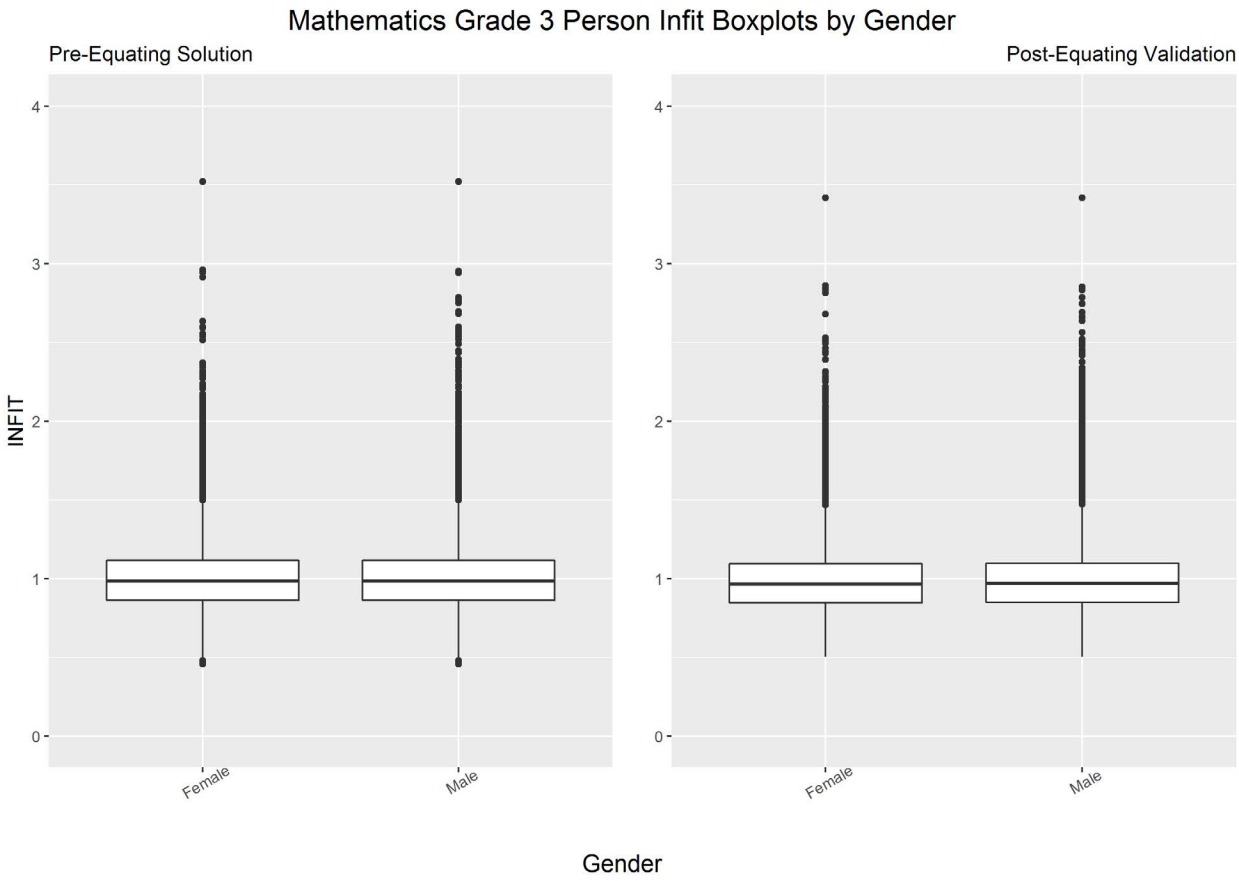
Appendix T contains information and results based on the data used for the post-equating validation. The results presented in this appendix provide support for utilizing the pre-equated solution for all student reporting.

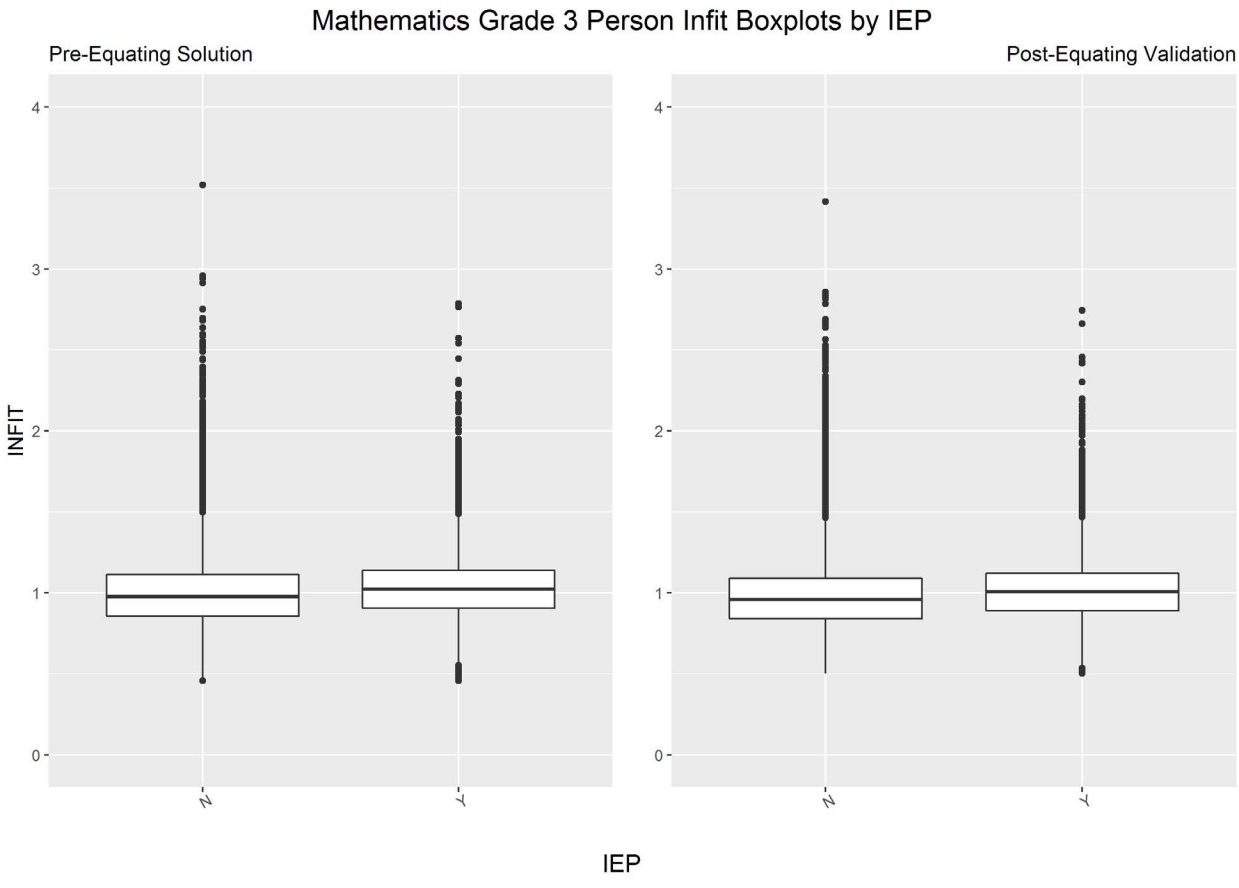
Figure T-1 are person infit boxplots for pre-equated (left) and post-equated (right) solutions by subject and grade disaggregated by ethnicity, gender, Individualized Education Plan (IEP) status, and English Learner (EL) status.

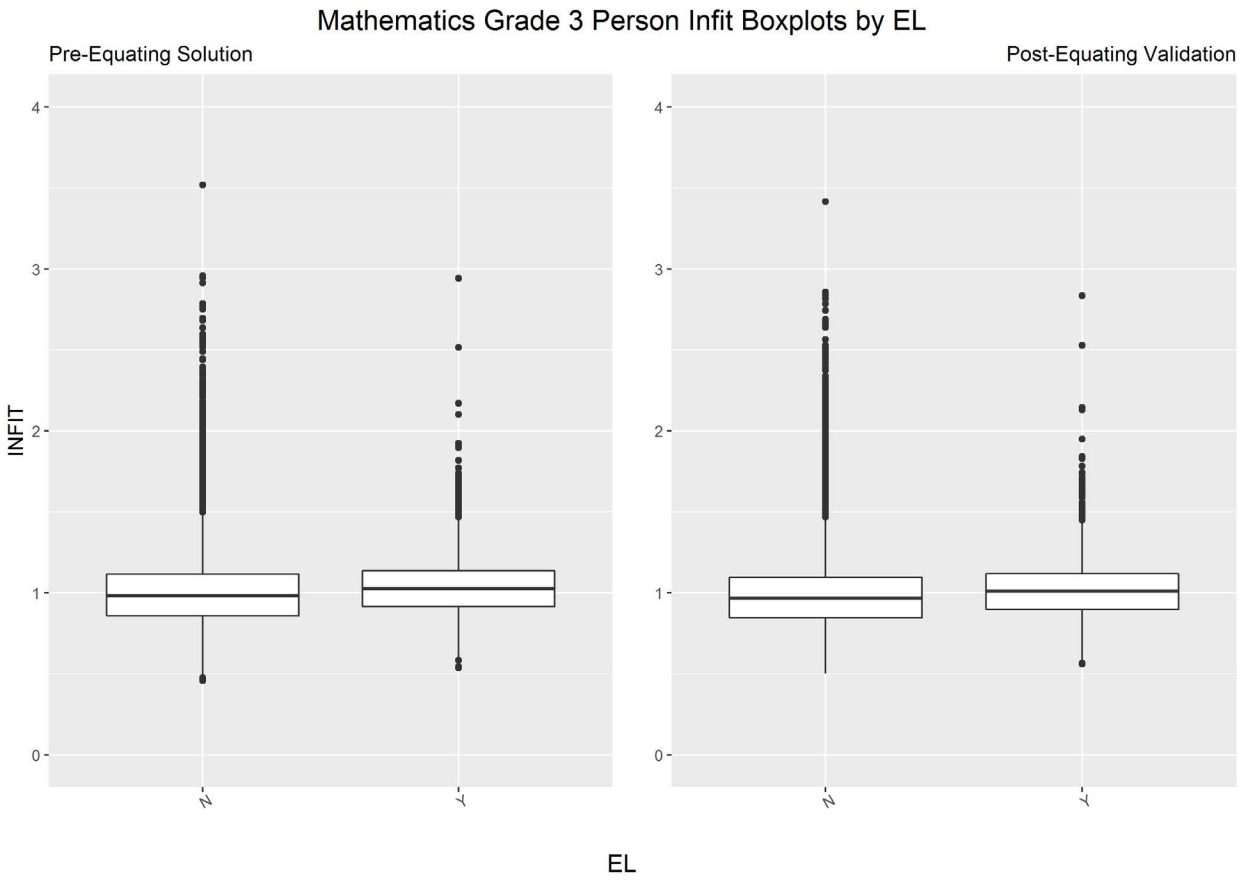
Figure T-1. Person Infit Boxplots by Subject and Grade for Pre- and Post-Equated Solutions

Mathematics Grade 3

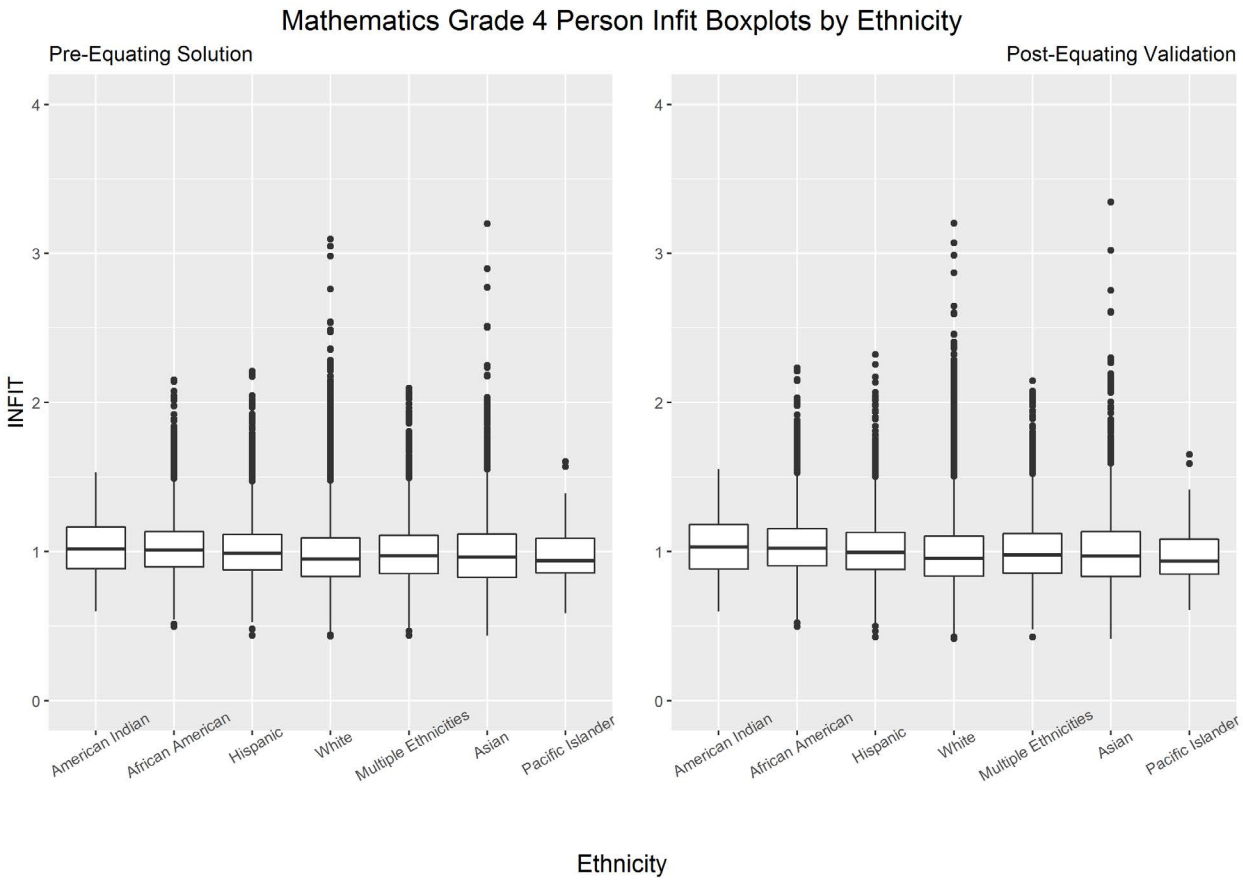


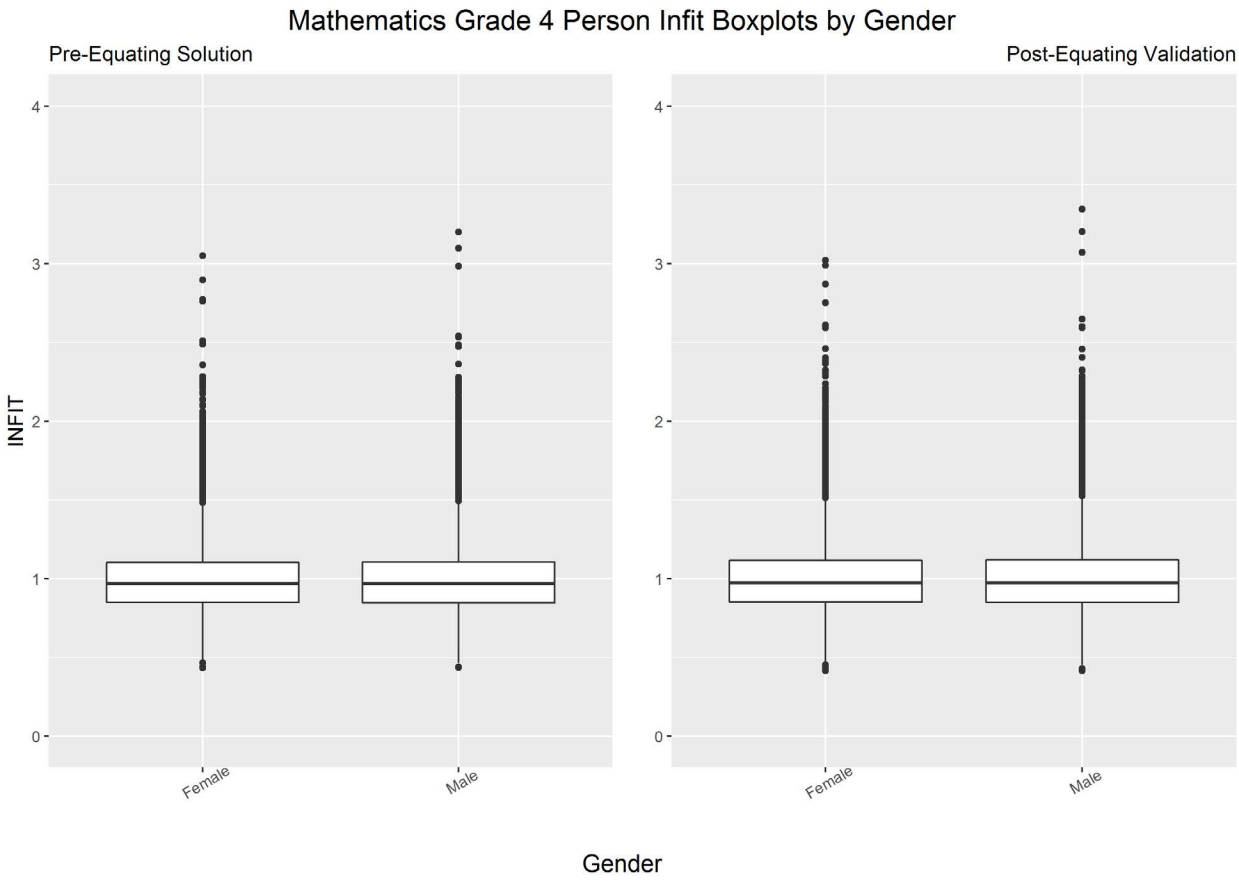

Mathematics Grade 3 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

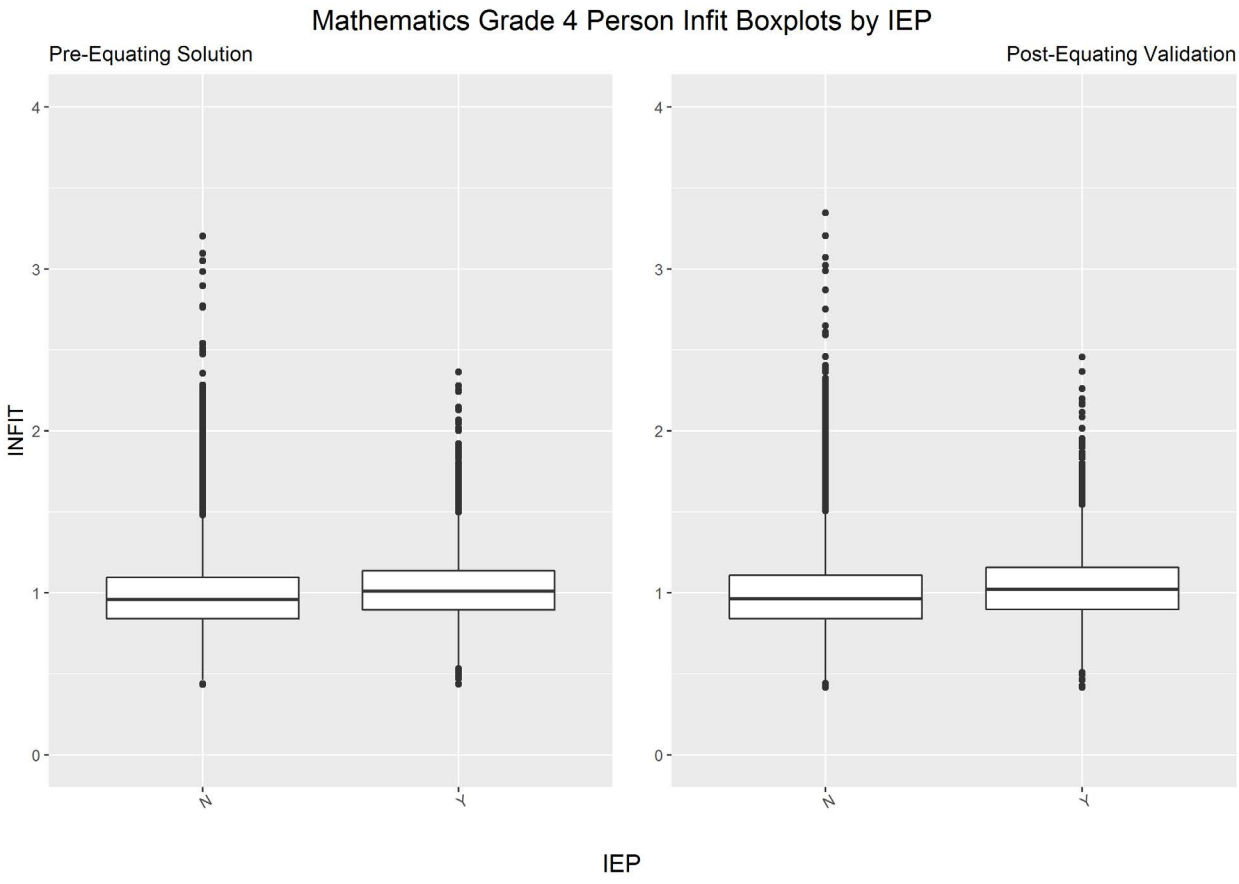

Mathematics Grade 3 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

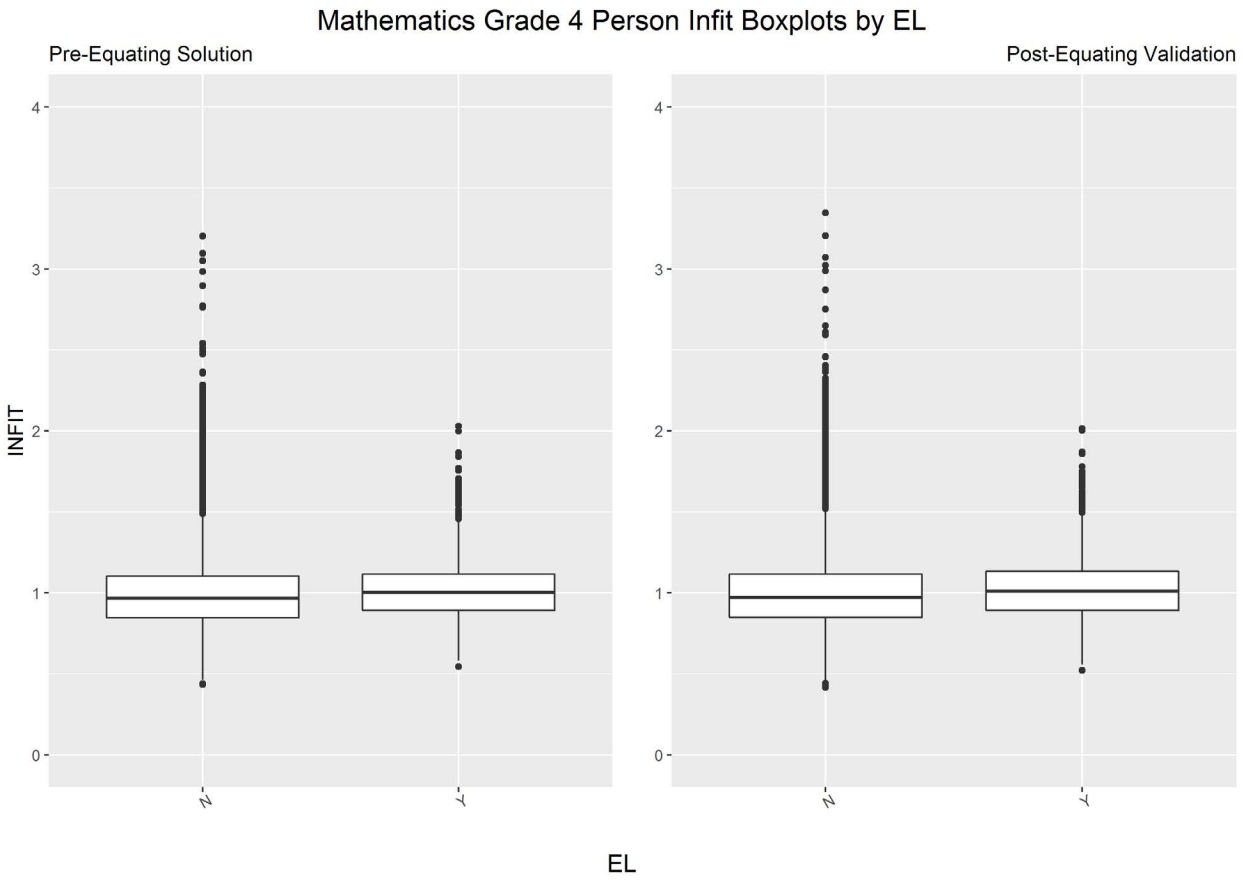


Mathematics Grade 4

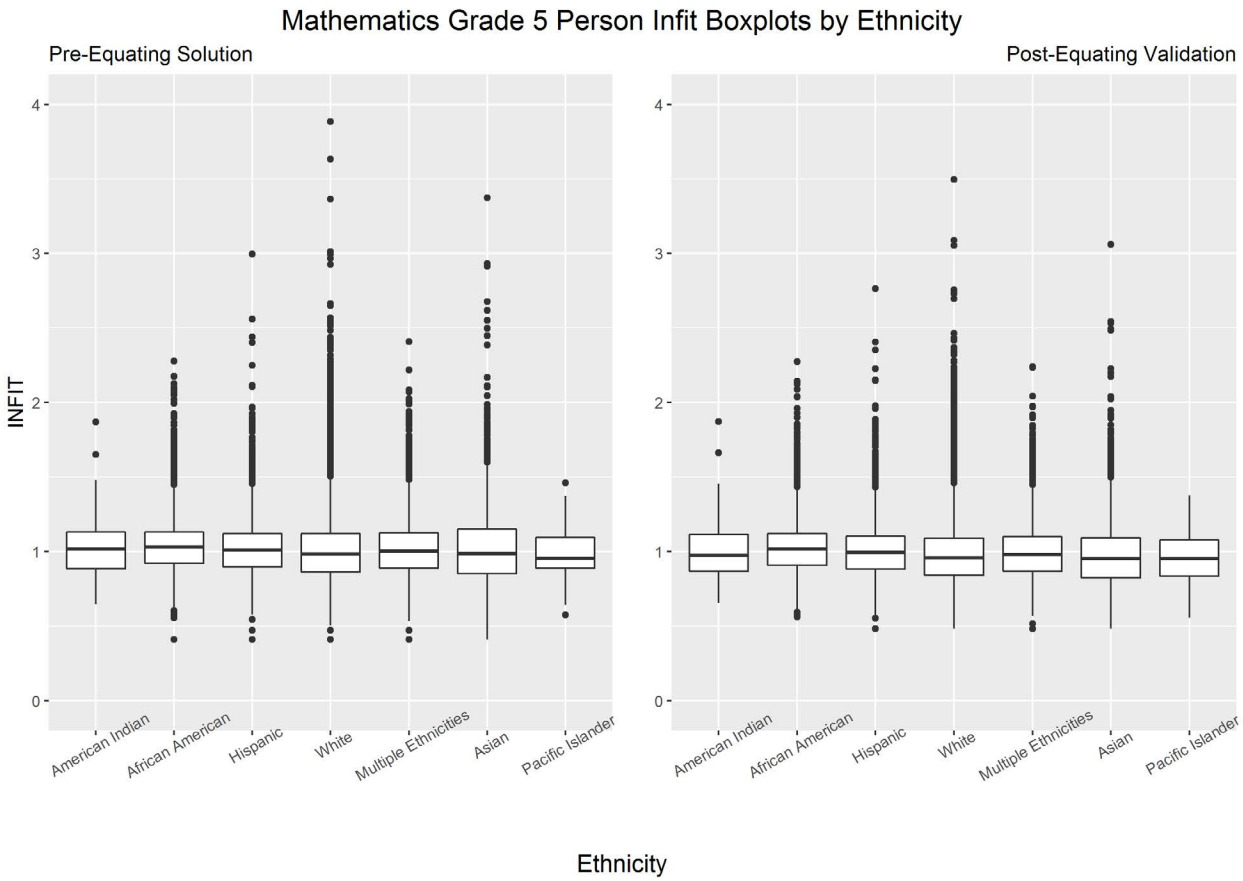



Mathematics Grade 4 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

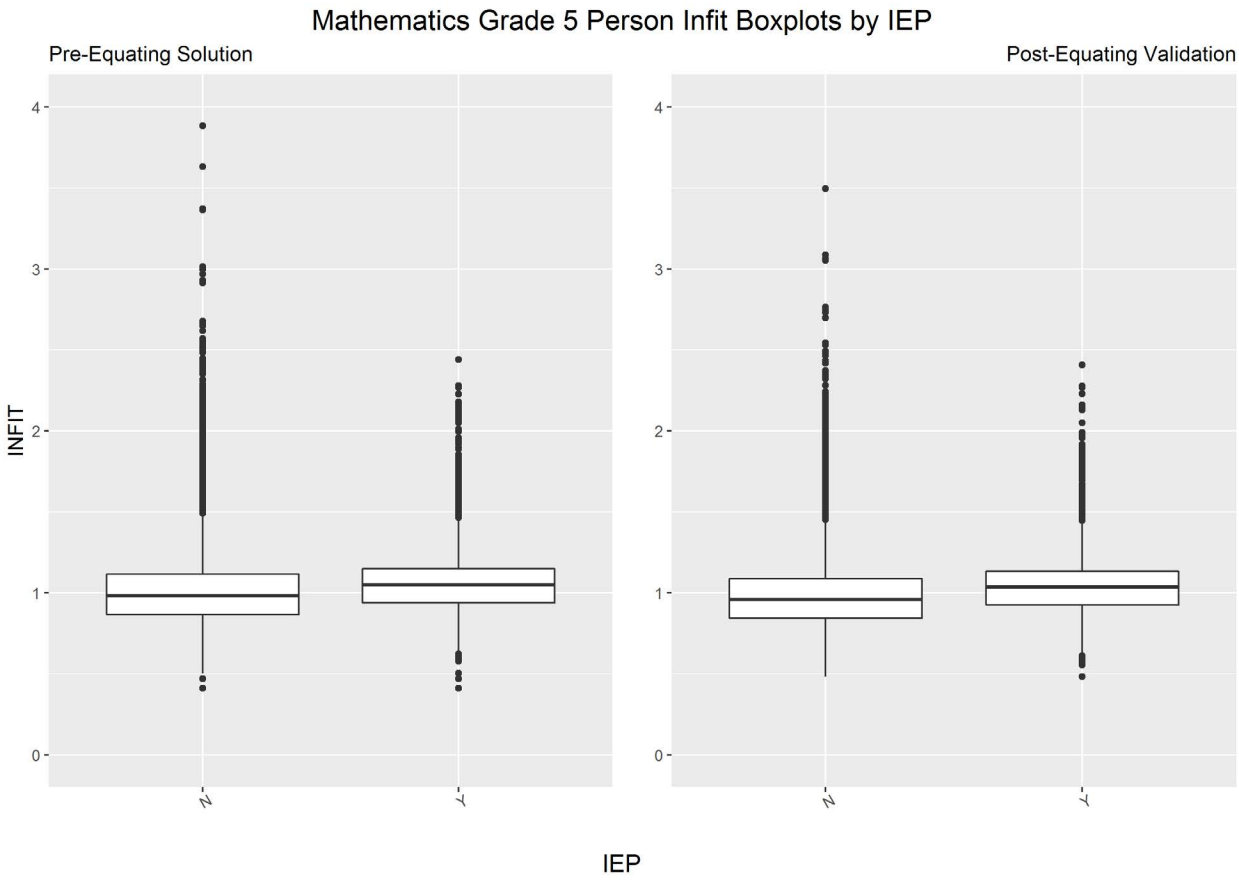

Mathematics Grade 4 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

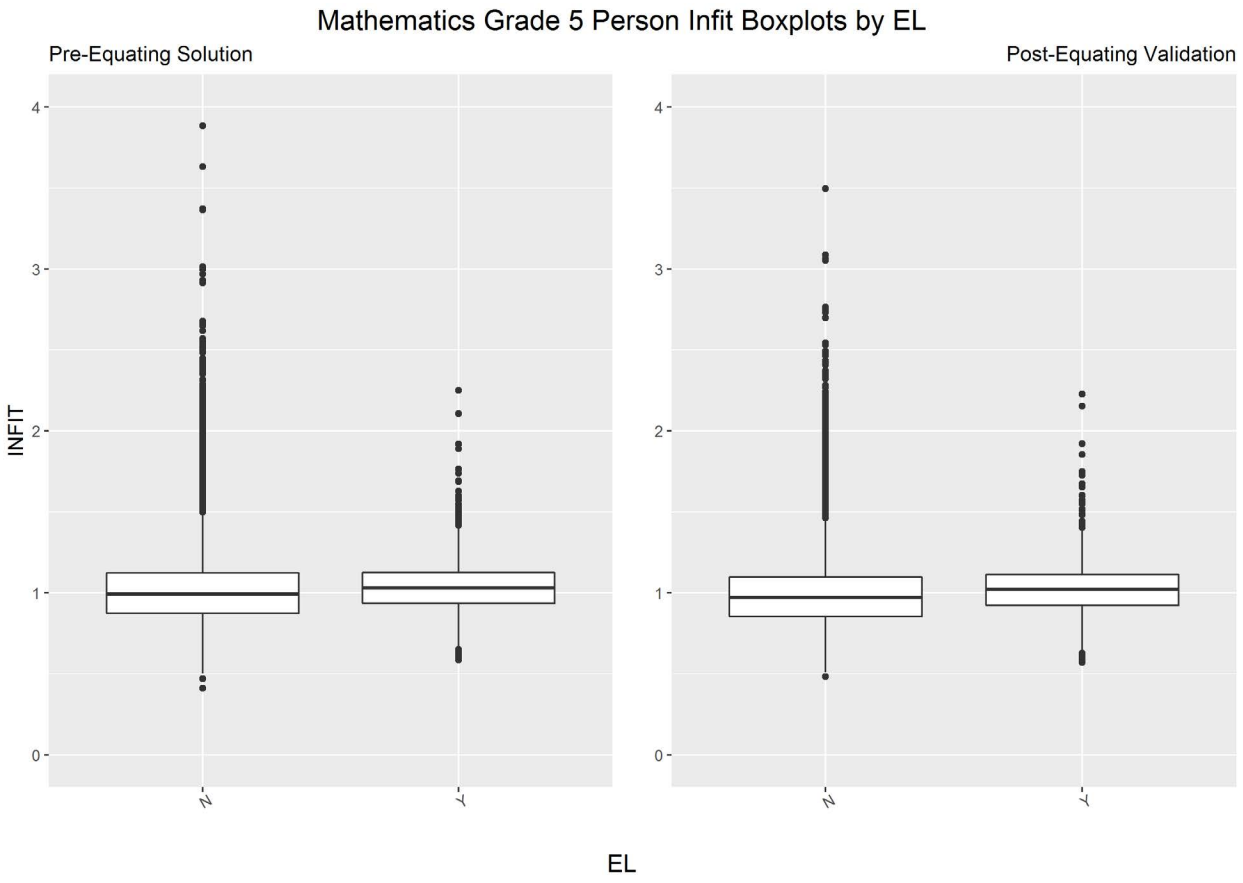


Mathematics Grade 5

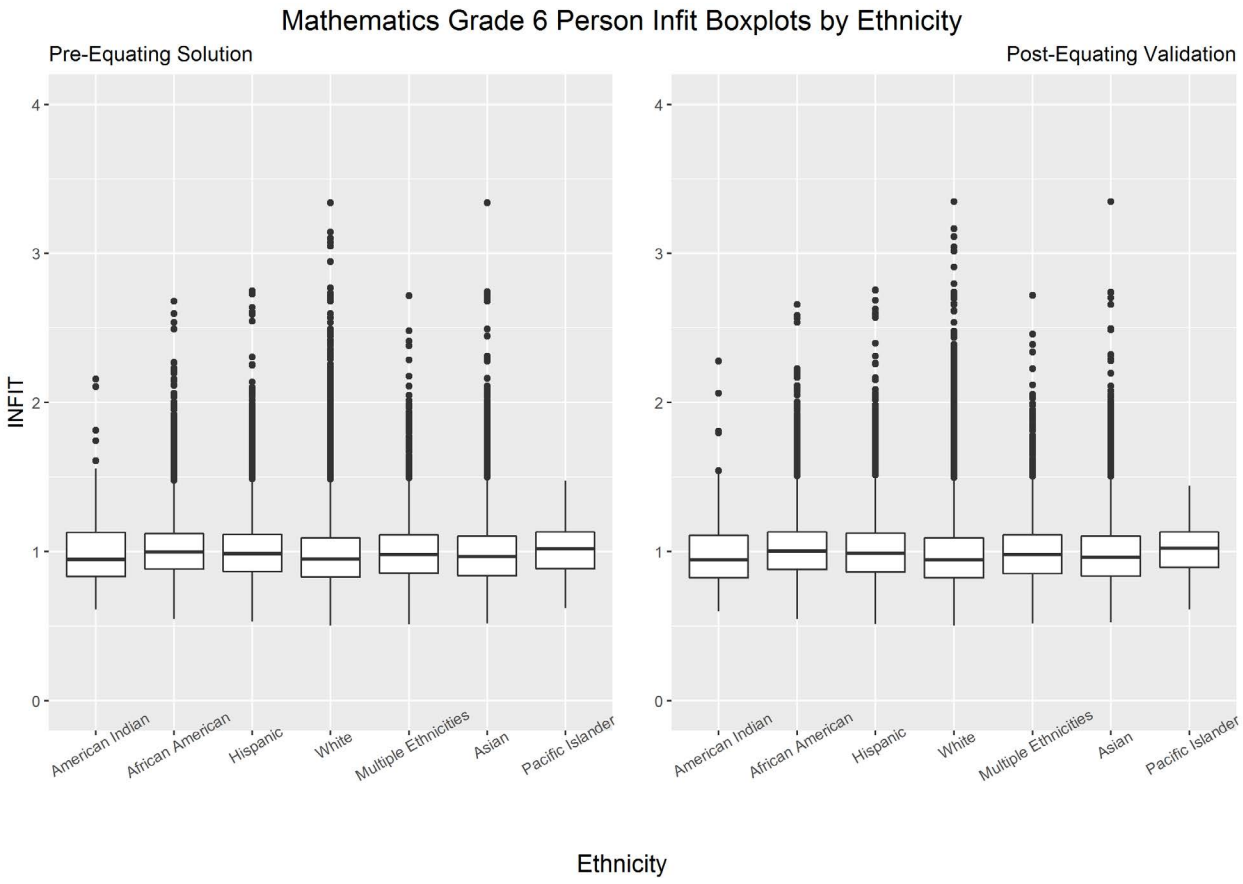


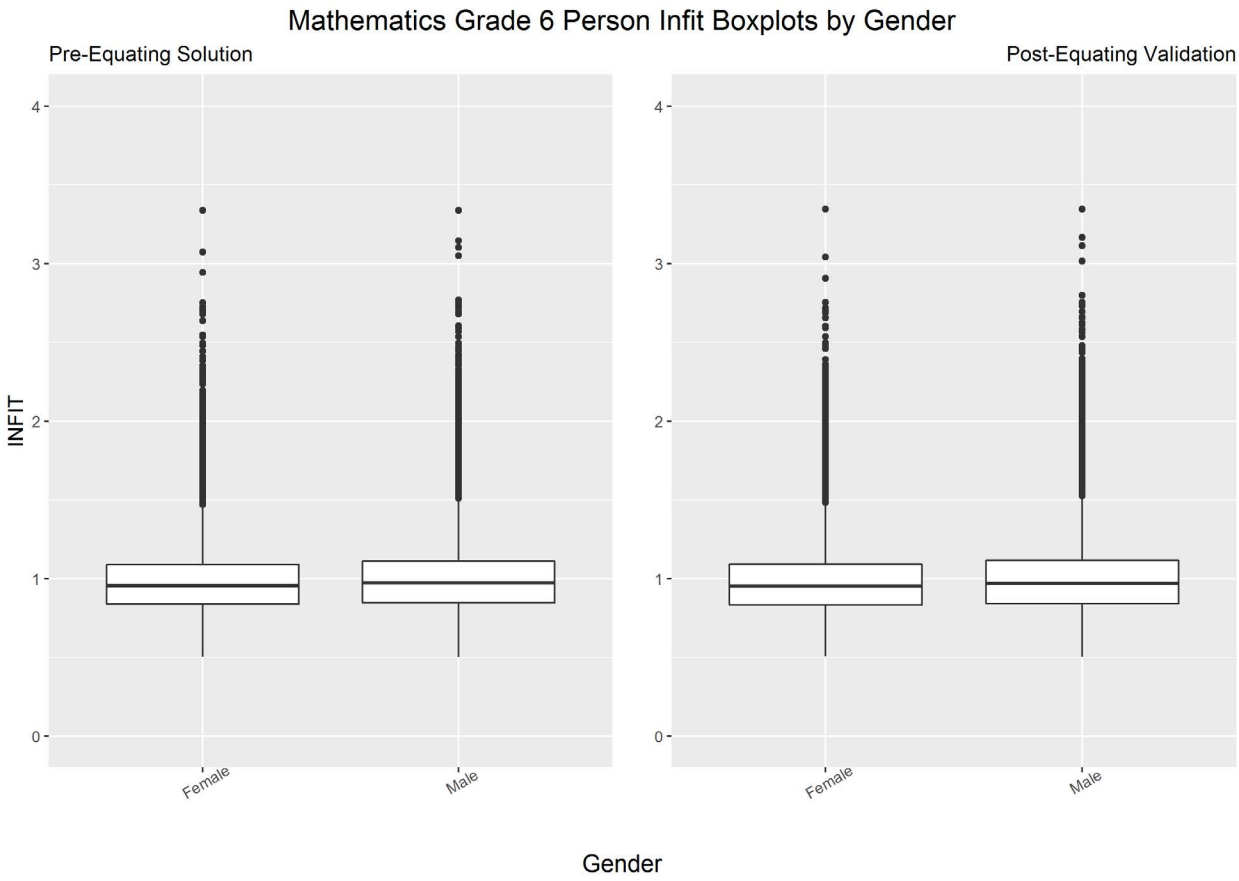

Mathematics Grade 5 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

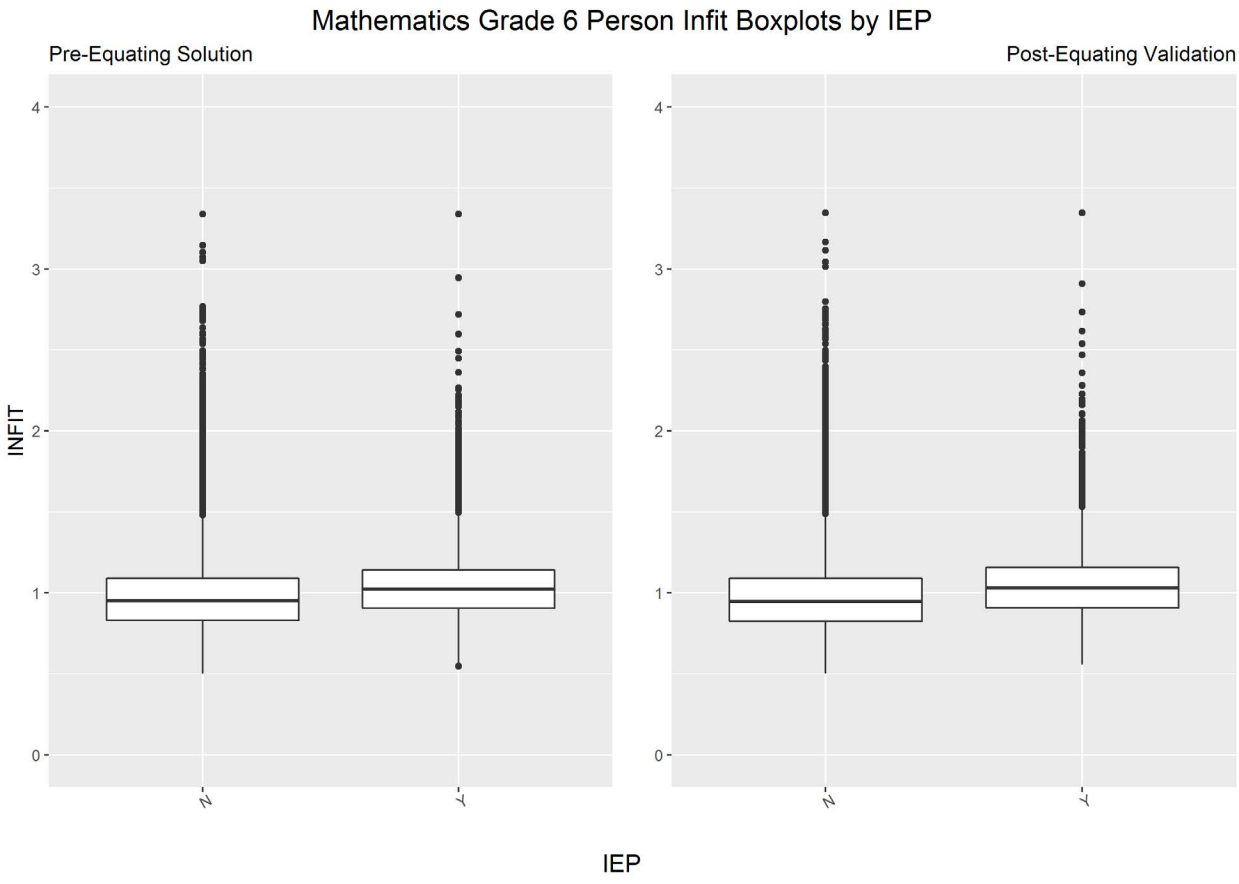

Mathematics Grade 5 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

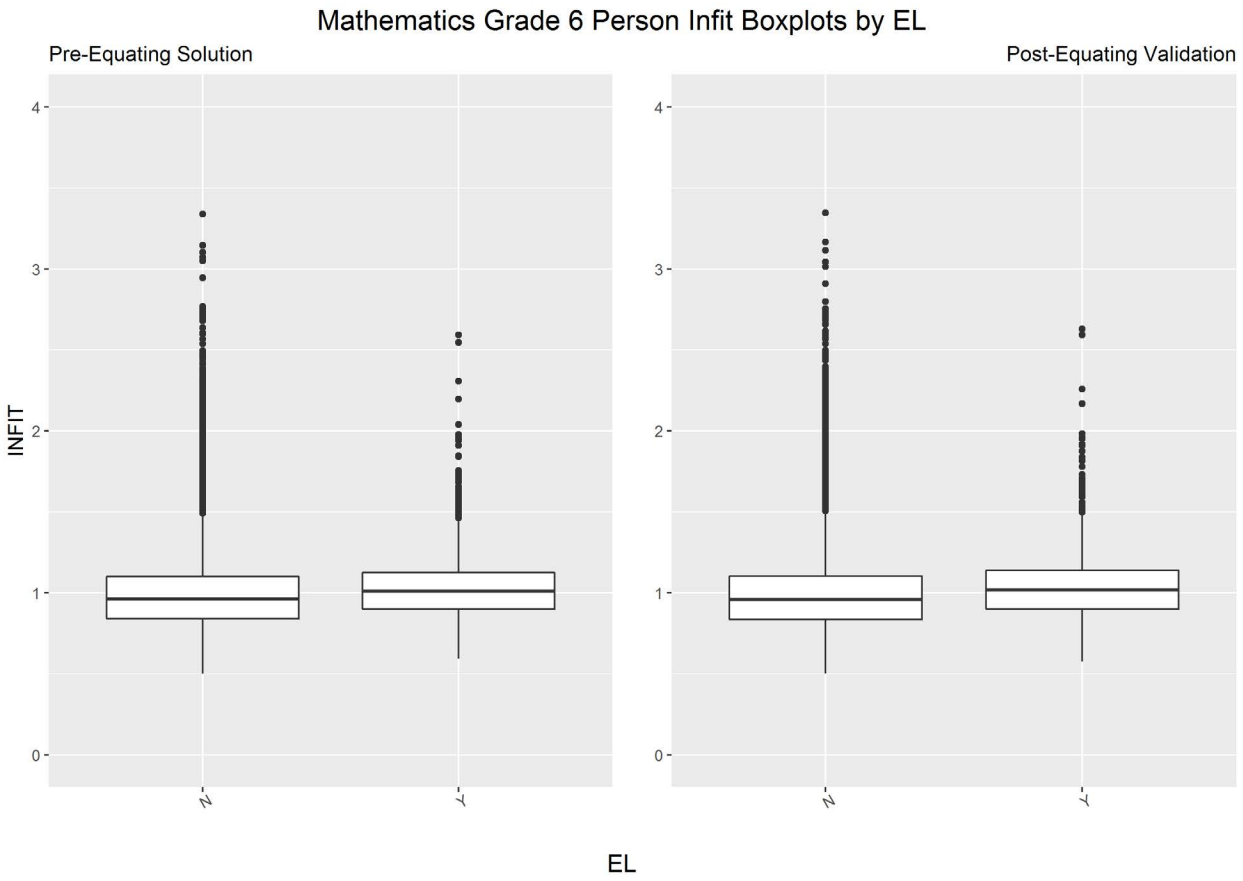


Mathematics Grade 6

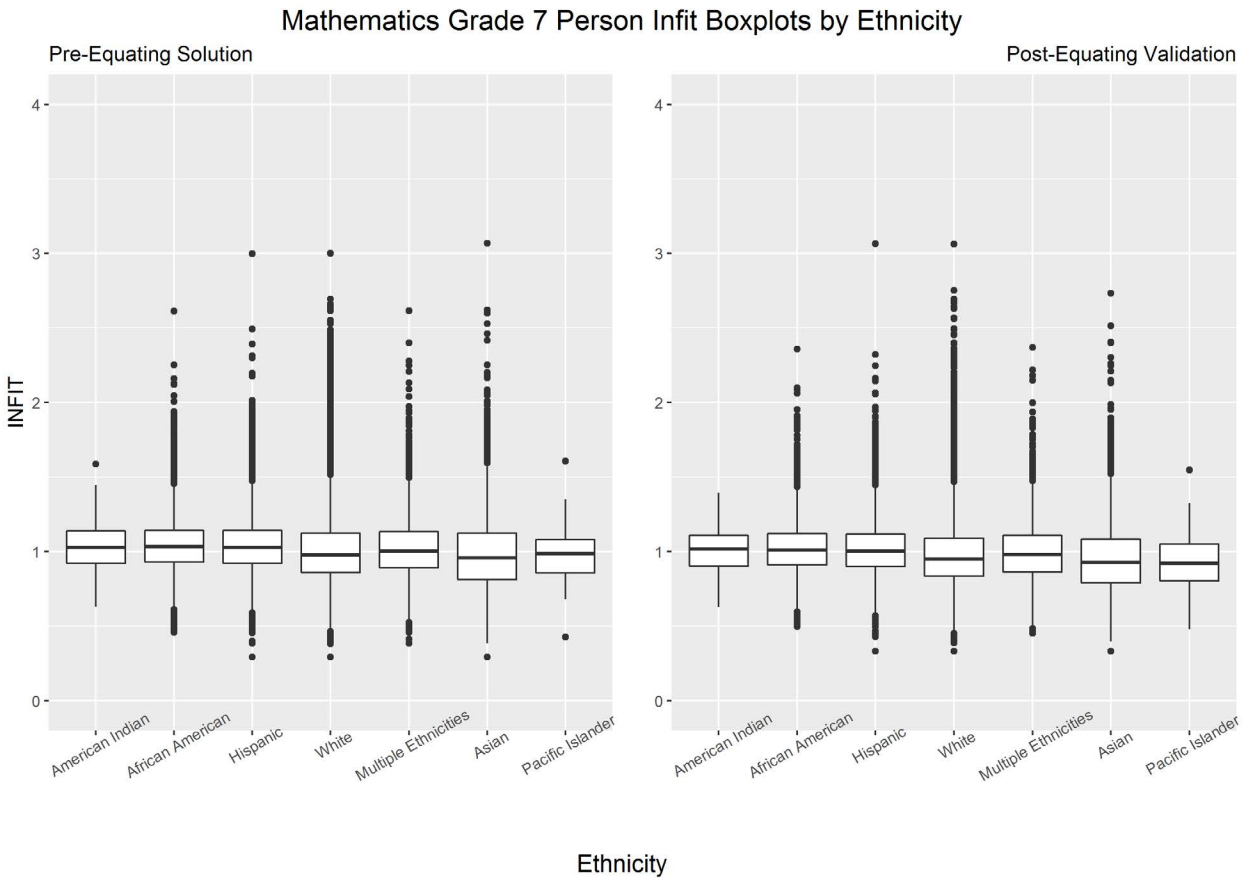


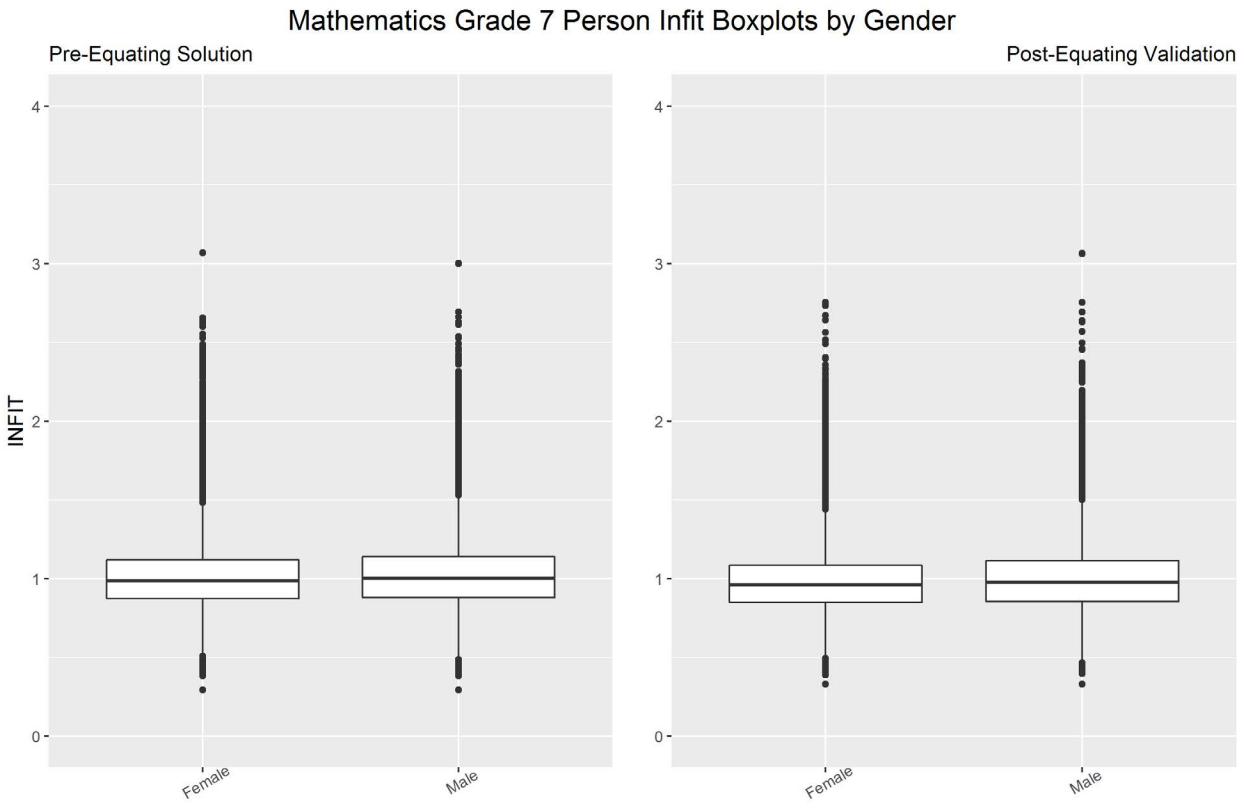

Mathematics Grade 6 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

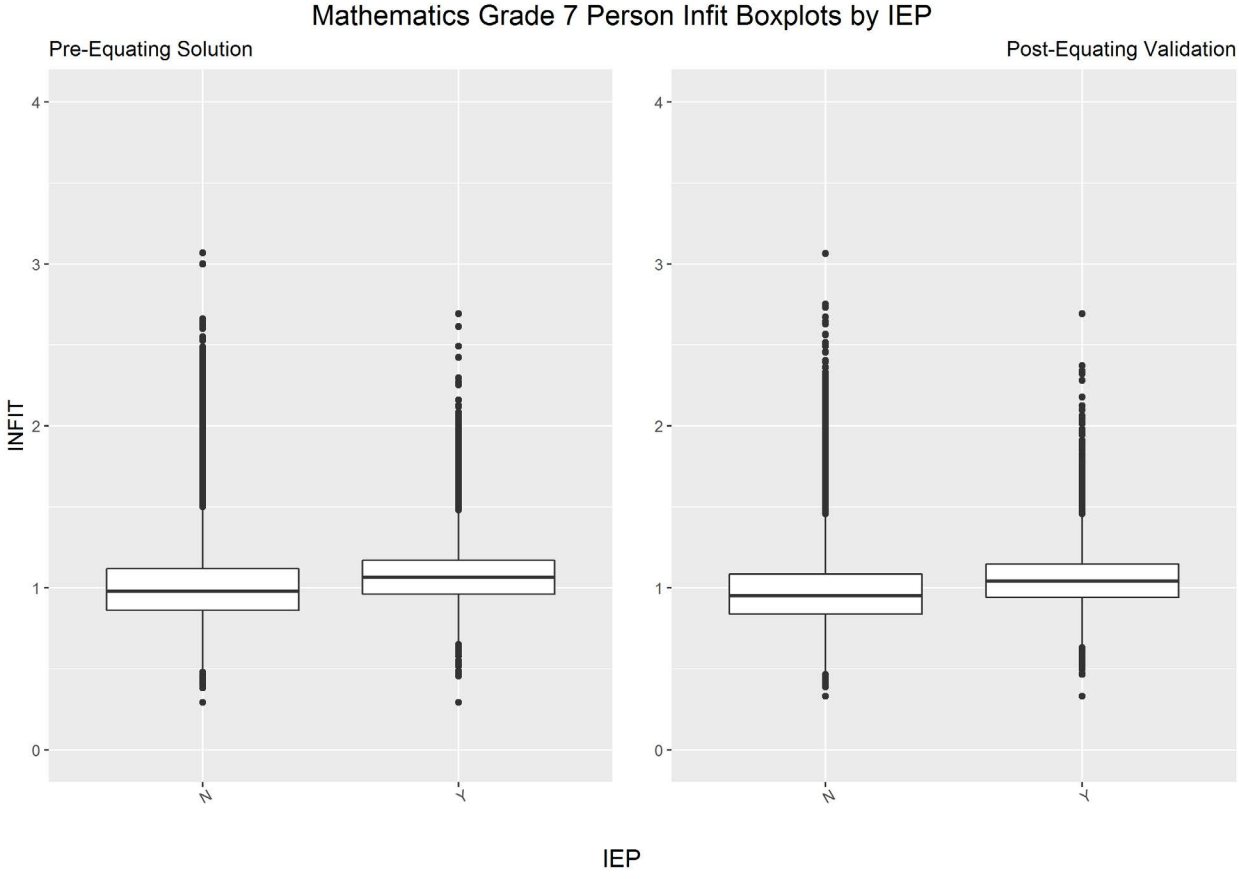

Mathematics Grade 6 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

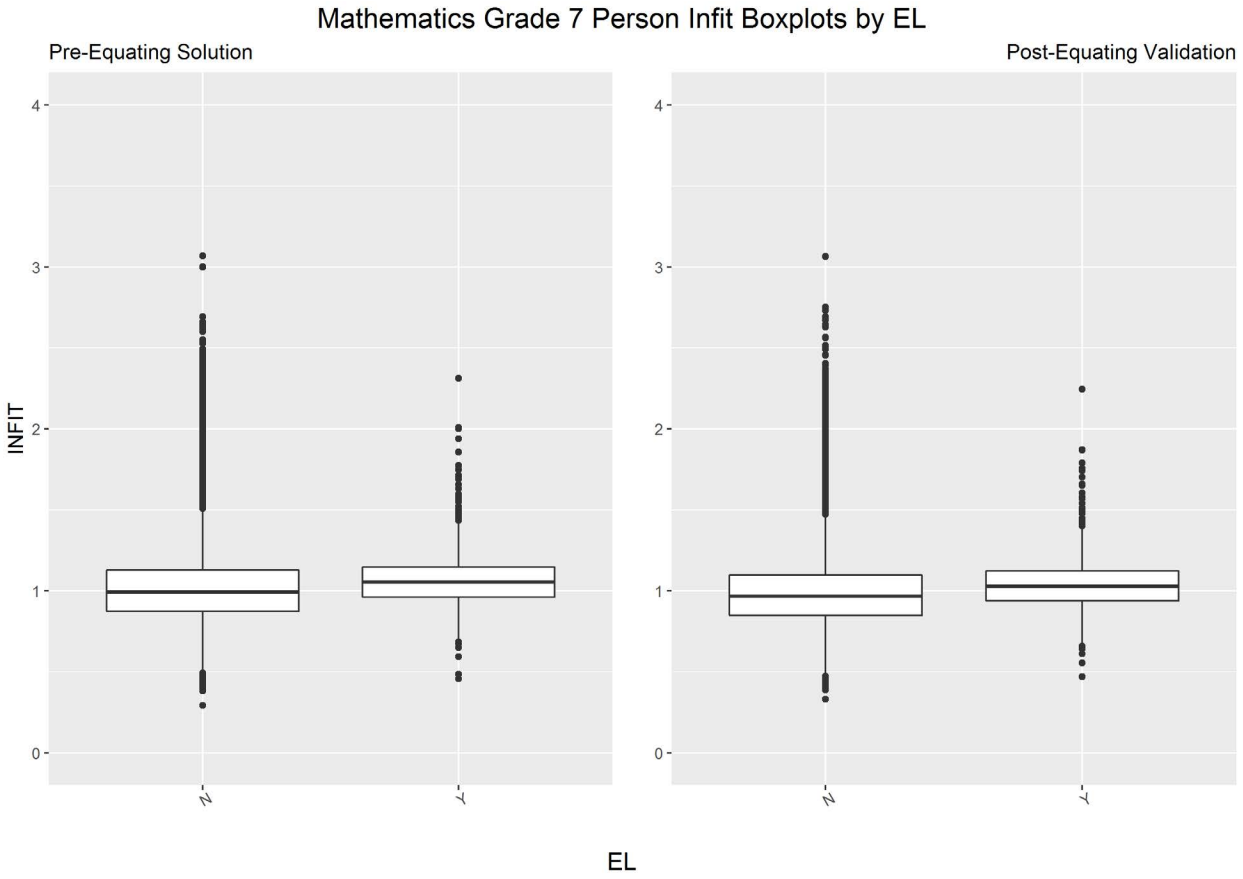


Mathematics Grade 7

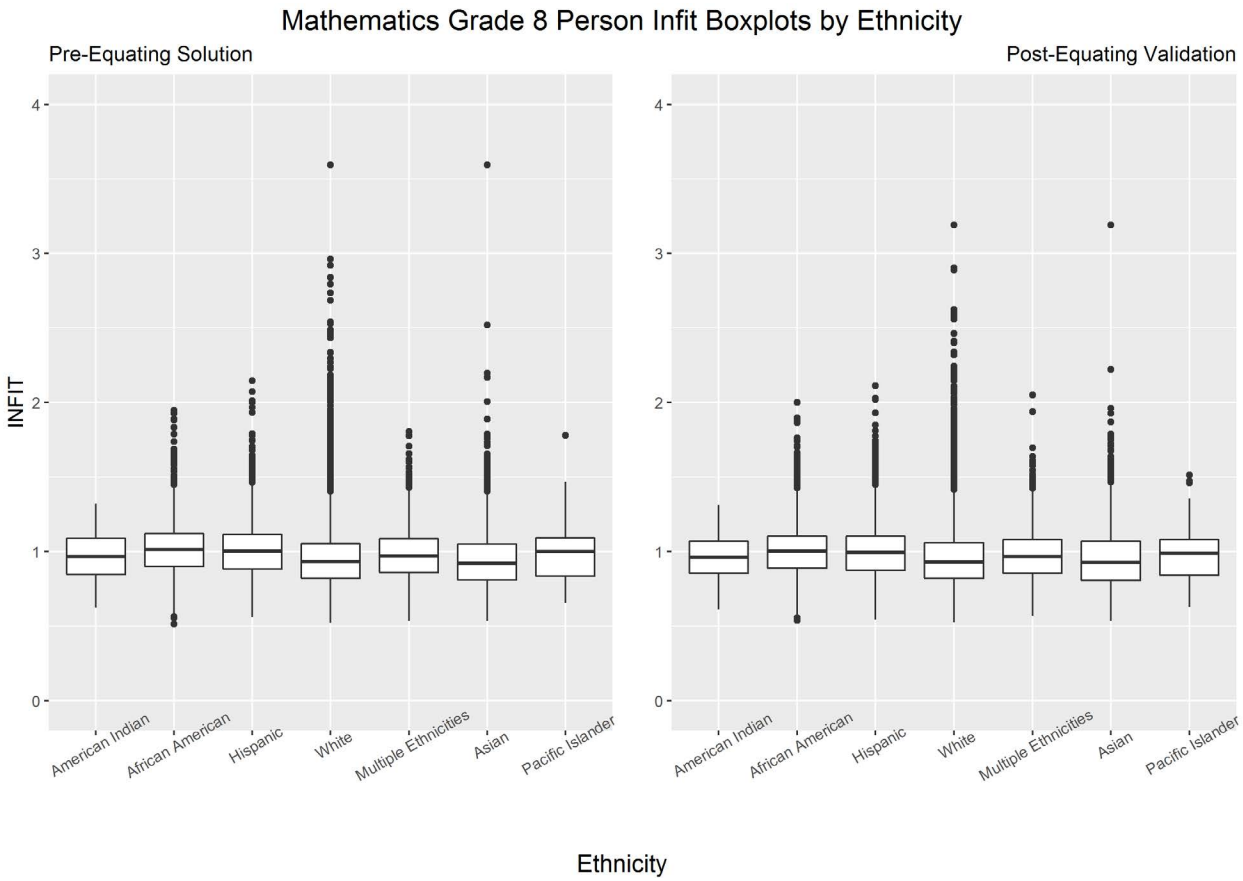


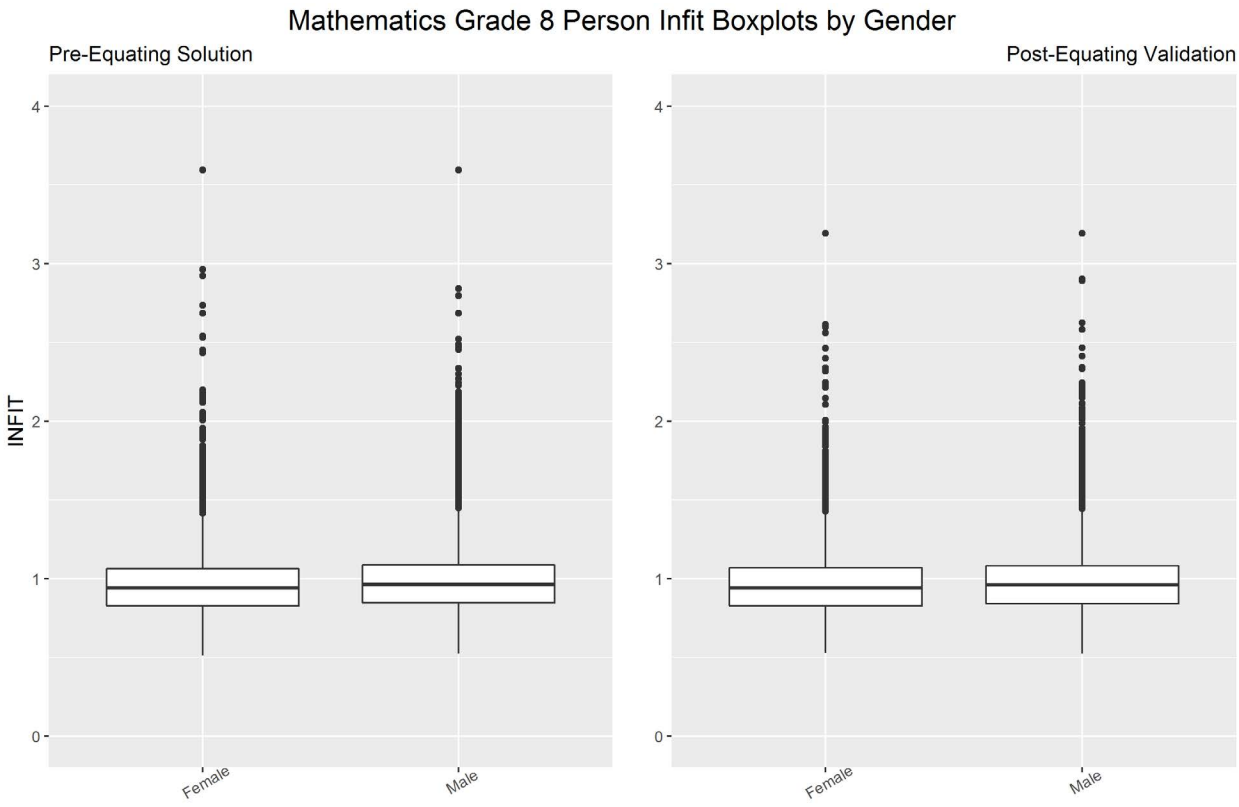

Mathematics Grade 7 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

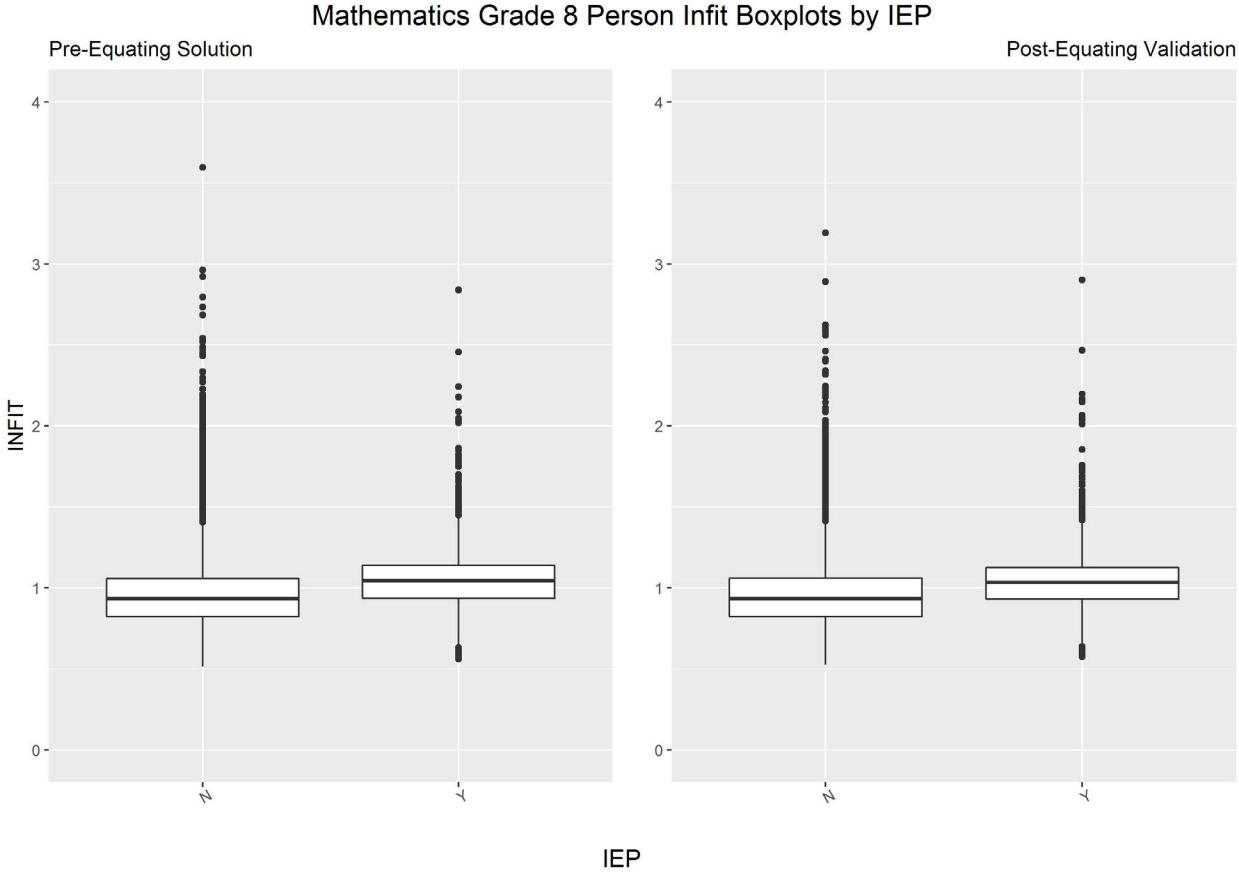

Mathematics Grade 7 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

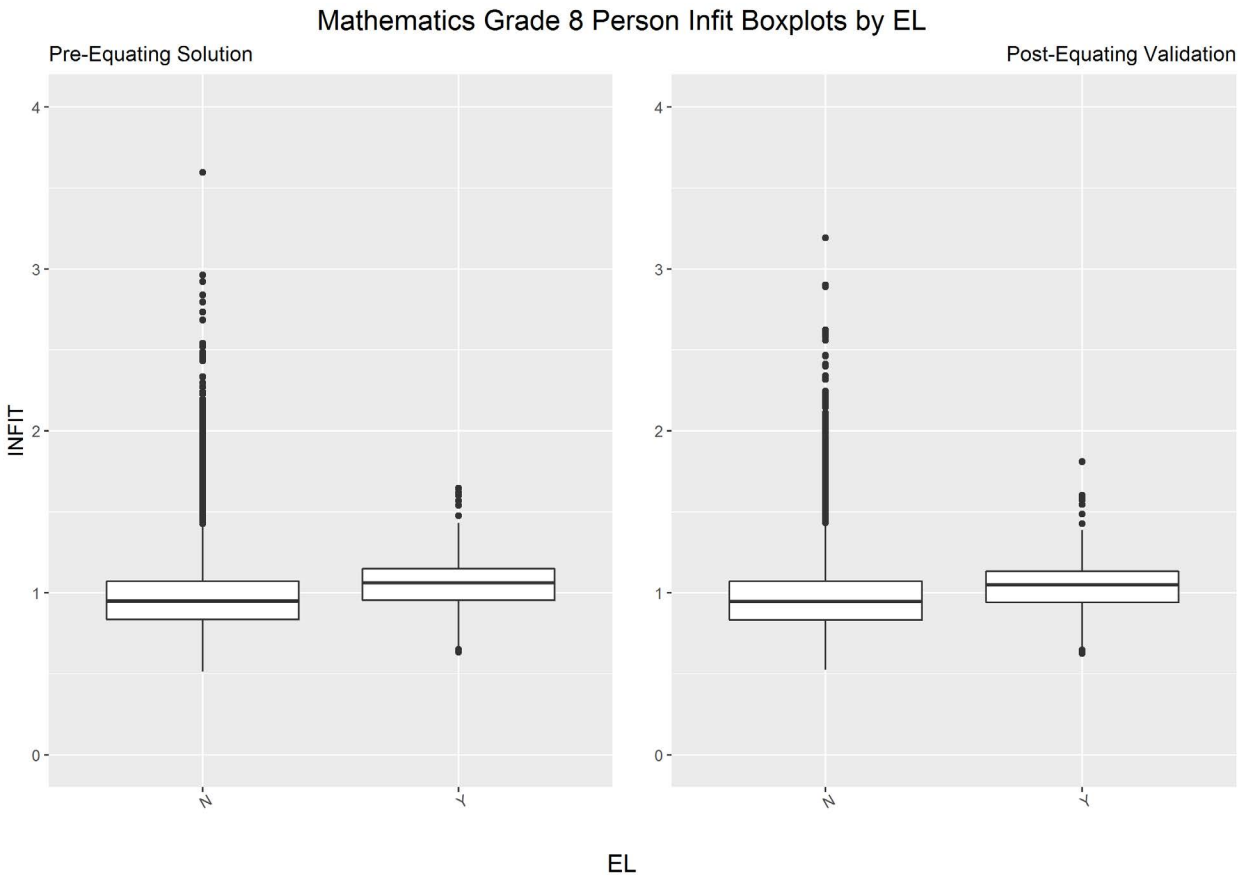


Mathematics Grade 8

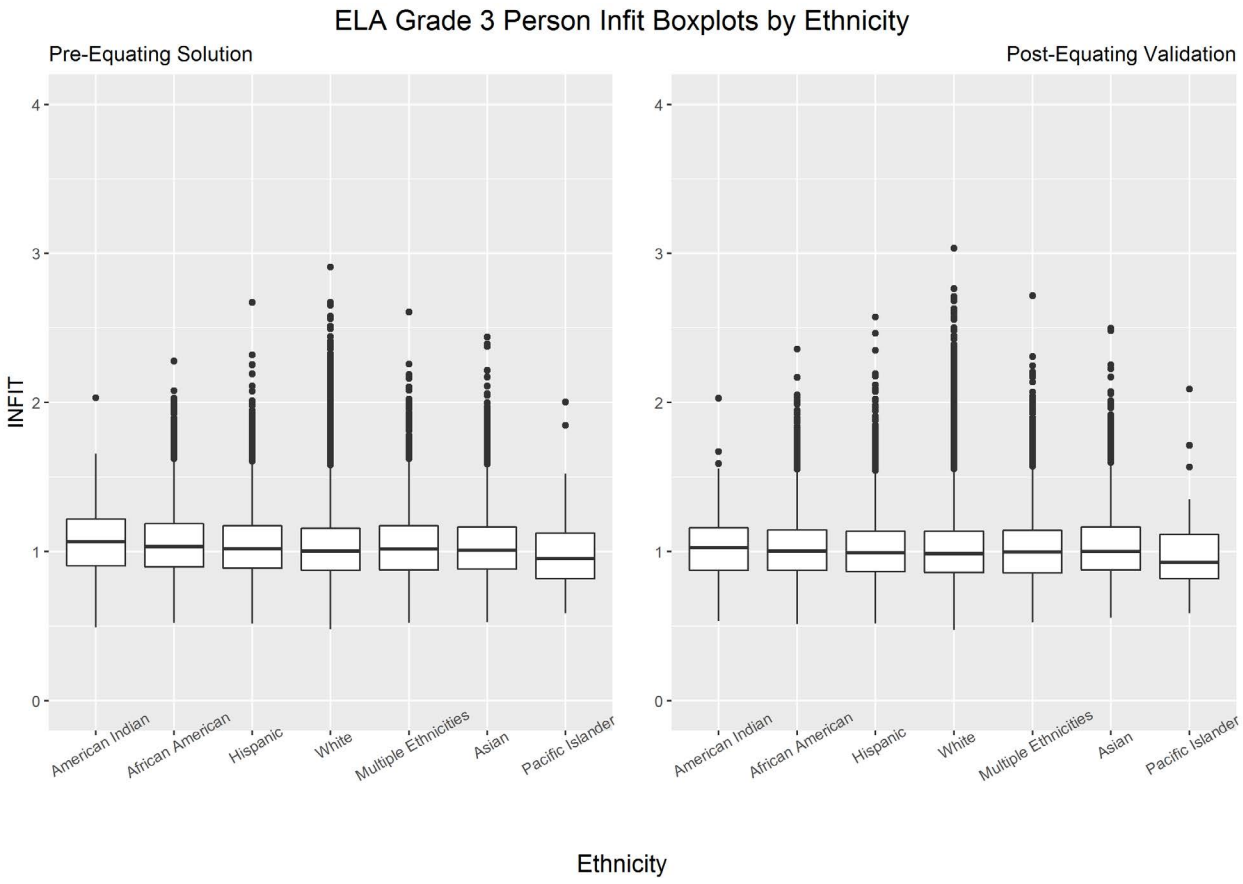


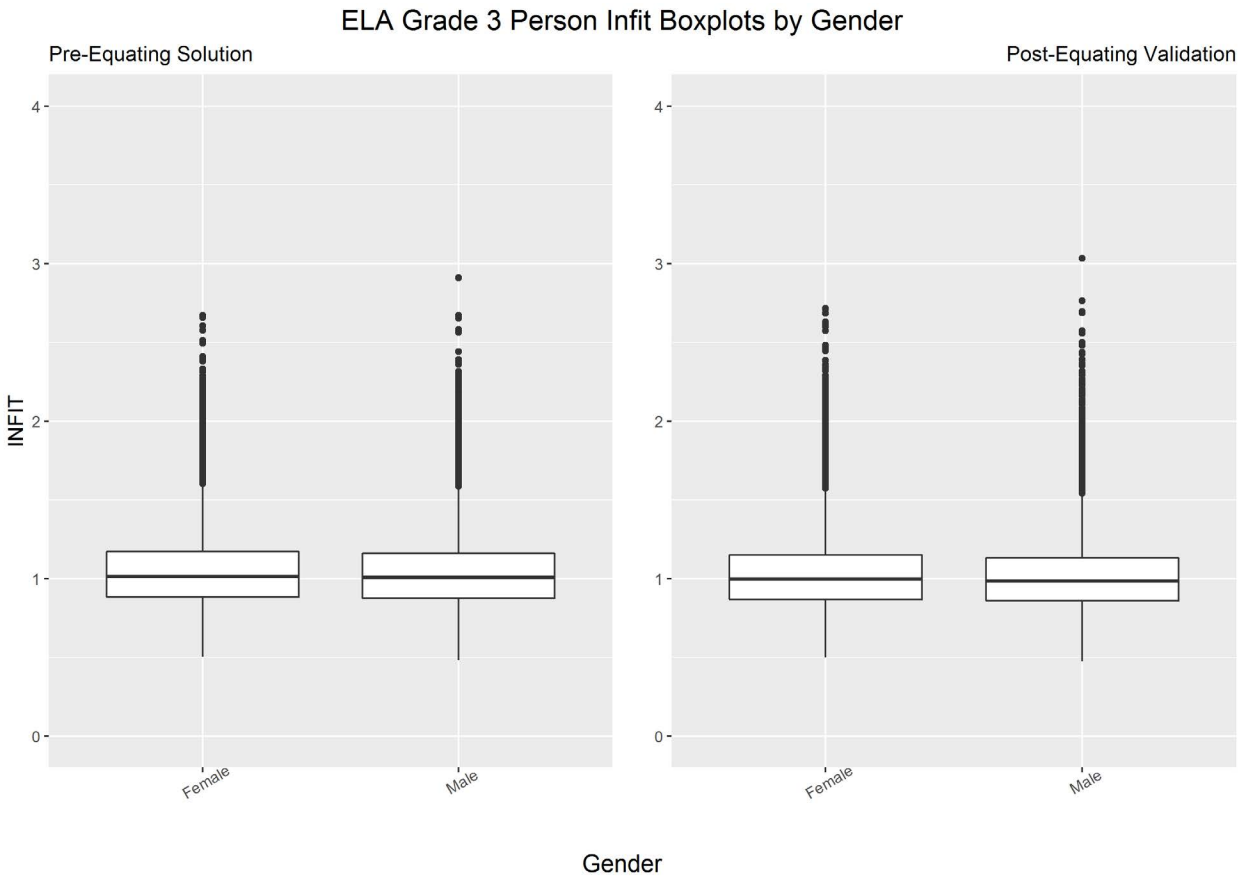

Mathematics Grade 8 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

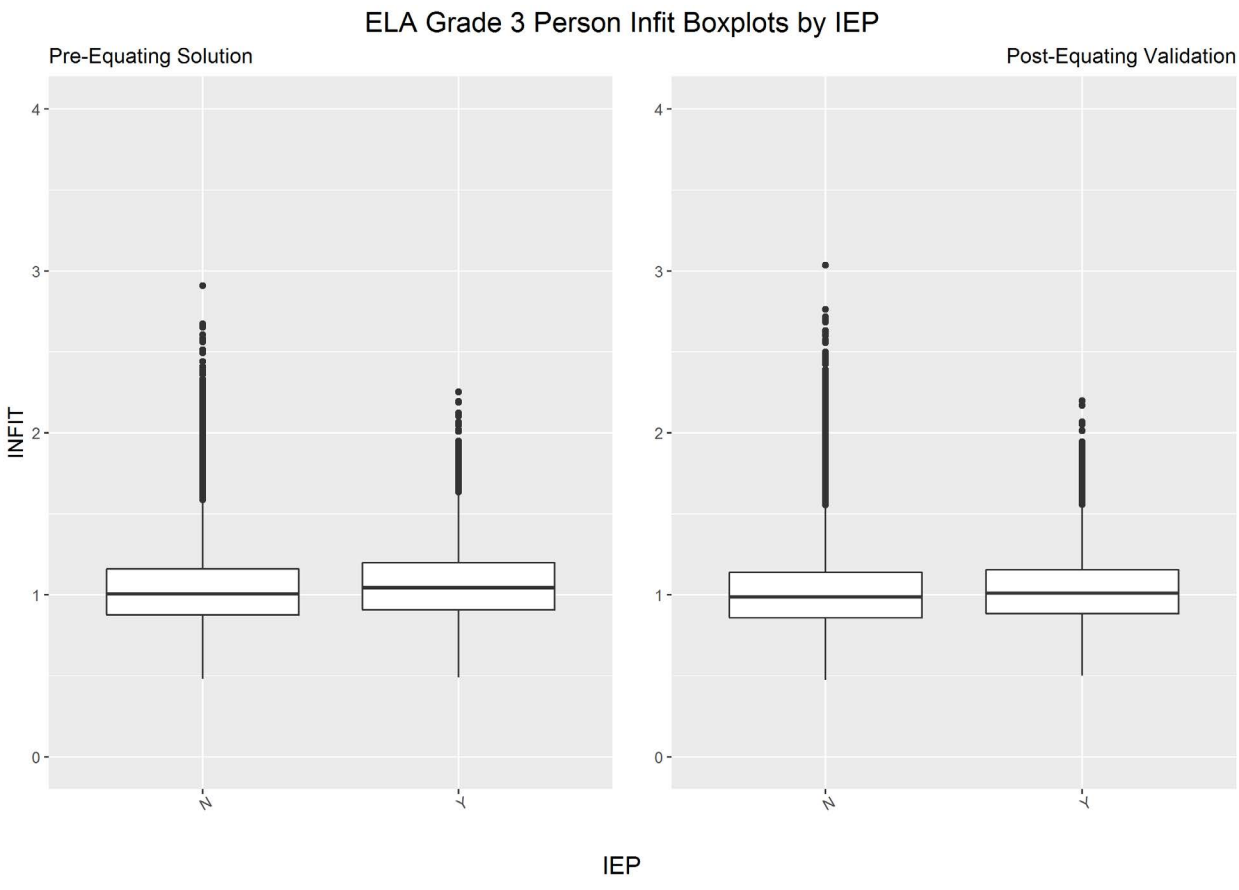

Mathematics Grade 8 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

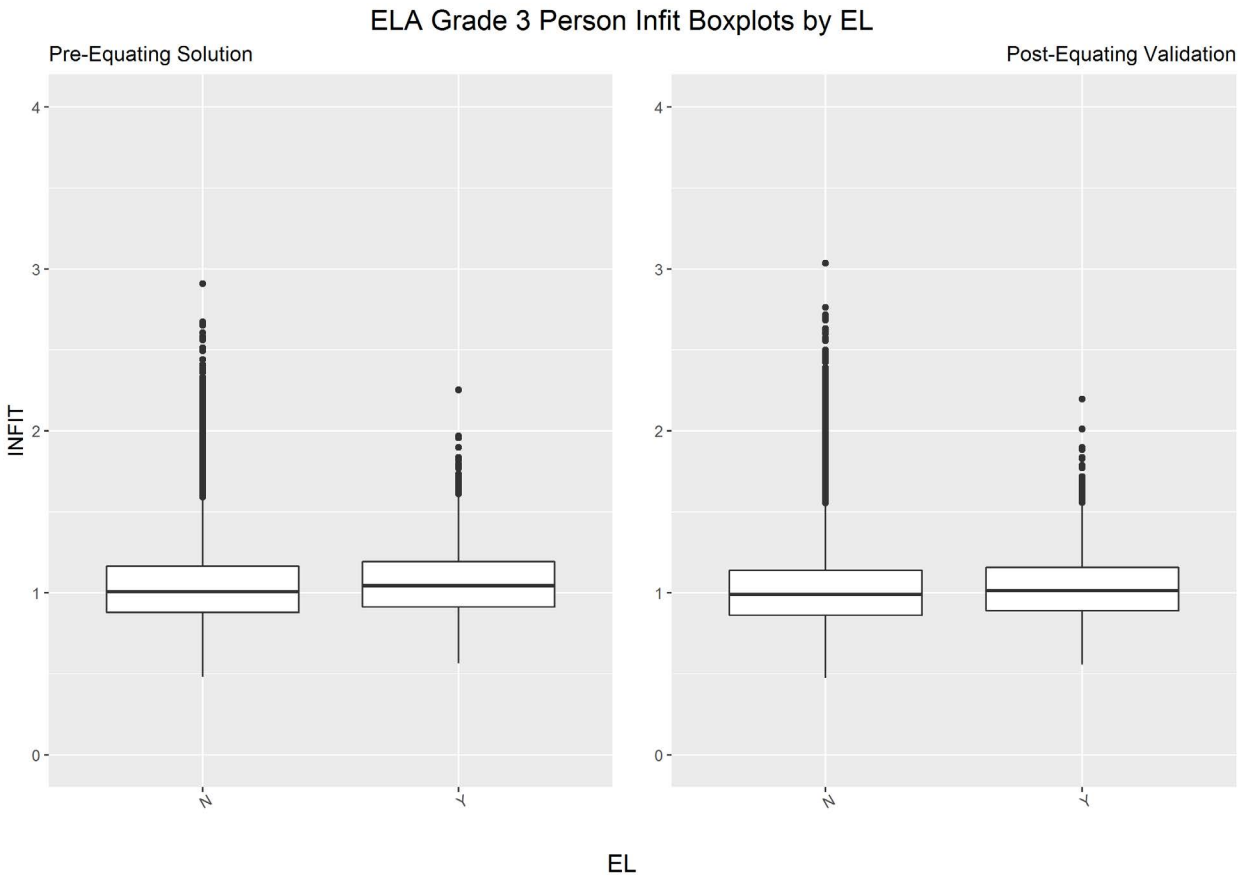

Mathematics Grade 8 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
EL

ELA Grade 3

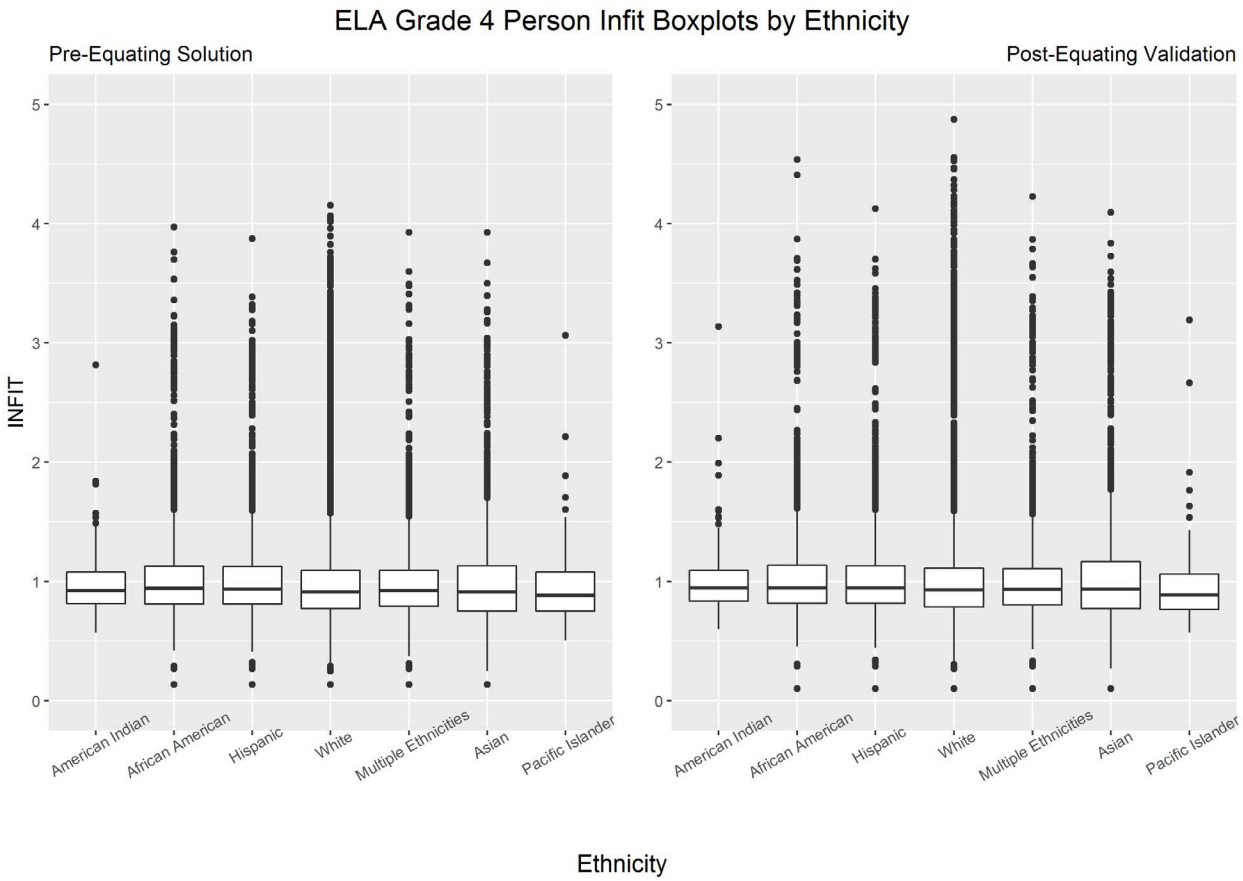

ELA Grade 3 Person Infit Boxplots by Ethnicity
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
American Indian
African American
Hispanic
White
Multiple Ethnicities
Asian
Pacific Islander
Ethnicity


ELA Grade 3 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender


ELA Grade 3 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP


ELA Grade 3 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
EL

ELA Grade 4


ELA Grade 4 Person Infit Boxplots by Ethnicity
Pre-Equating Solution
Post-Equating Validation
INFIT
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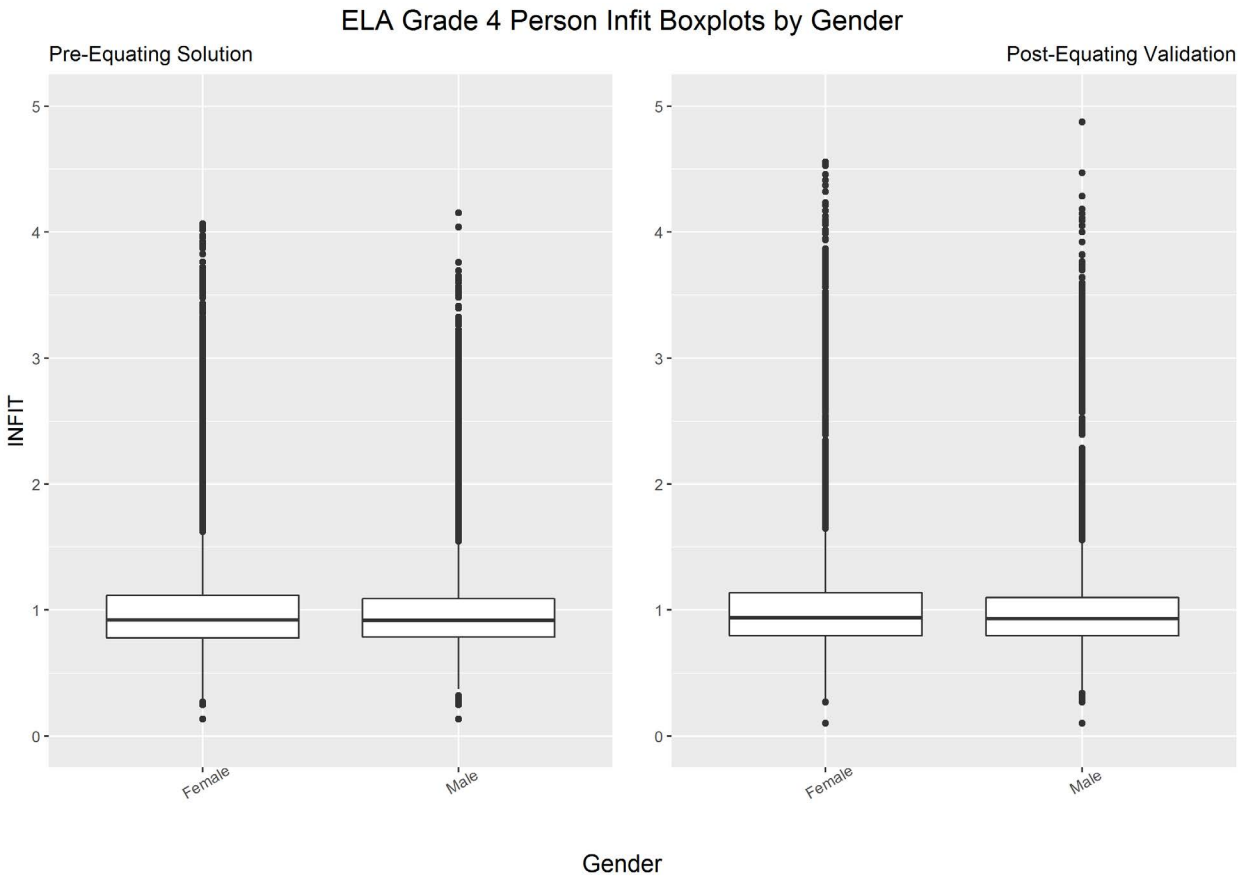
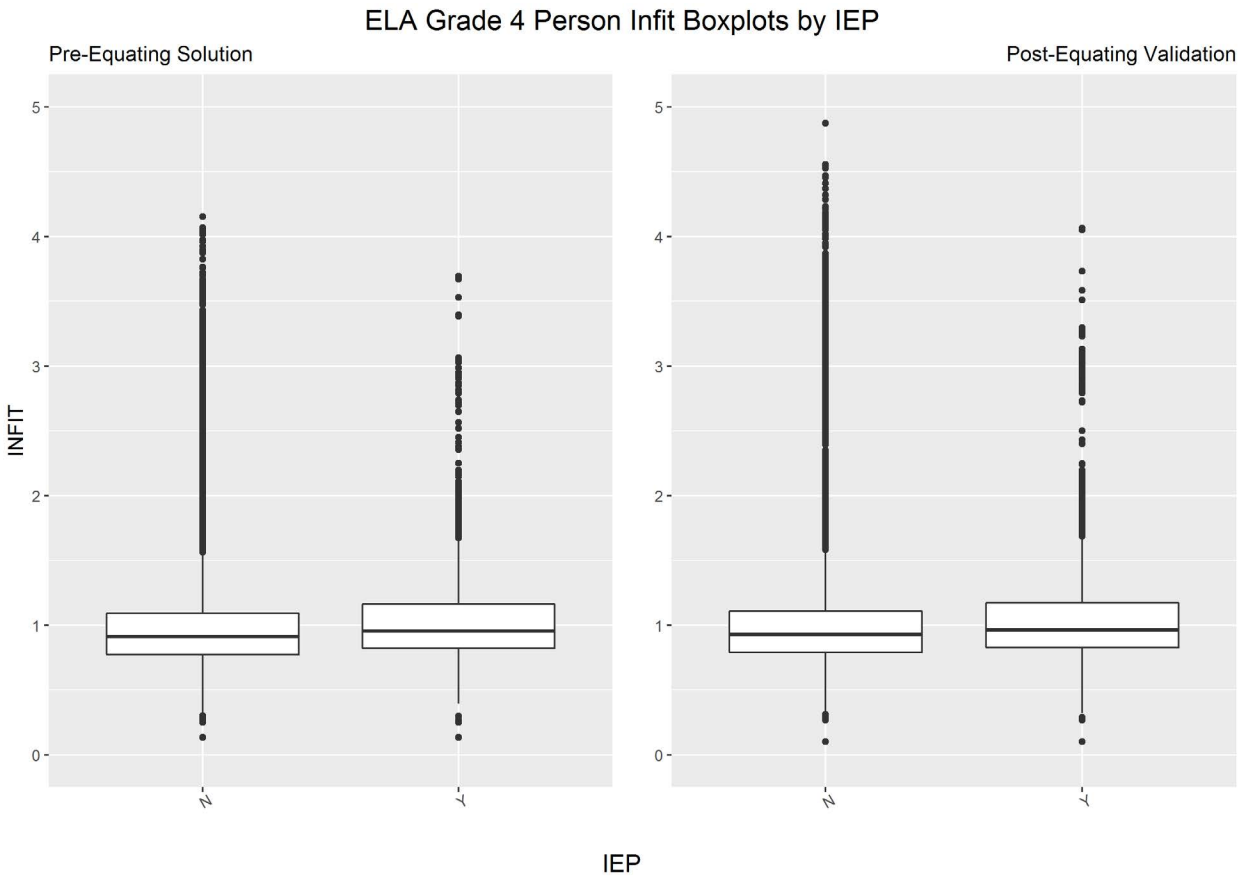
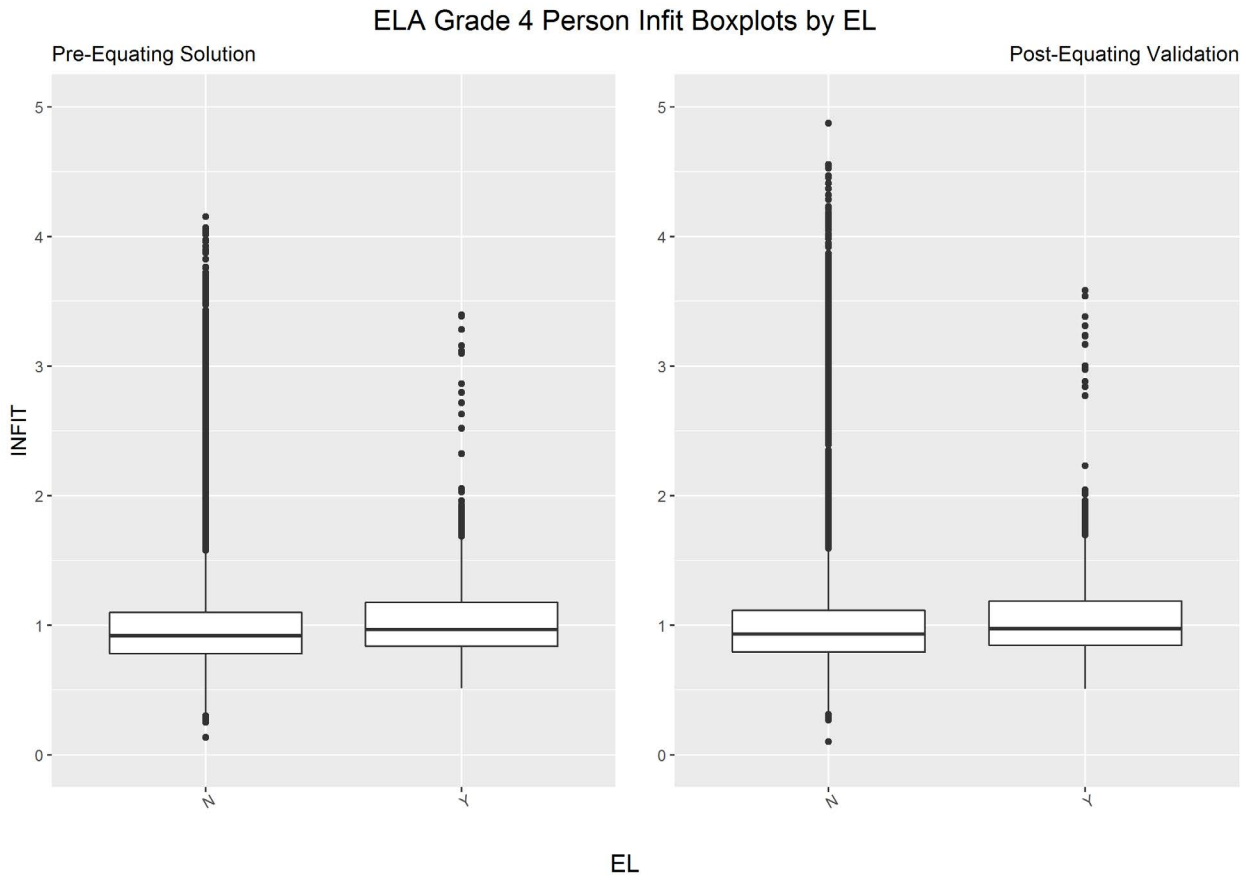
1
2
3
4
5
American Indian
African American
Hispanic
White
Multiple Ethnicities
Asian
Pacific Islander
Ethnicity


ELA Grade 4 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
5
Female
Male
Gender


ELA Grade 4 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
5
N
Y
IEP


ELA Grade 4 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
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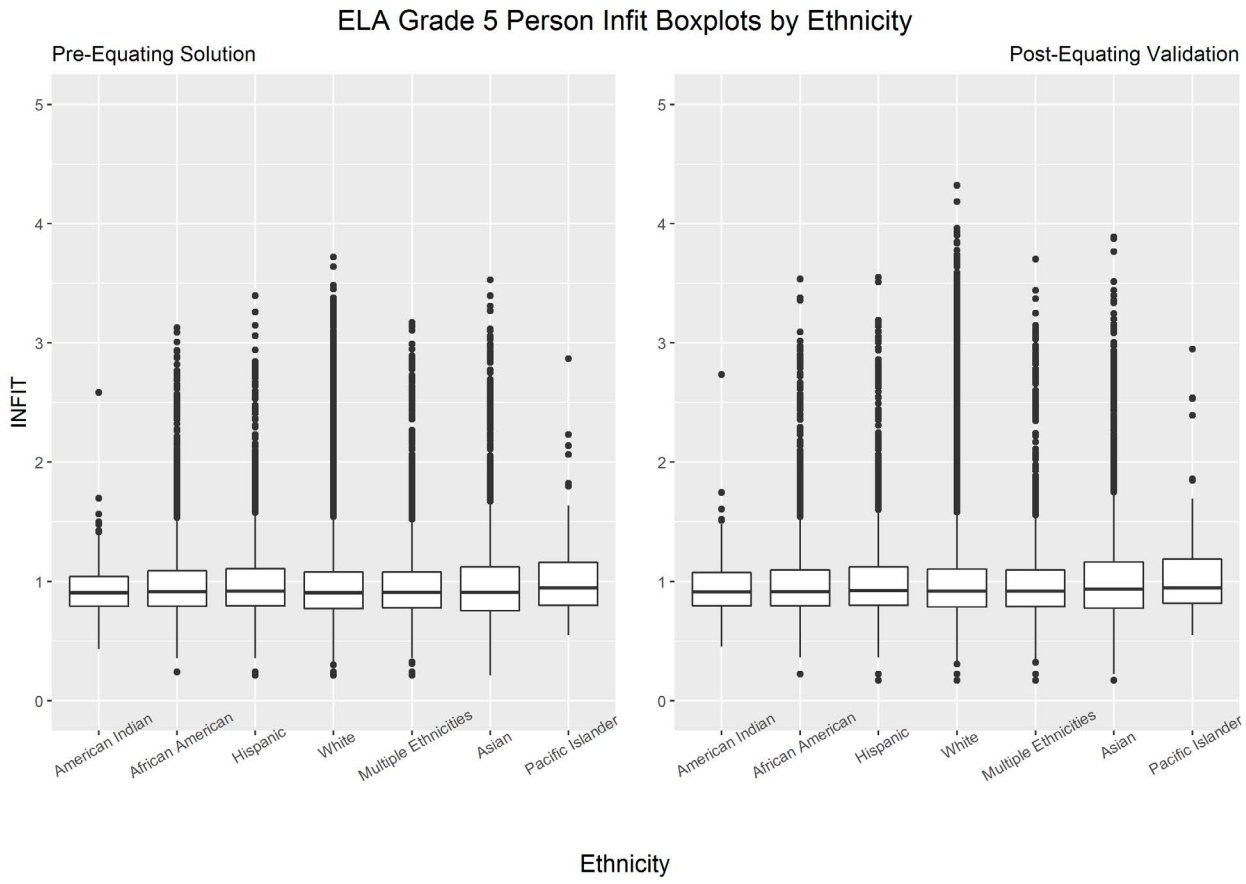
1
2
3
4
5
N
Y
EL

ELA Grade 5


ELA Grade 5 Person Infit Boxplots by Ethnicity
Pre-Equating Solution
Post-Equating Validation
INFIT
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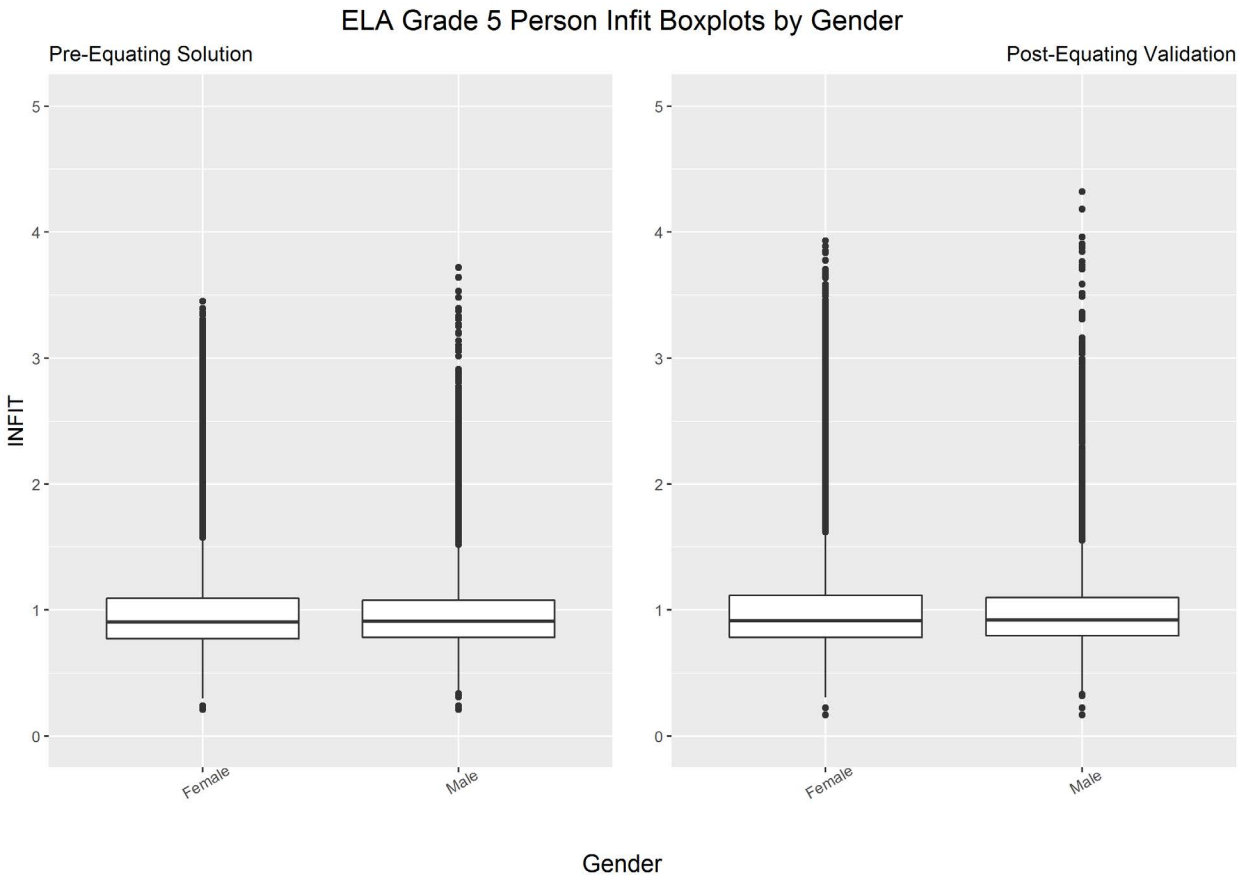
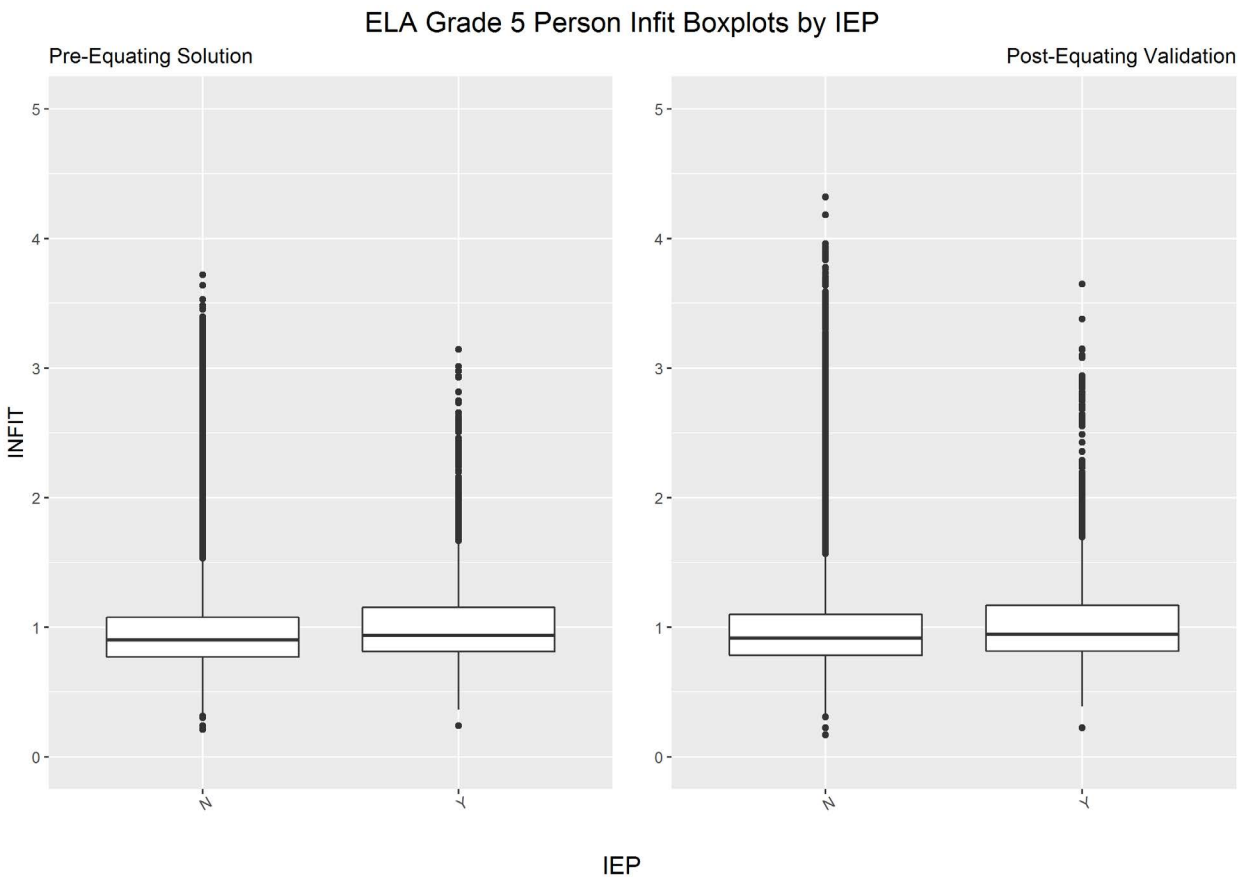
1
2
3
4
5
American Indian
African American
Hispanic
White
Multiple Ethnicities
Asian
Pacific Islander
Ethnicity


ELA Grade 5 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
5
Female
Male
Gender


ELA Grade 5 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
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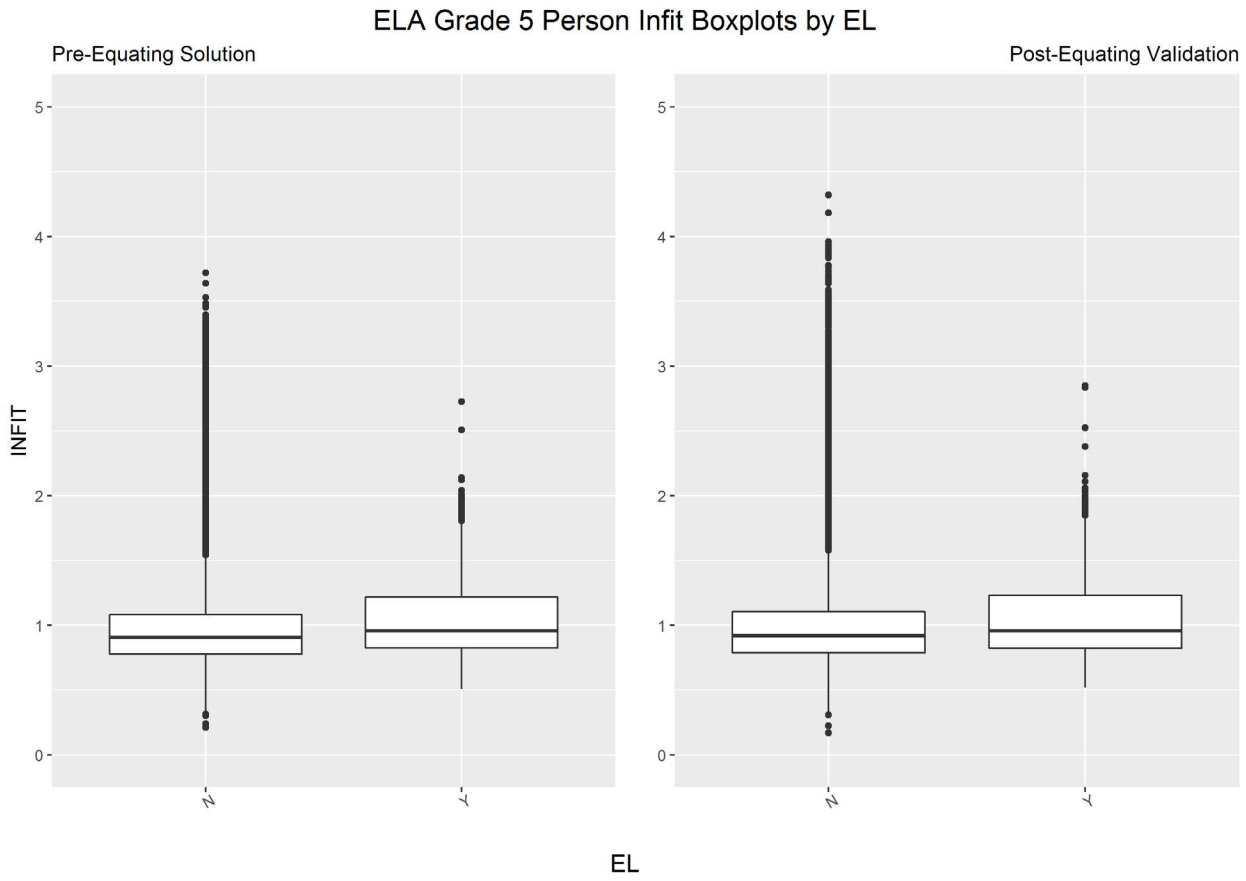
1
2
3
4
5
N
Y
IEP


ELA Grade 5 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
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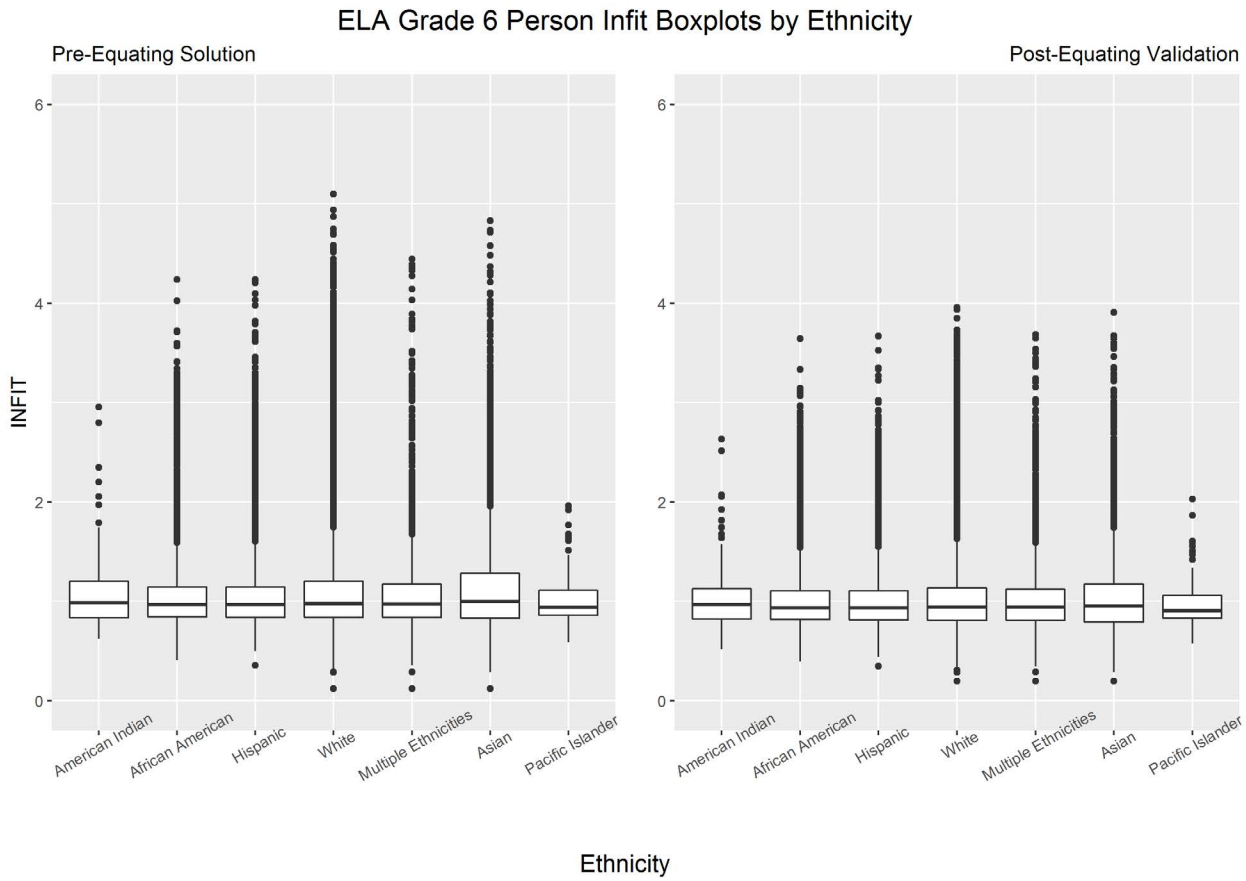
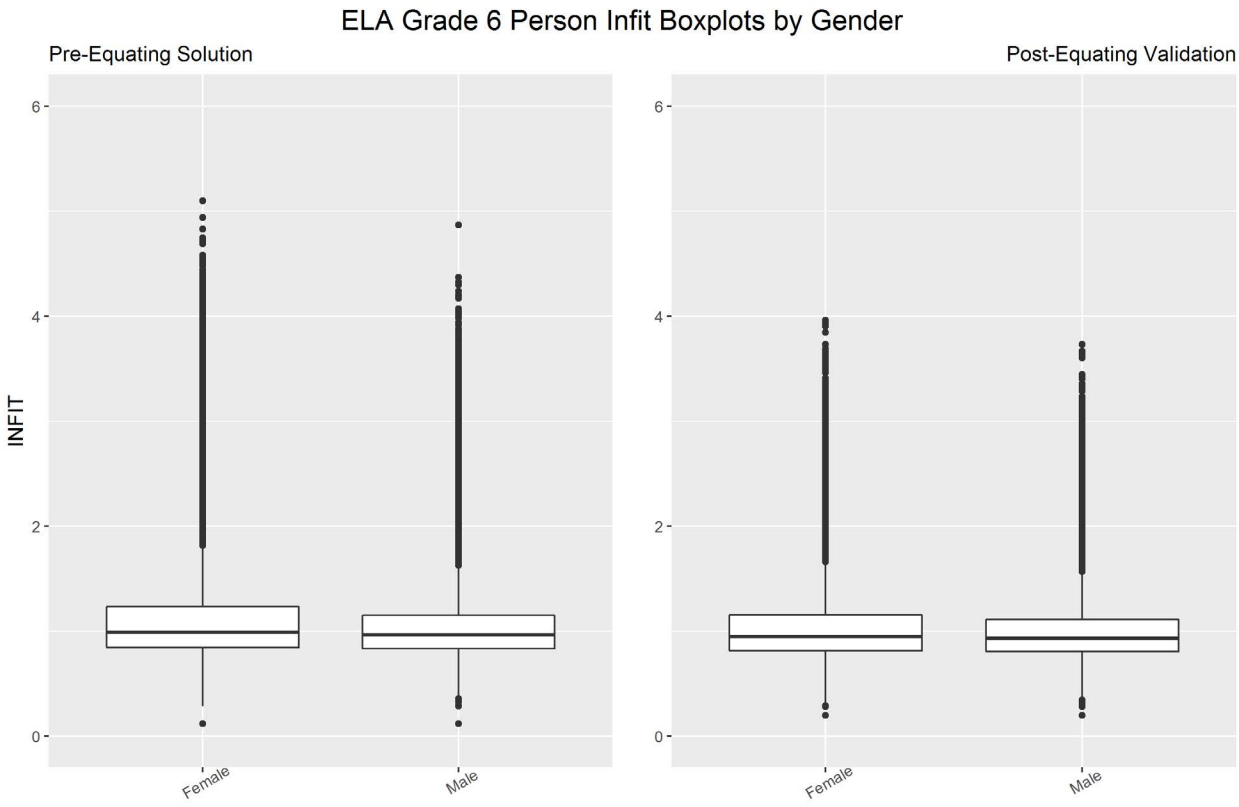
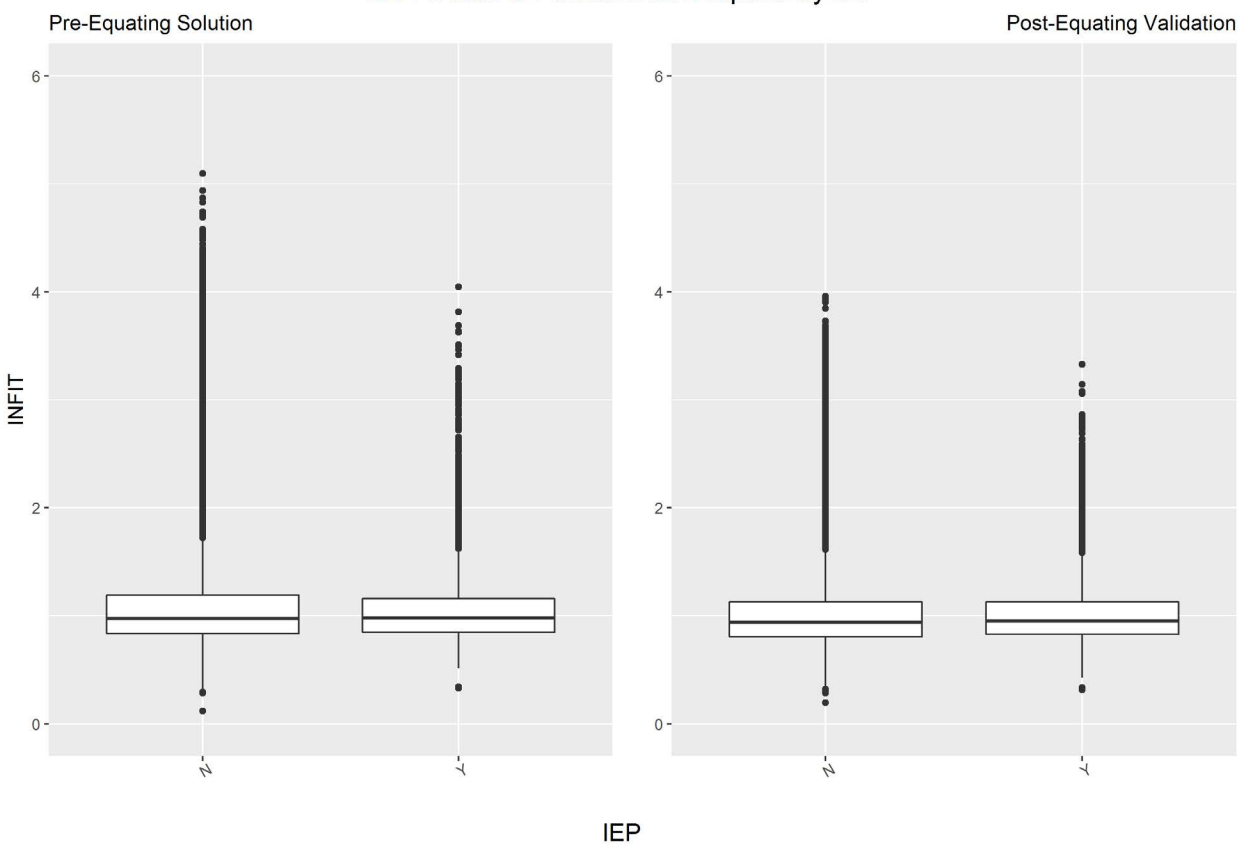
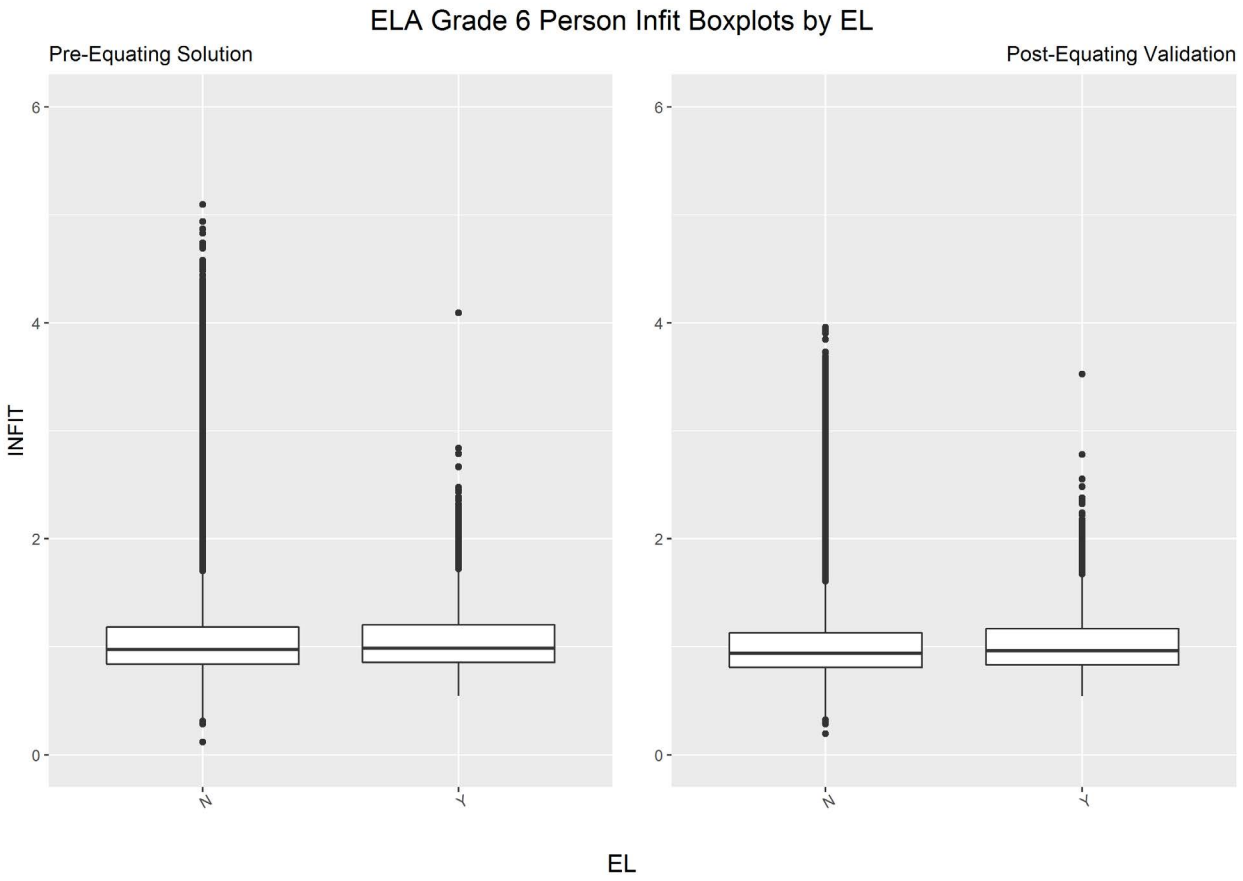
1
2
3
4
5
N
Y
EL

ELA Grade 6

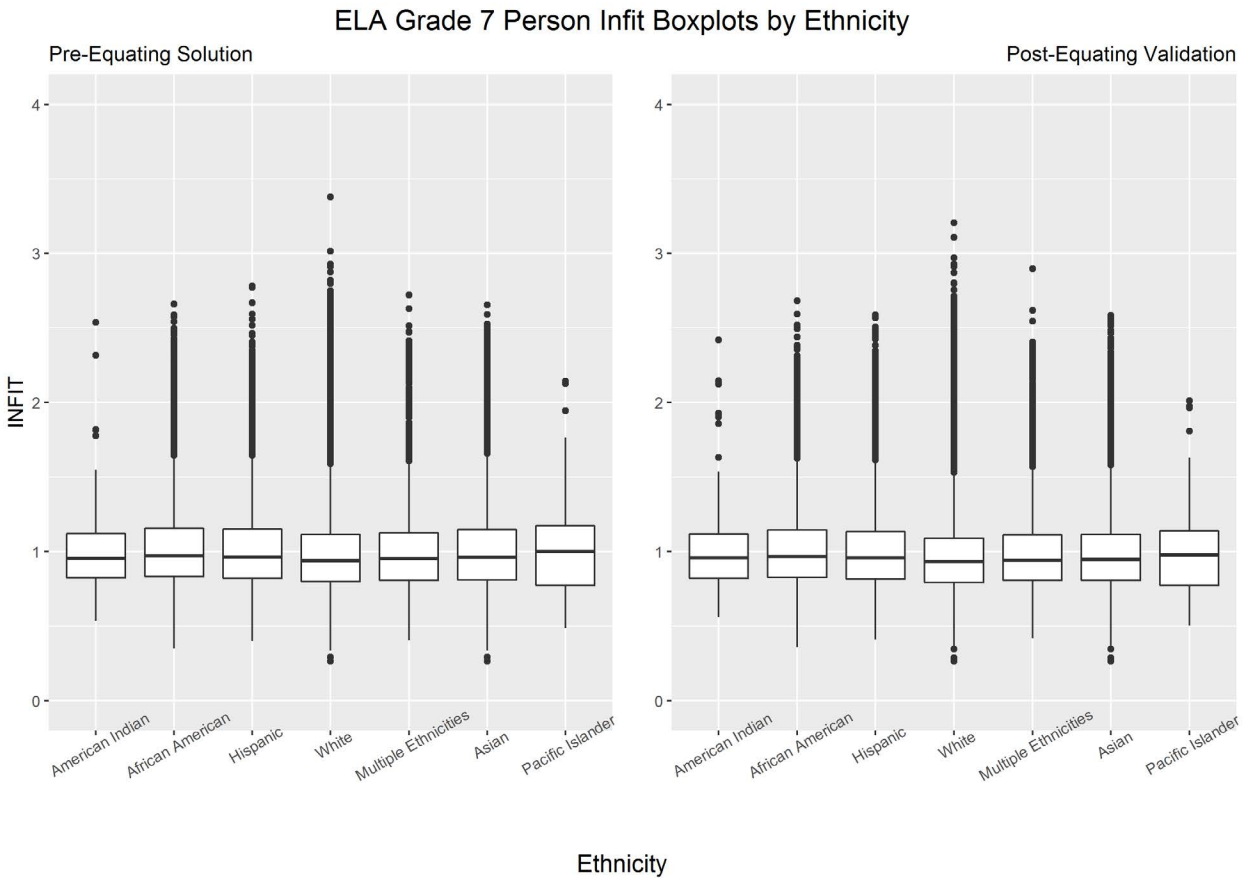

ELA Grade 6 Person Infit Boxplots by Ethnicity
Pre-Equating Solution
Post-Equating Validation
INFIT
0
2
4
6
American Indian
African American
Hispanic
White
Multiple Ethnicities
Asian
Pacific Islander
Ethnicity

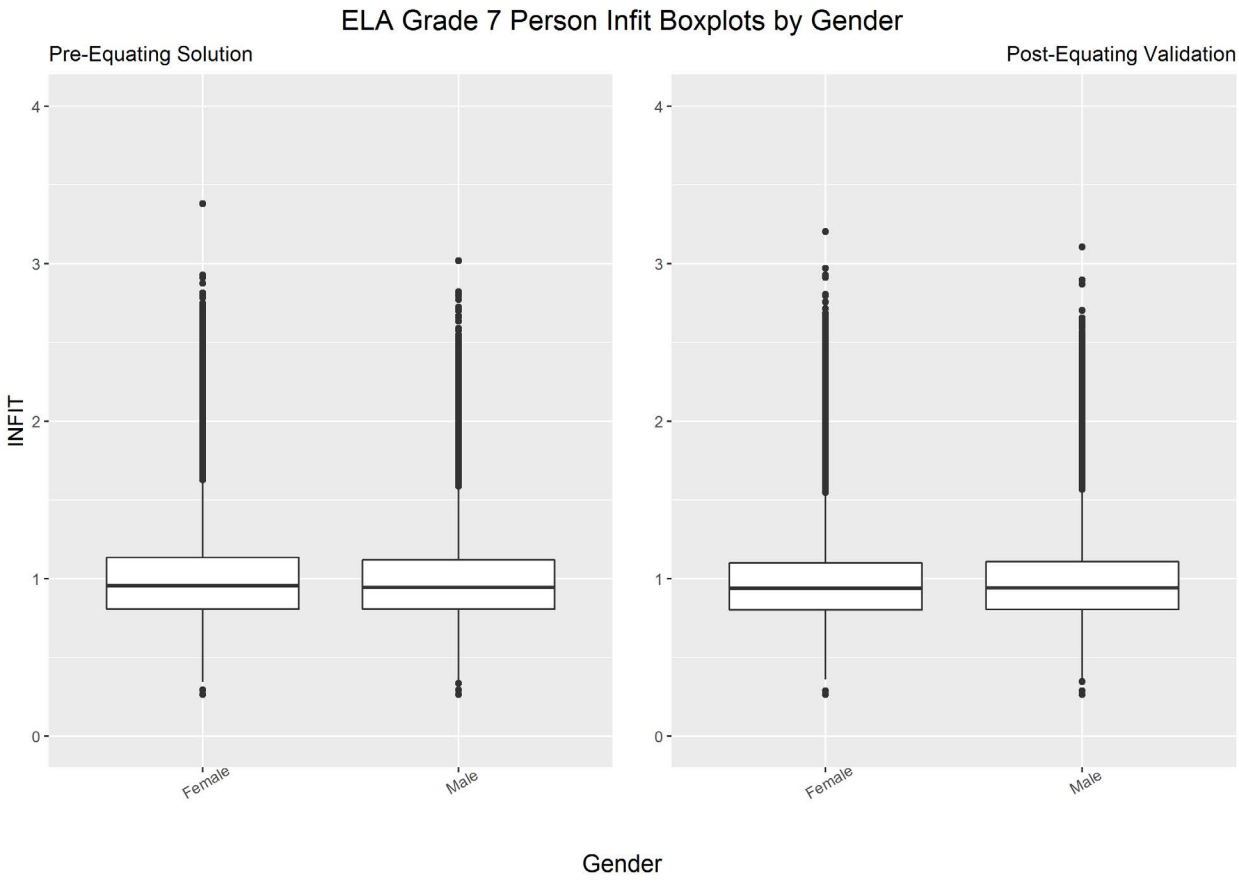

ELA Grade 6 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
2
4
6
Female
Male
Gender

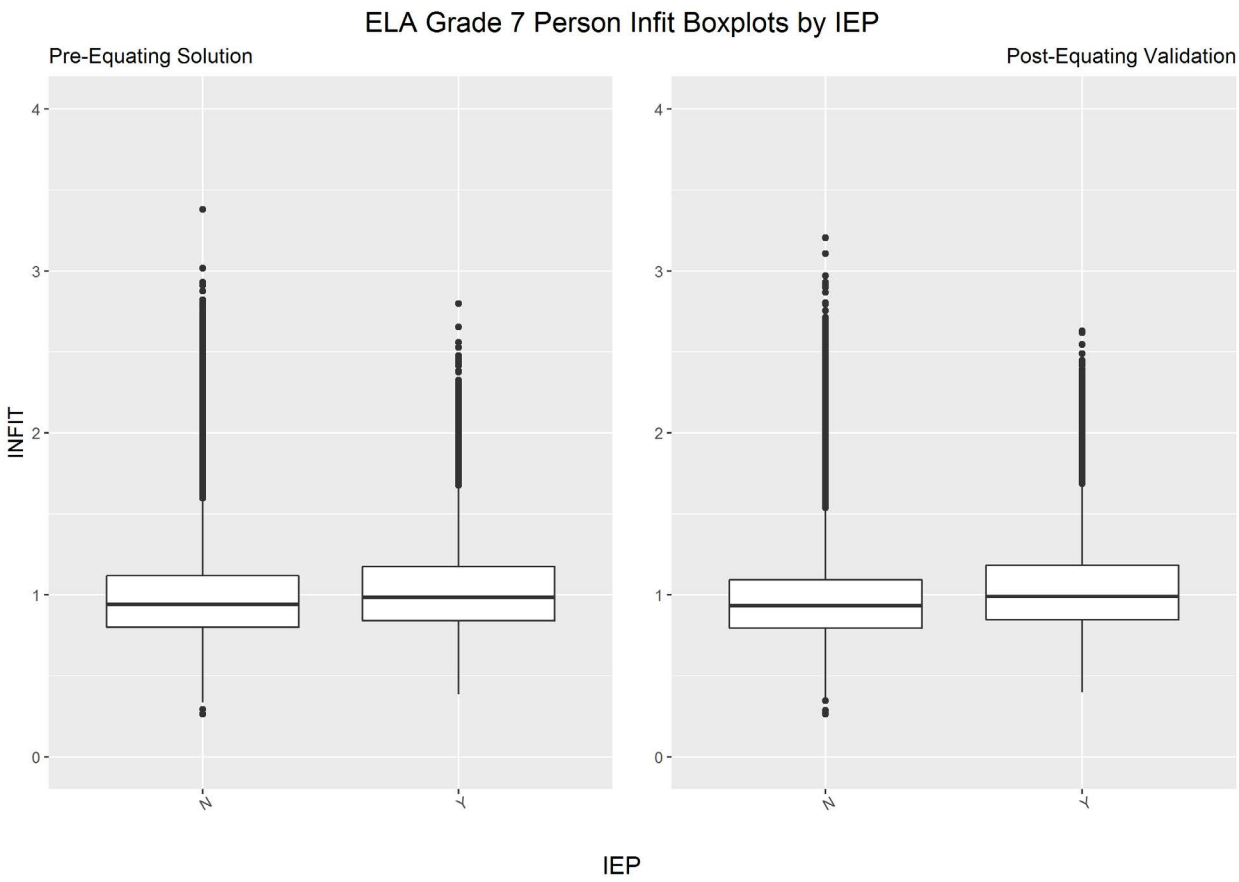

ELA Grade 6 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
2
4
6
N
Y
IEP

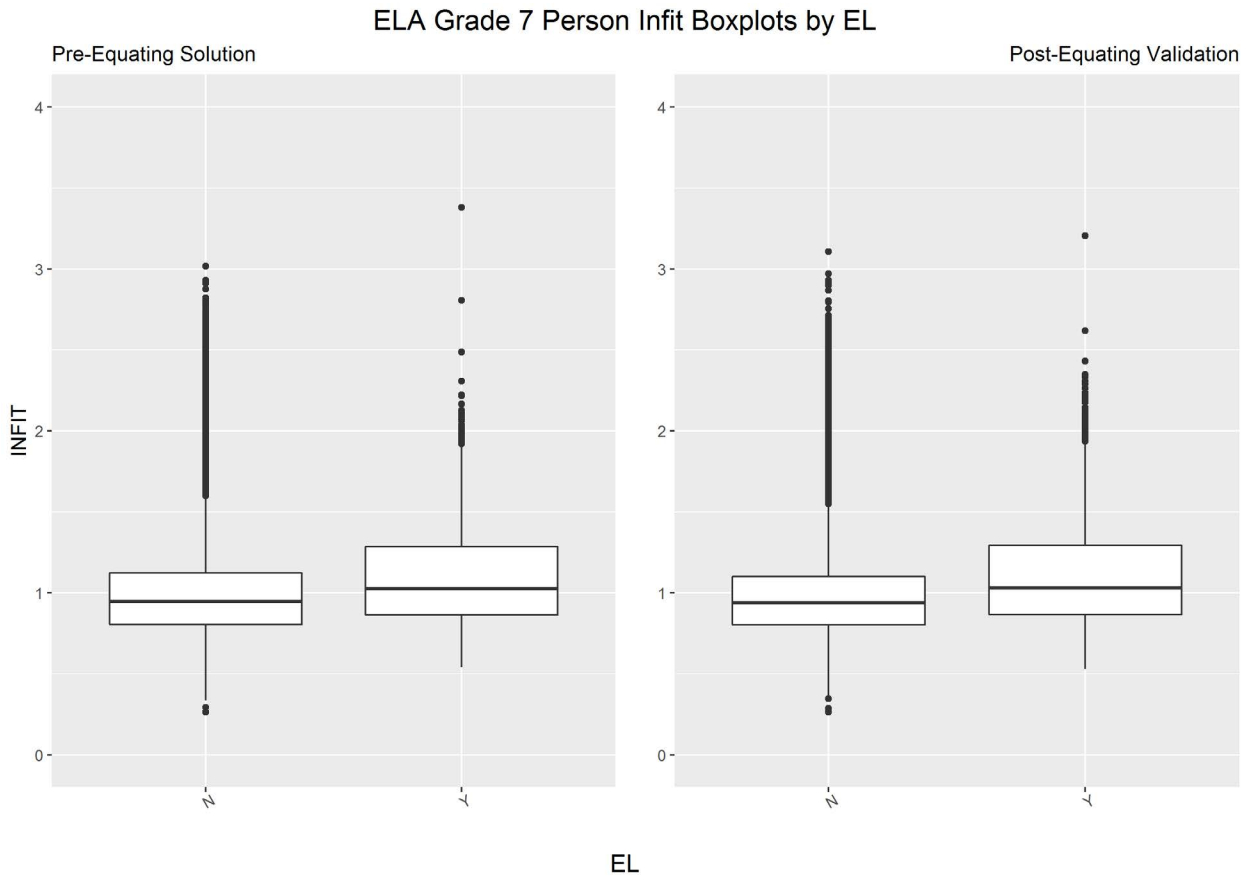

ELA Grade 6 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
0
2
4
6
N
Y
EL

ELA Grade 7

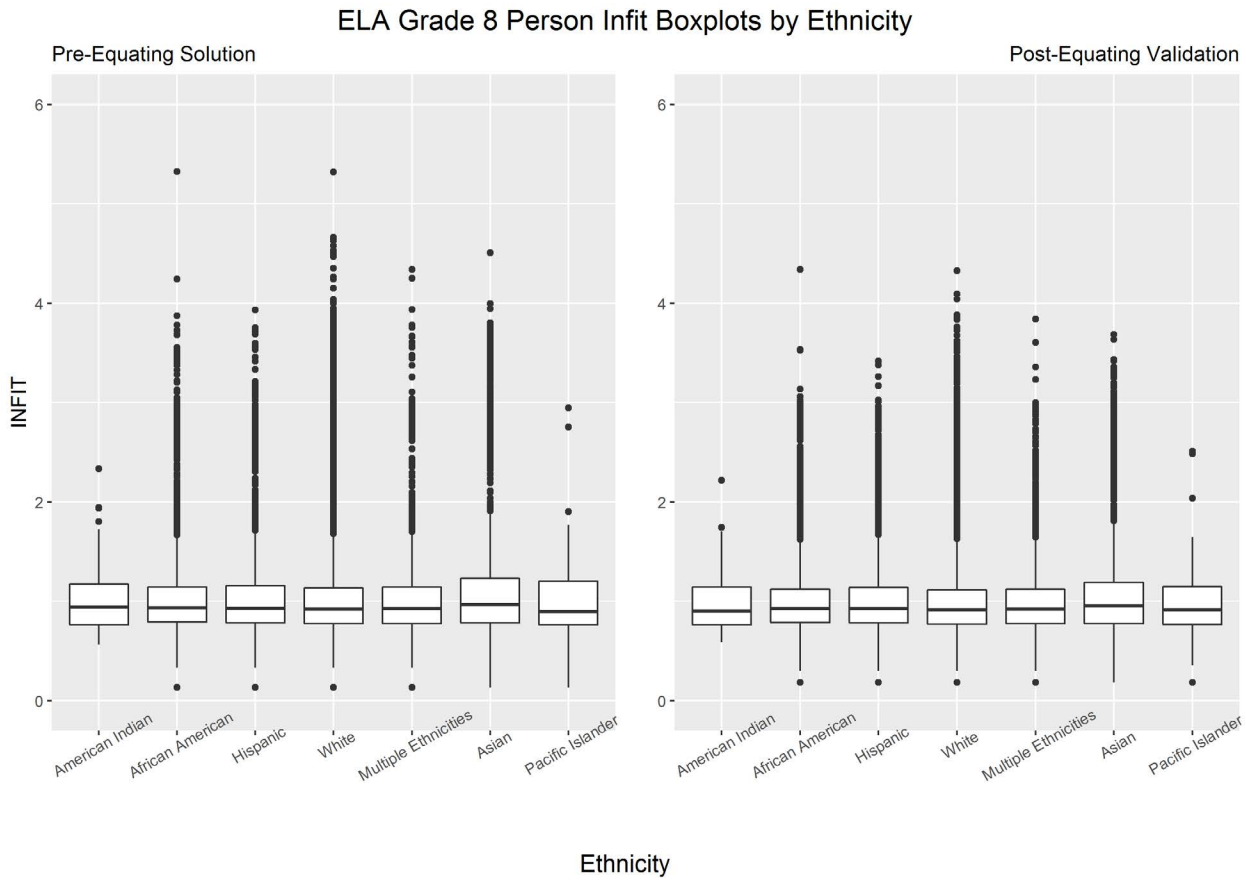

ELA Grade 7 Person Infit Boxplots by Ethnicity
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
American Indian
African American
Hispanic
White
Multiple Ethnicities
Asian
Pacific Islander
Ethnicity

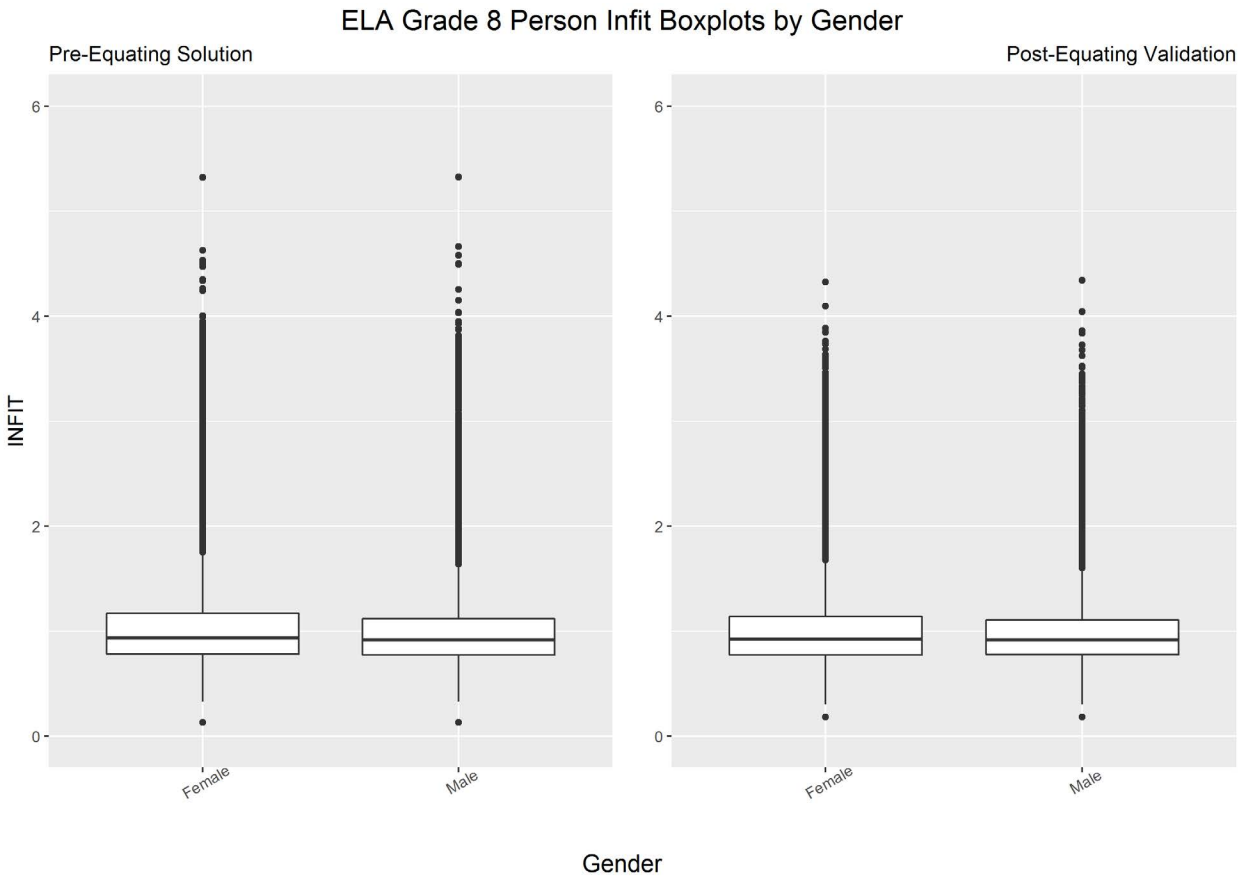

ELA Grade 7 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
Female
Male
Gender

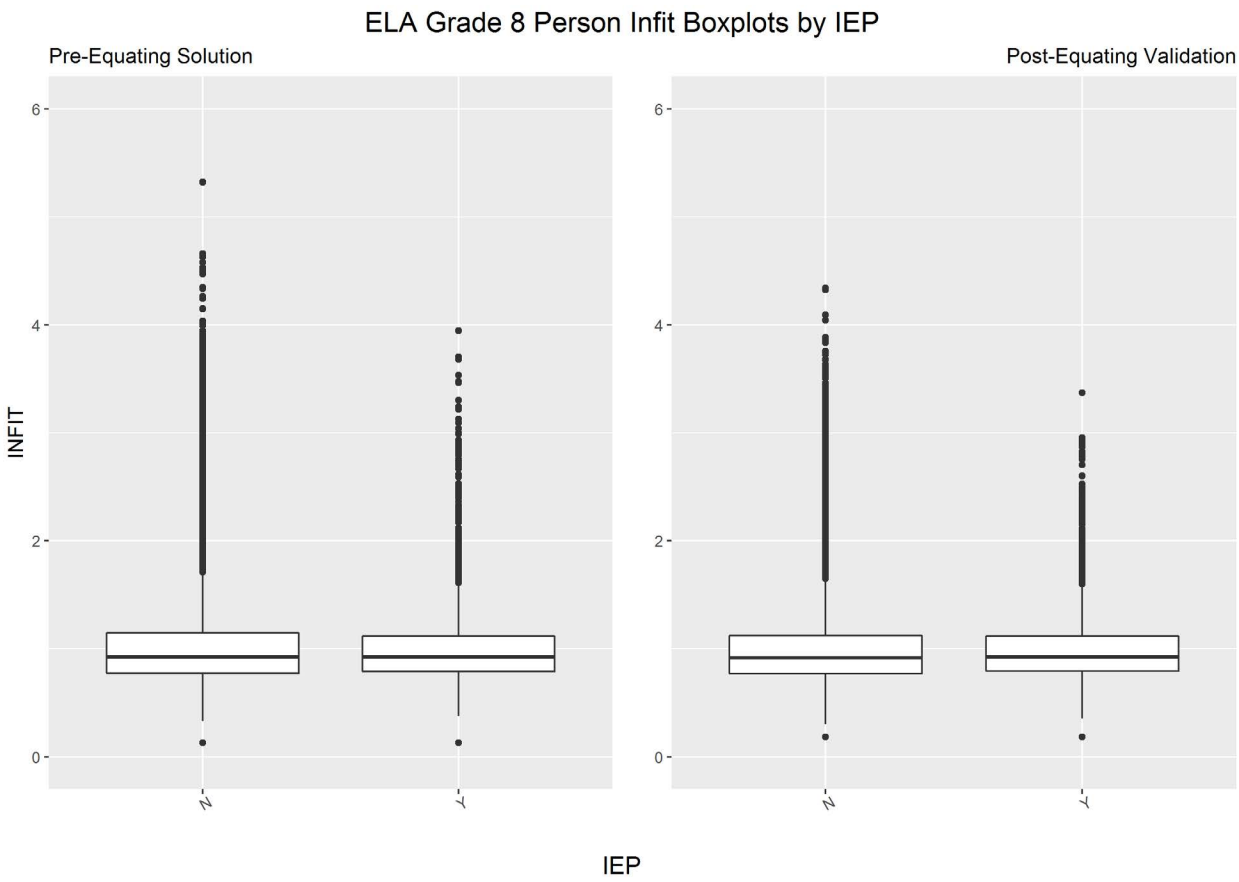

ELA Grade 7 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
IEP

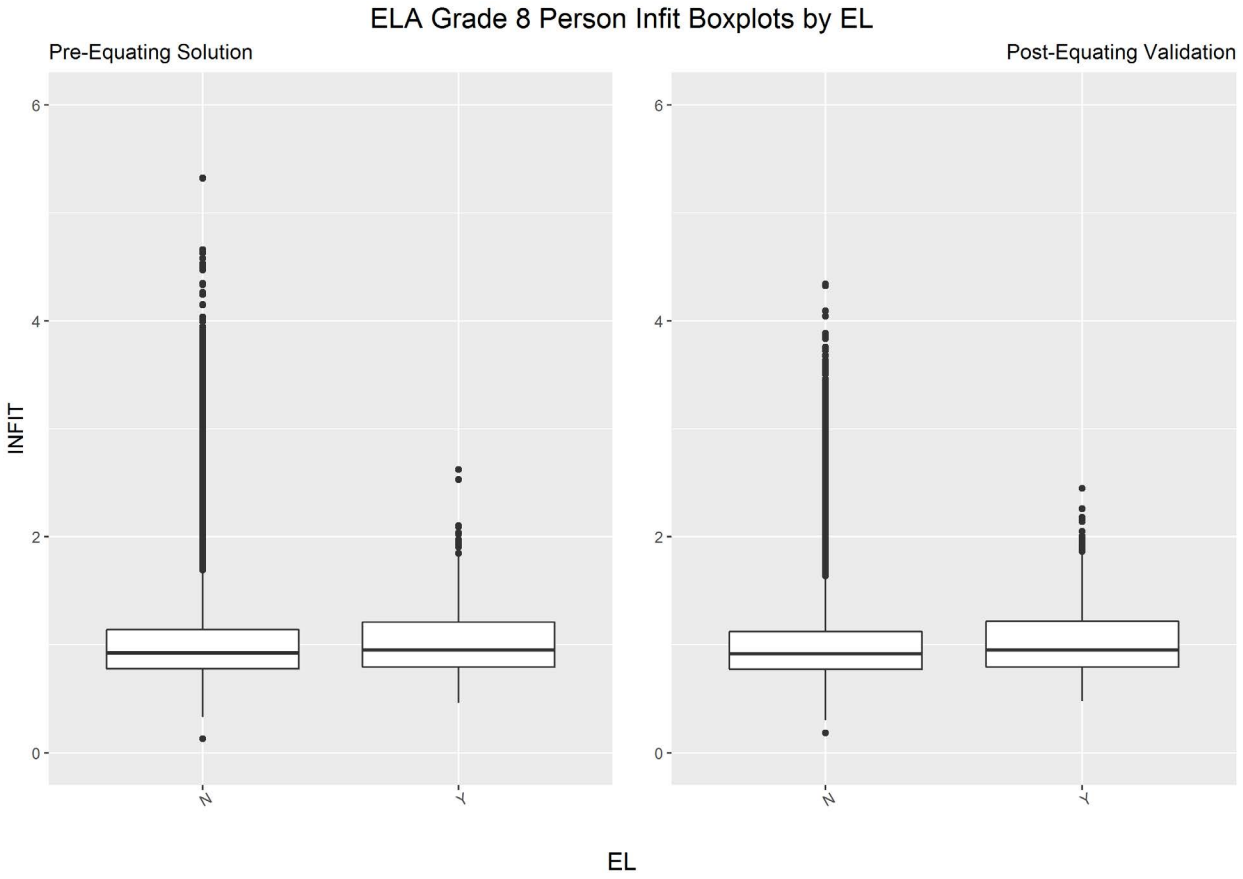

ELA Grade 7 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
0
1
2
3
4
N
Y
EL

ELA Grade 8

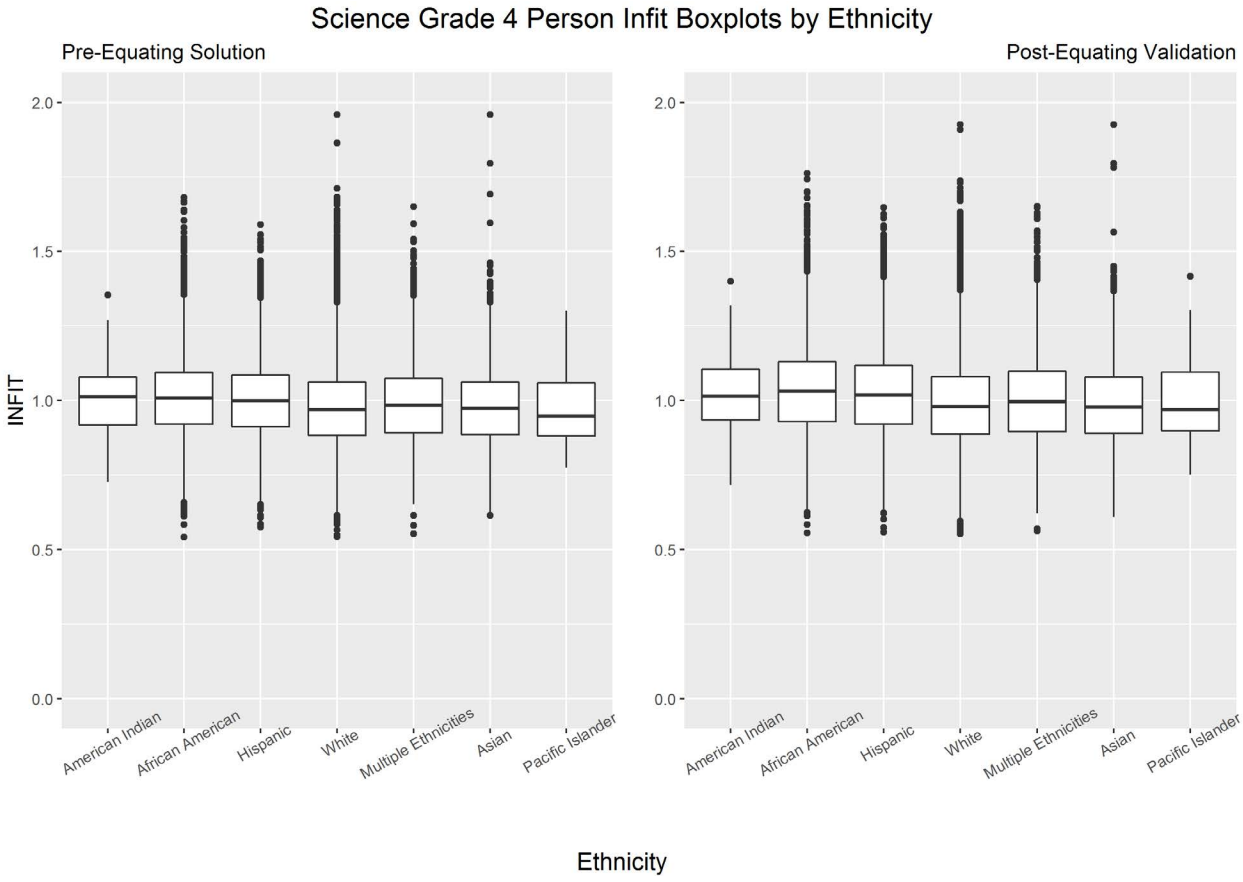

ELA Grade 8 Person Infit Boxplots by Ethnicity
Pre-Equating Solution
Post-Equating Validation
INFIT
0
2
4
6
American Indian
African American
Hispanic
White
Multiple Ethnicities
Asian
Pacific Islander
Ethnicity

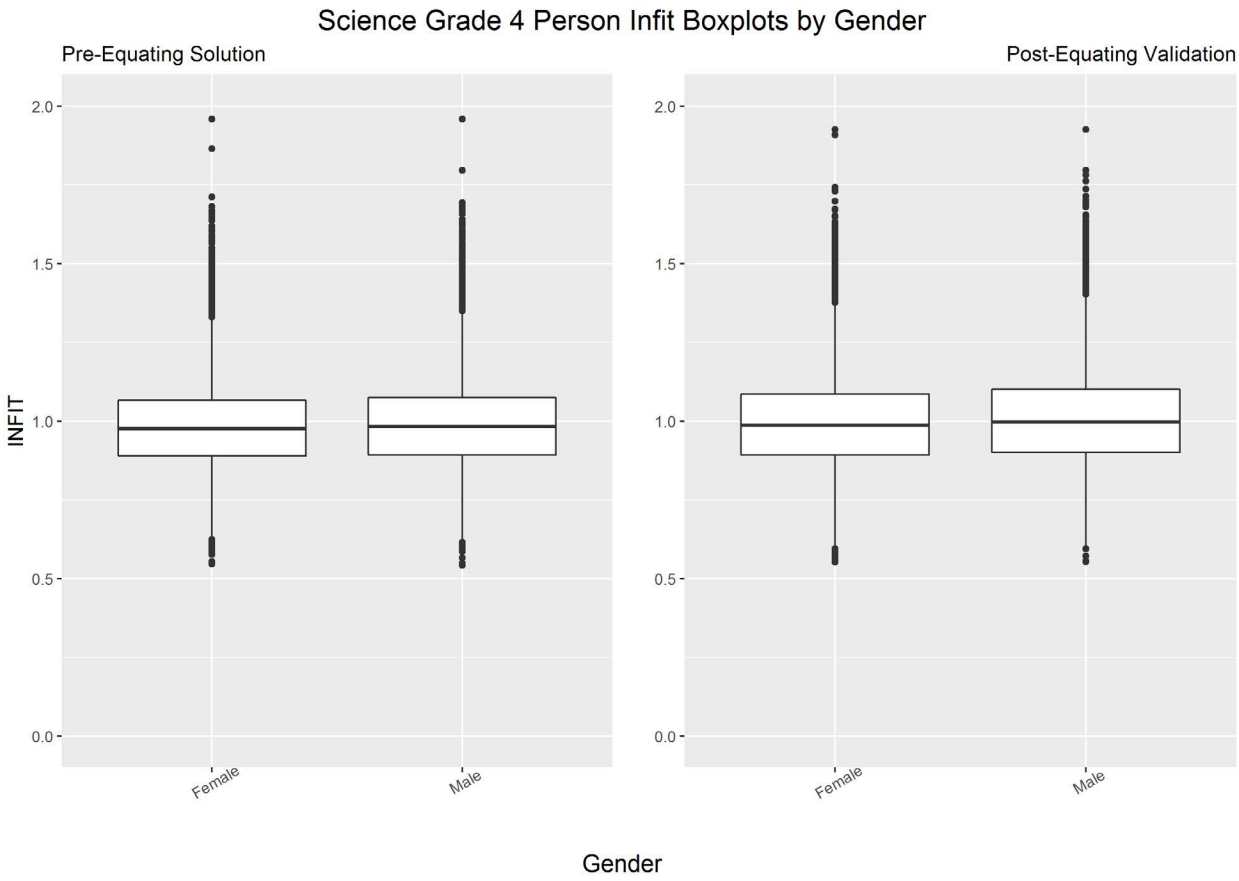

ELA Grade 8 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
6
4
2
0
Female
Male
Gender

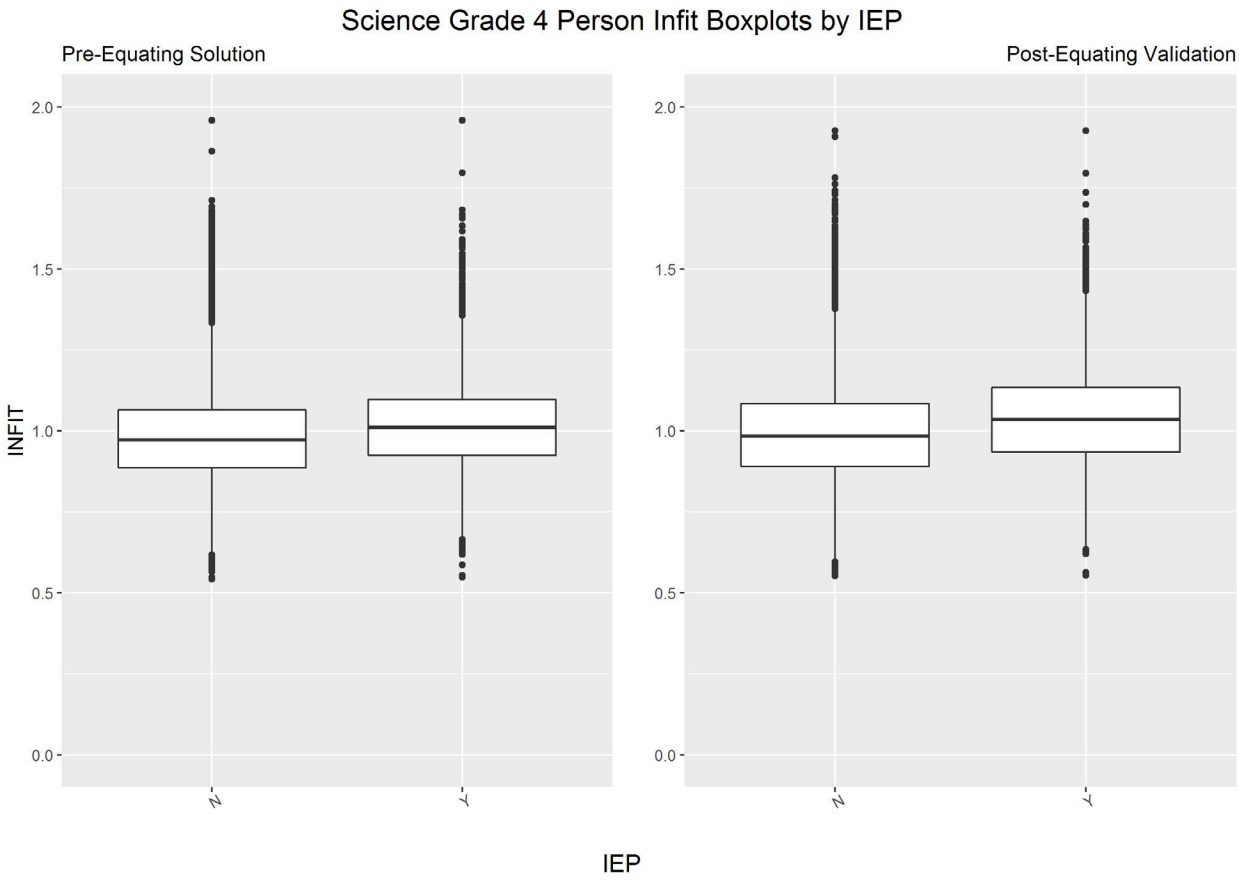

ELA Grade 8 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
6
4
2
0
N
Y
IEP

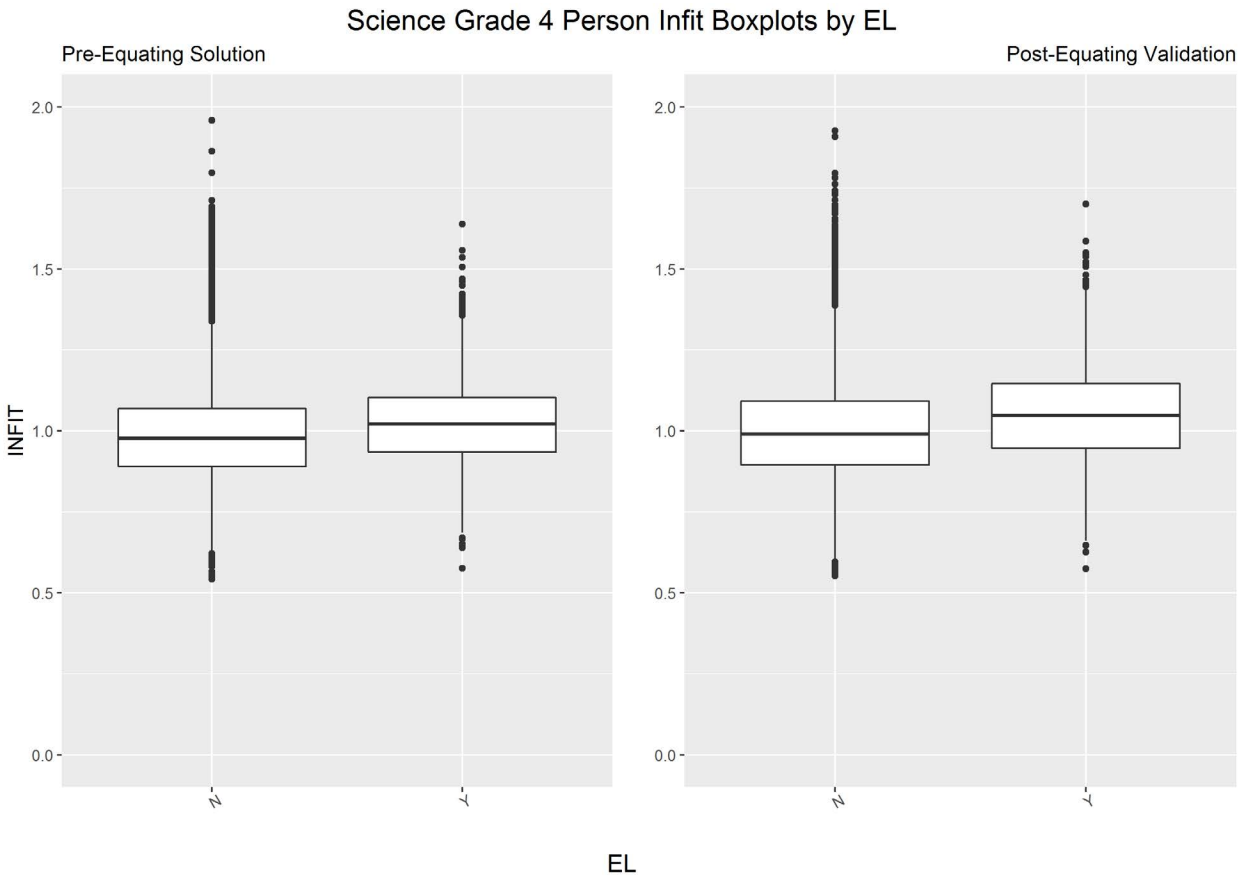


Science Grade 4

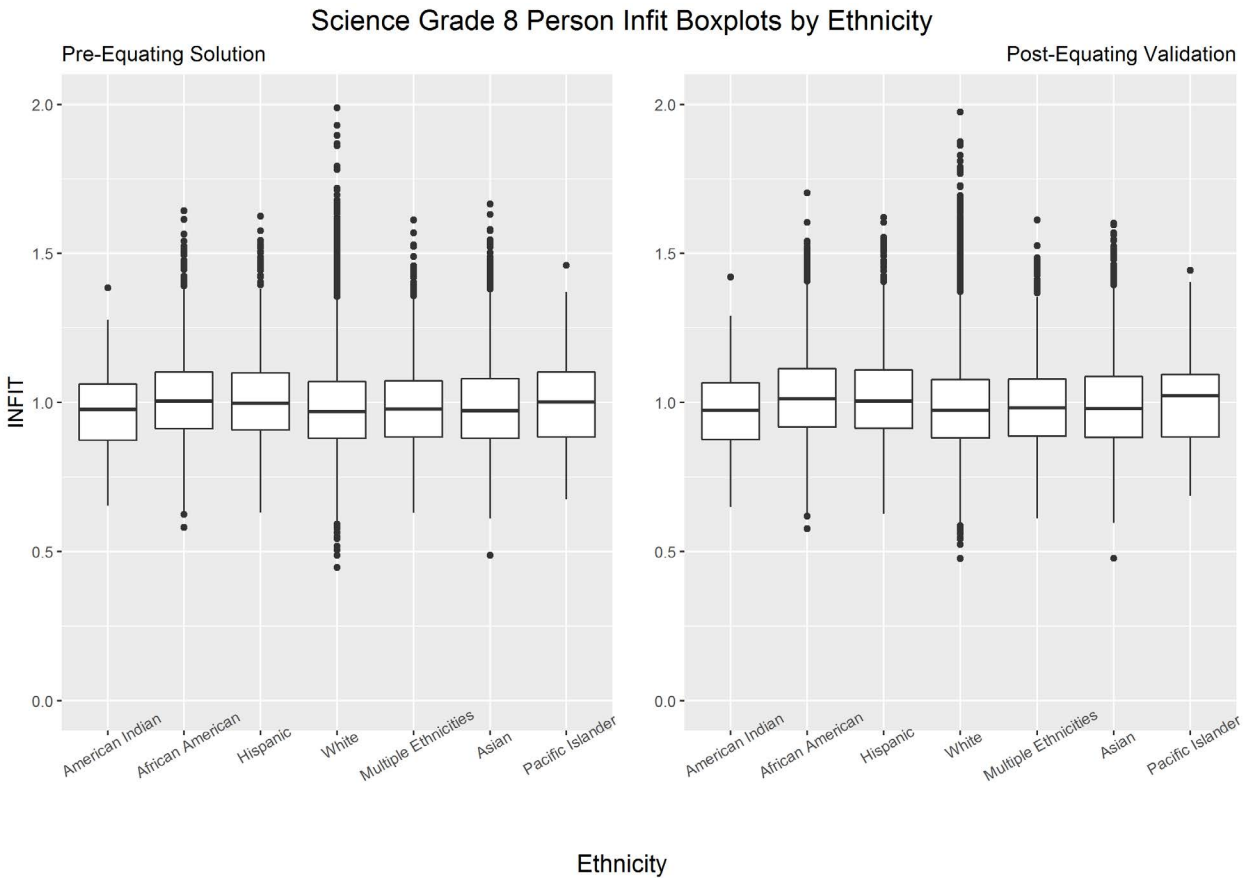


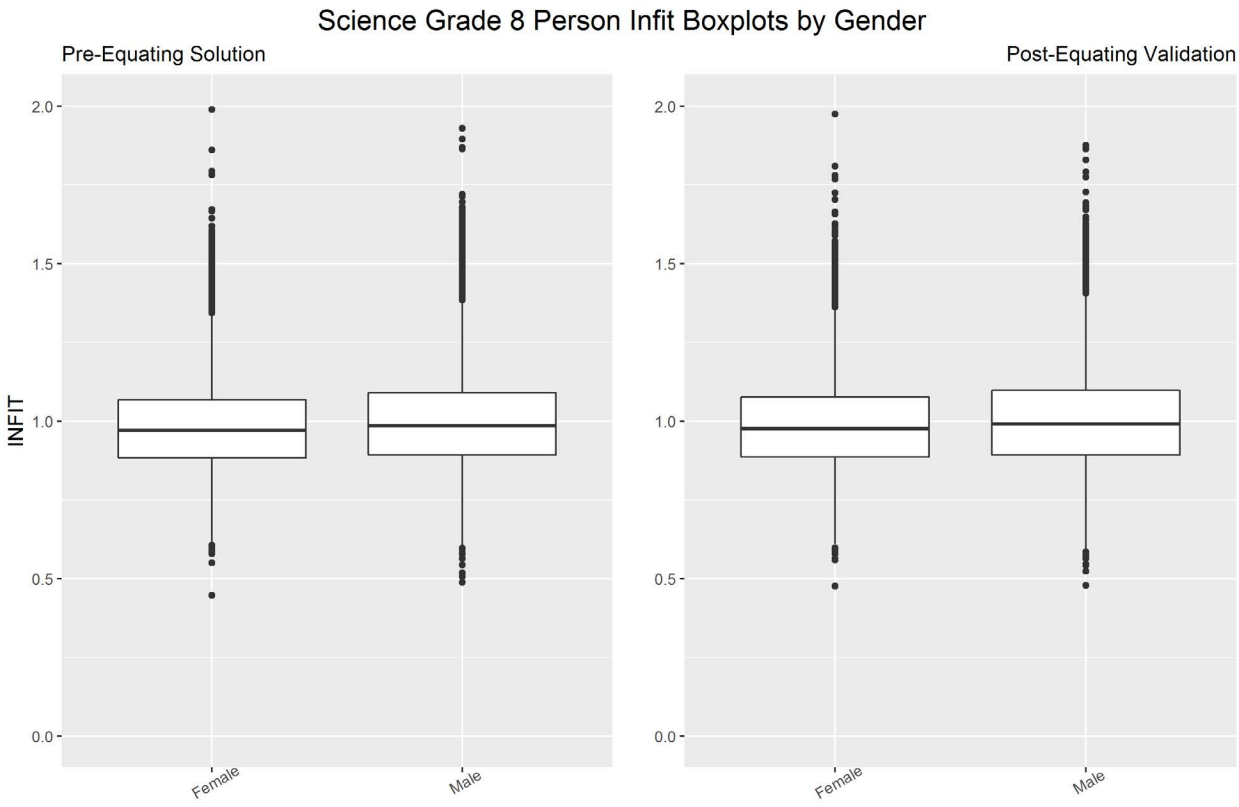

Science Grade 4 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
2.0
1.5
1.0
0.5
0.0
Female
Male
Gender

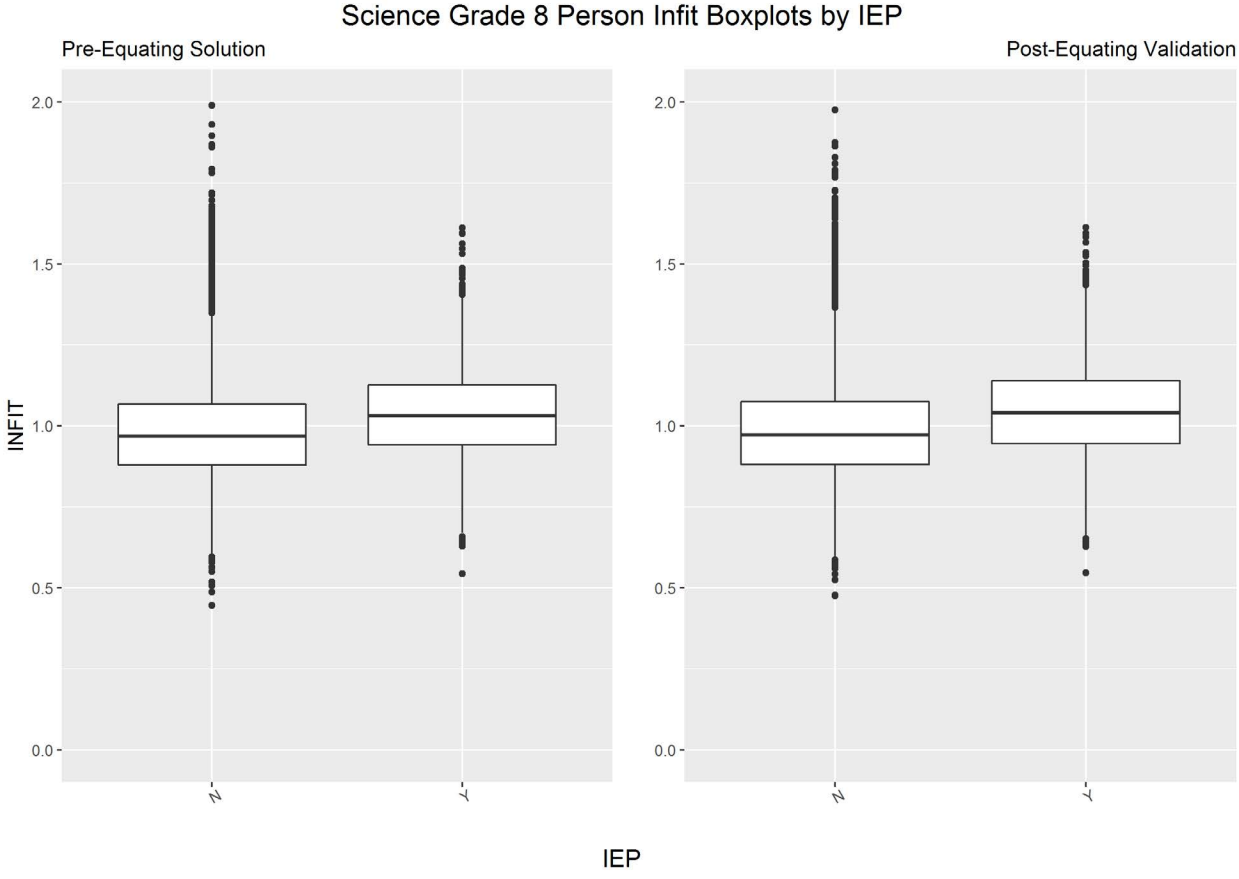

Science Grade 4 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
2.0
1.5
1.0
0.5
0.0
N
Y
IEP

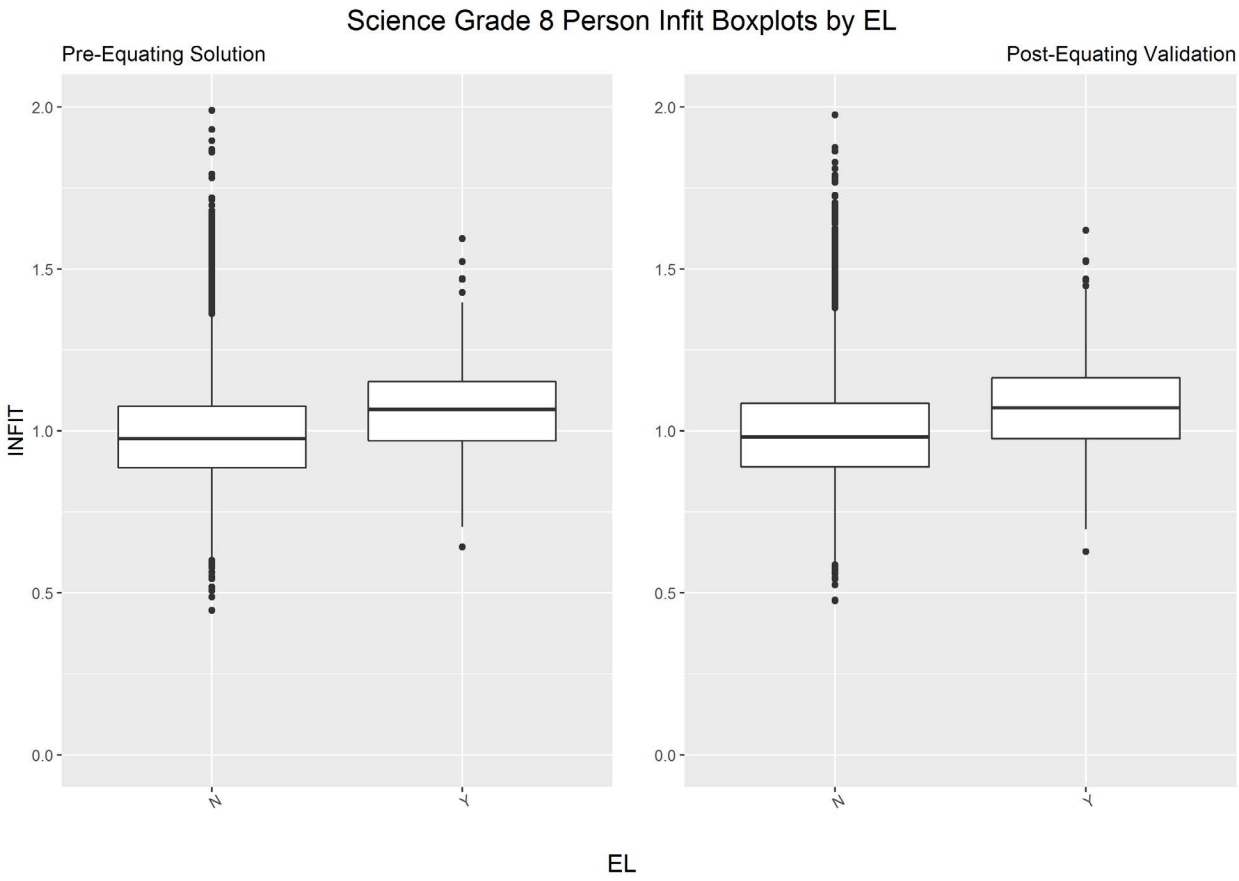


Science Grade 8



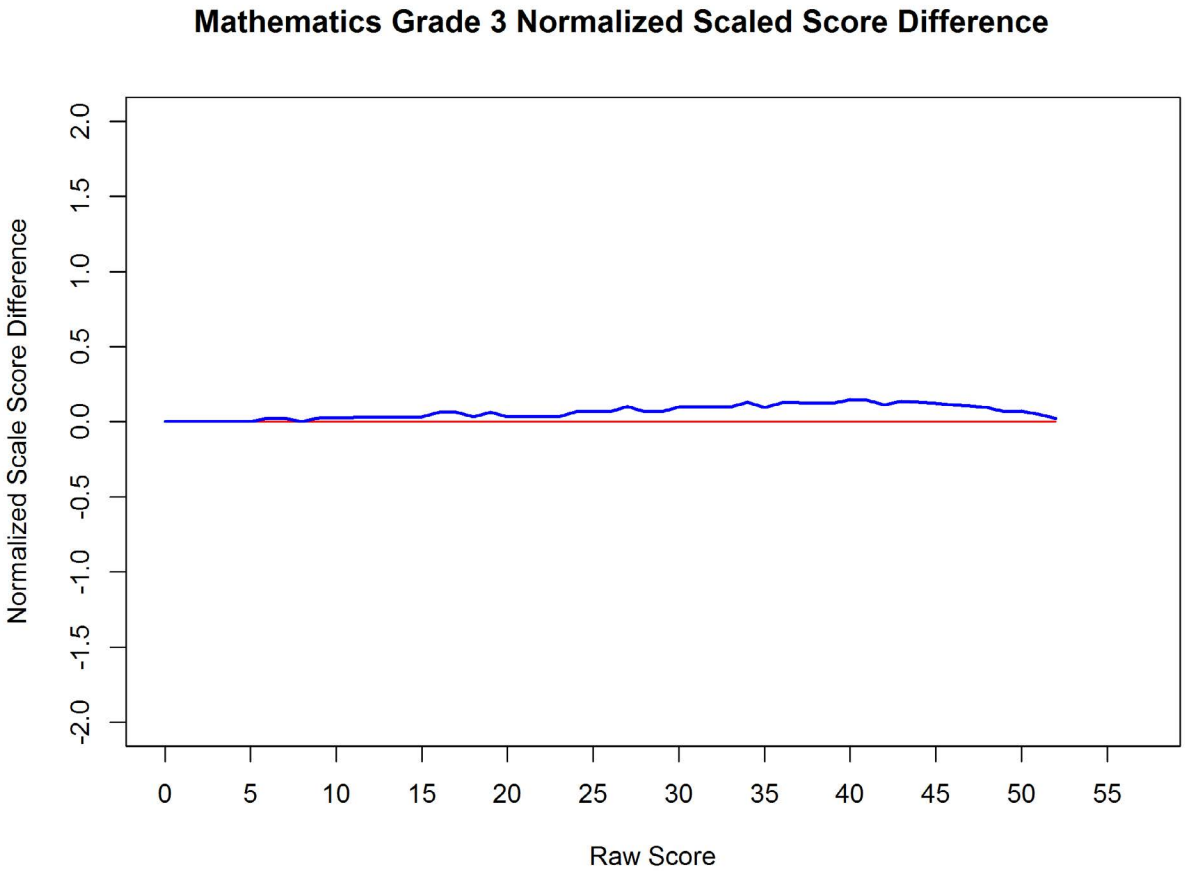

Science Grade 8 Person Infit Boxplots by Gender
Pre-Equating Solution
Post-Equating Validation
INFIT
2.0
1.5
1.0
0.5
0.0
Female
Male
Gender


Science Grade 8 Person Infit Boxplots by IEP
Pre-Equating Solution
Post-Equating Validation
INFIT
2.0
1.5
1.0
0.5
0.0
N
Y
IEP

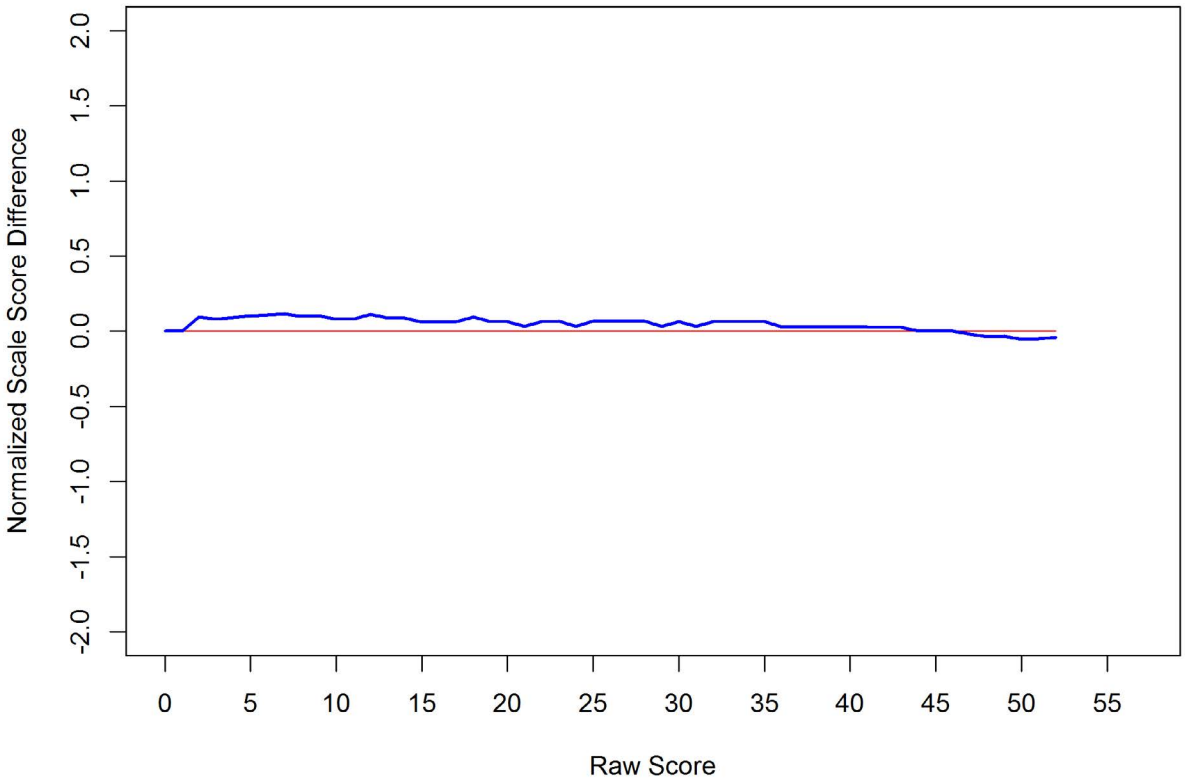

Science Grade 8 Person Infit Boxplots by EL
Pre-Equating Solution
Post-Equating Validation
INFIT
2.0
1.5
1.0
0.5
0.0
N
Y
EL

Figures T-2 display the normalized scale score distributions by subject and grade across raw score points.

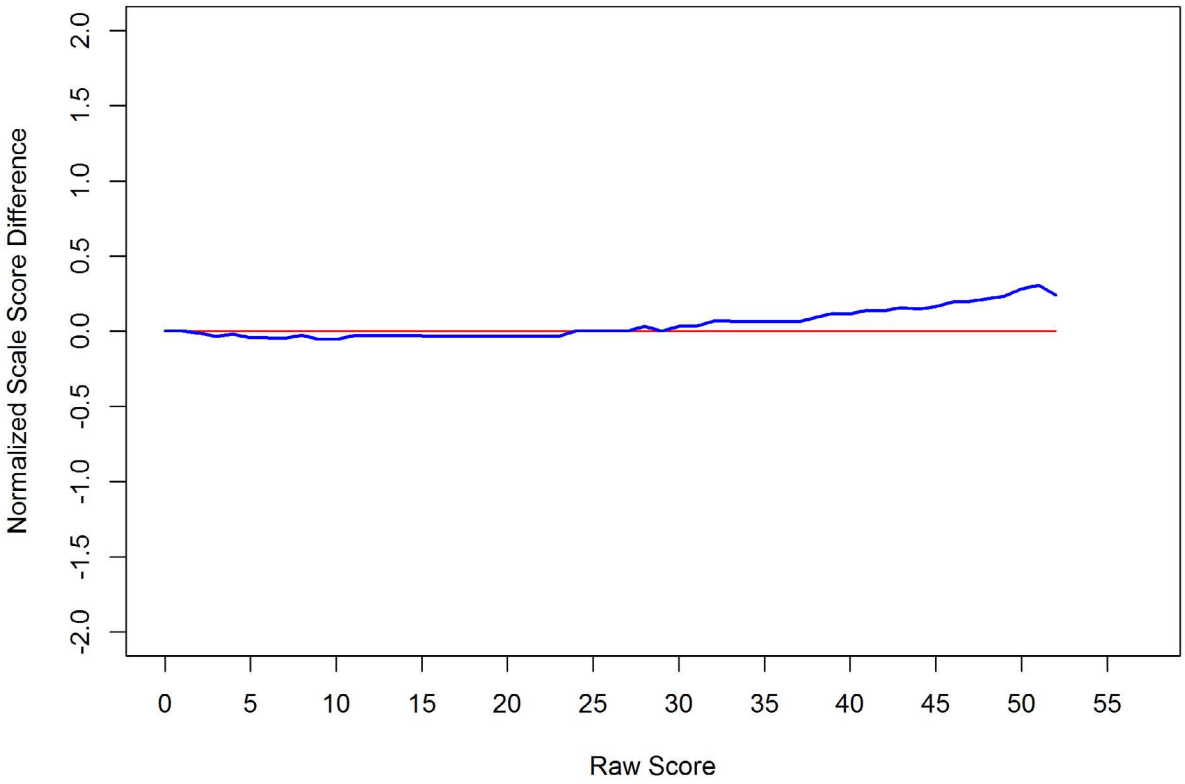
Figure T-2. Normalized Scale Score Distributions by Subject and Grade



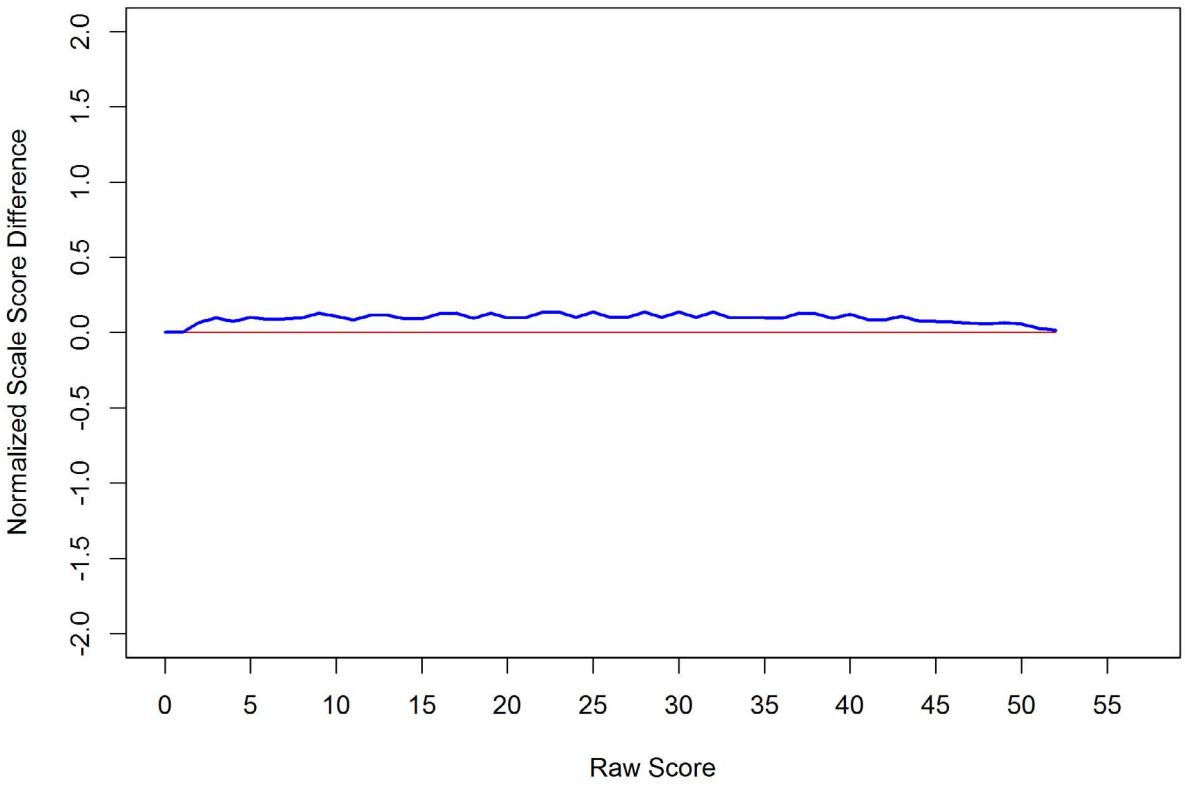
Mathematics Grade 4 Normalized Scaled Score Difference



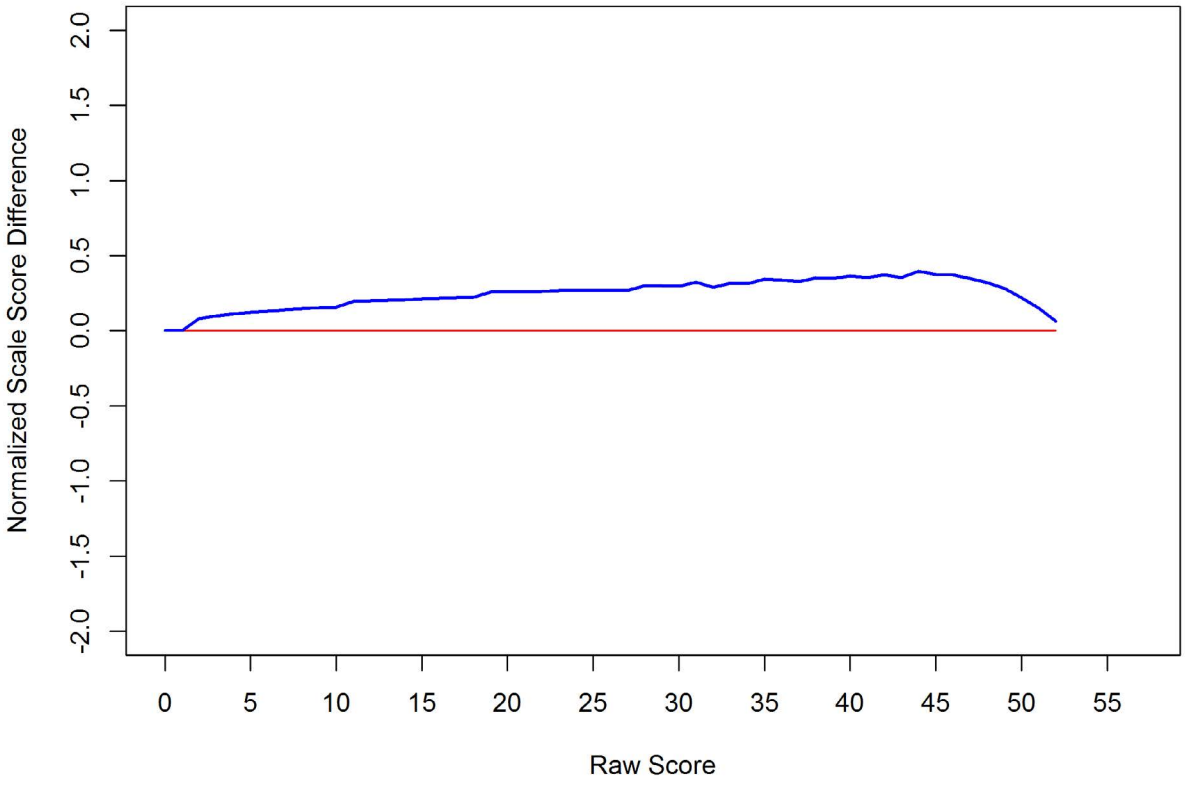
Mathematics Grade 5 Normalized Scaled Score Difference

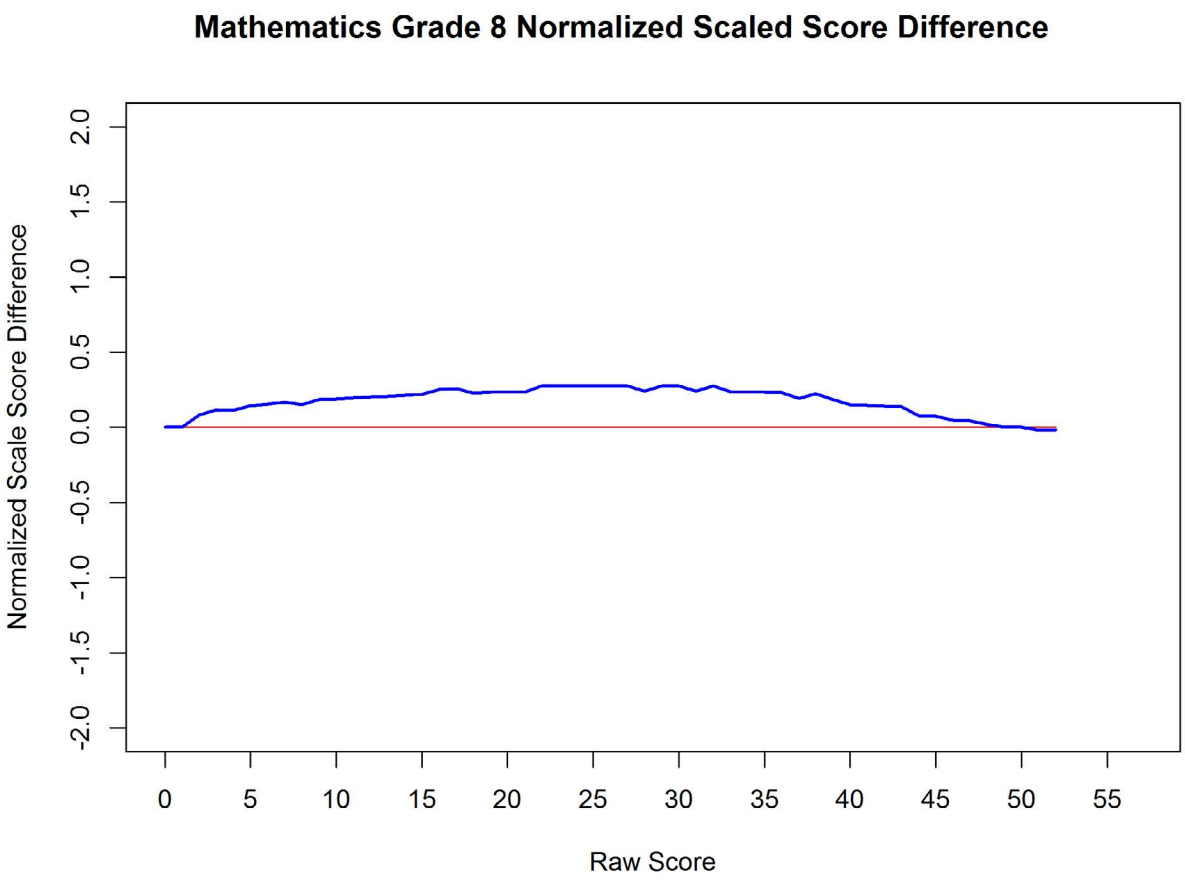


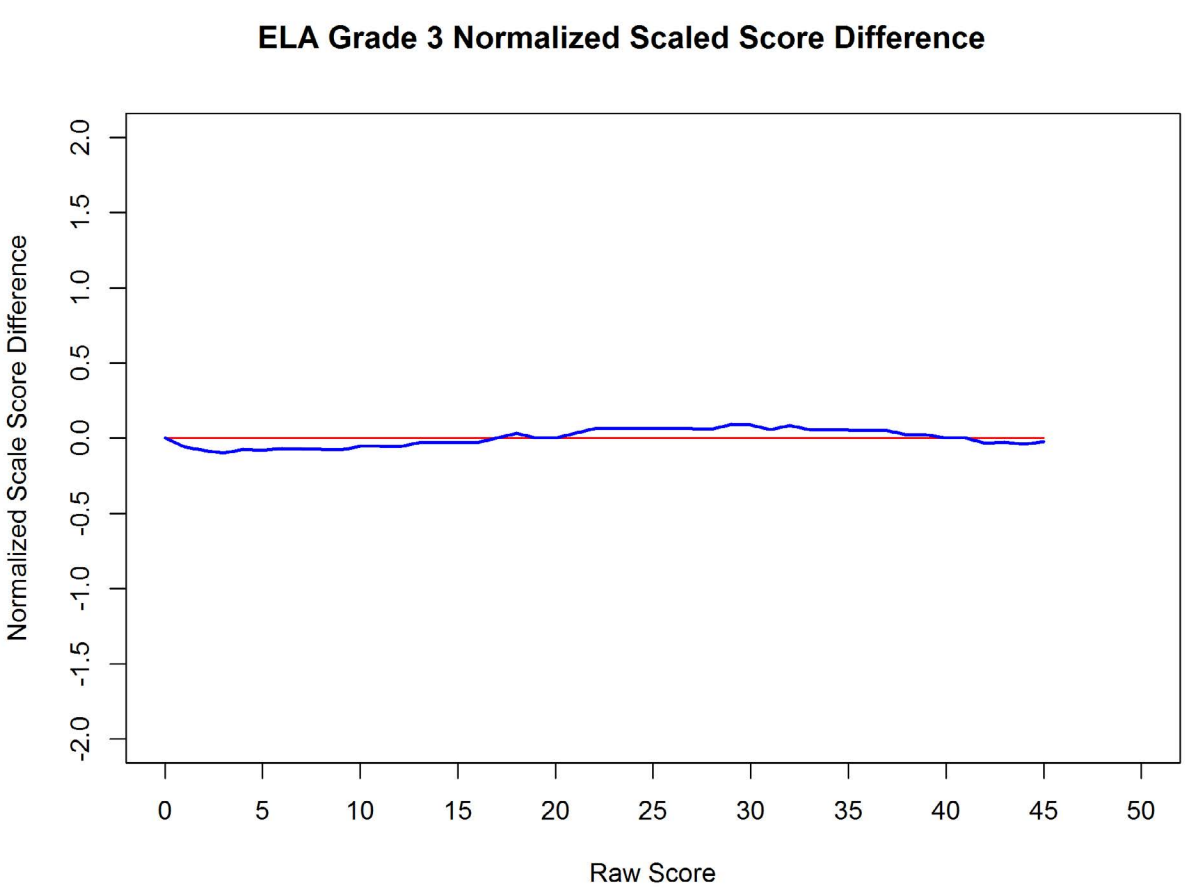
Mathematics Grade 6 Normalized Scaled Score Difference

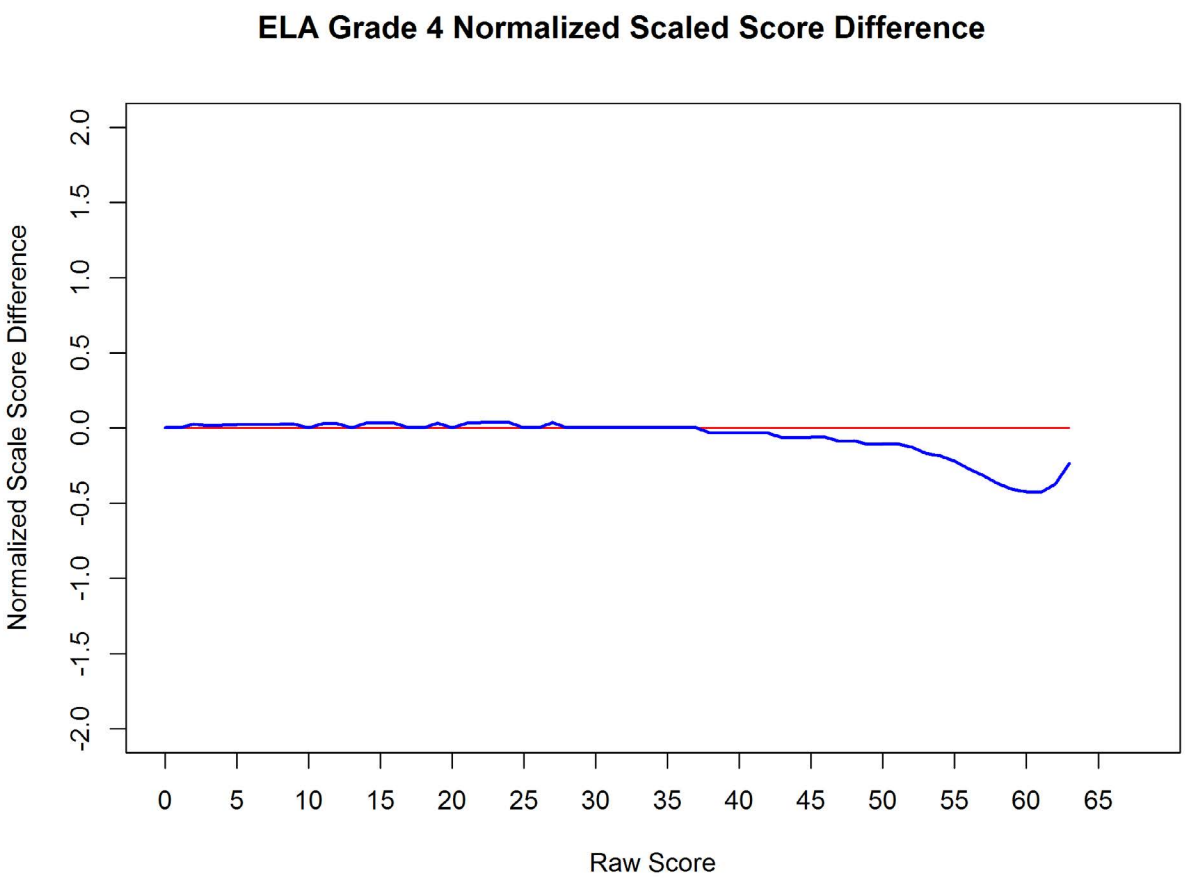


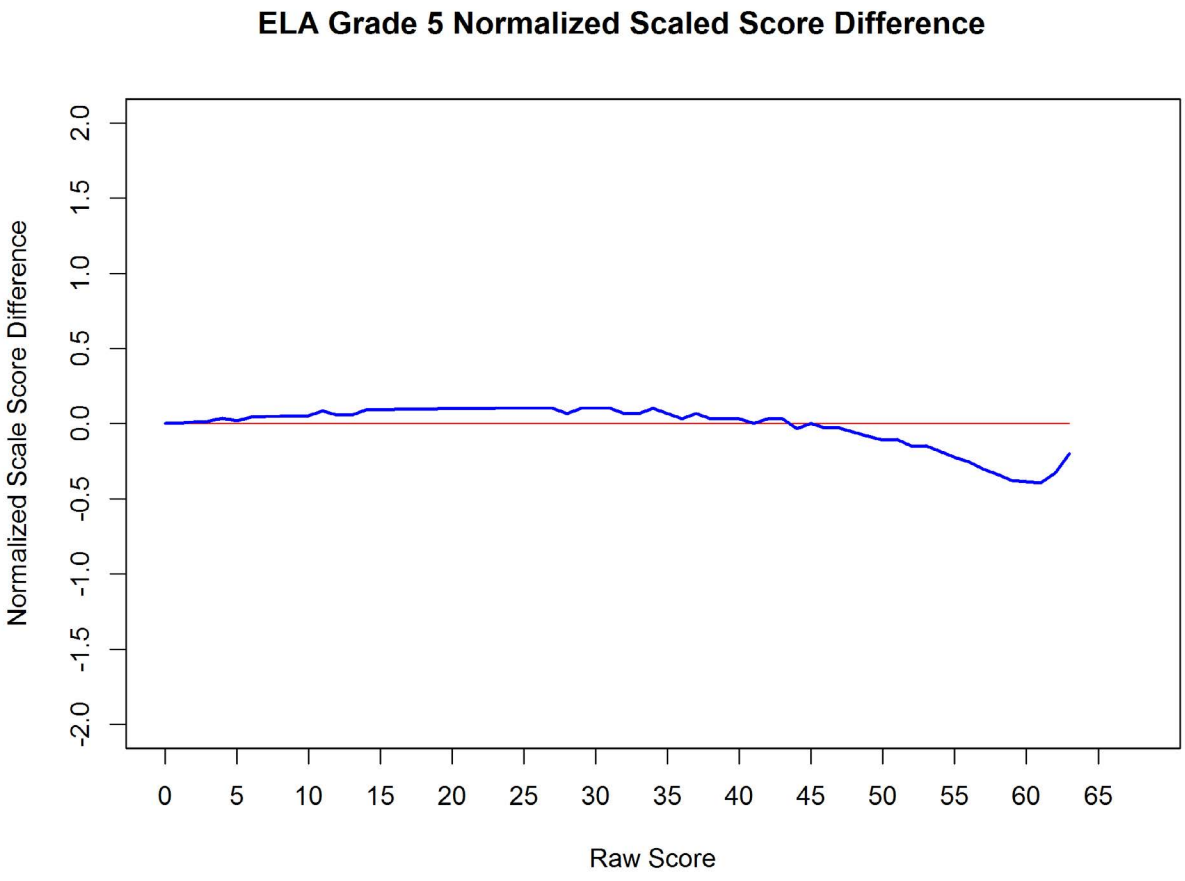
Mathematics Grade 7 Normalized Scaled Score Difference




Mathematics Grade 8 Normalized Scaled Score Difference
Normalized Scale Score Difference
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
5
10
15
20
25
30
35
40
45
50
55
Raw Score


ELA Grade 3 Normalized Scaled Score Difference
Normalized Scale Score Difference
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
5
10
15
20
25
30
35
40
45
50
Raw Score


ELA Grade 4 Normalized Scaled Score Difference
Normalized Scale Score Difference
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Raw Score


ELA Grade 5 Normalized Scaled Score Difference
Normalized Scale Score Difference
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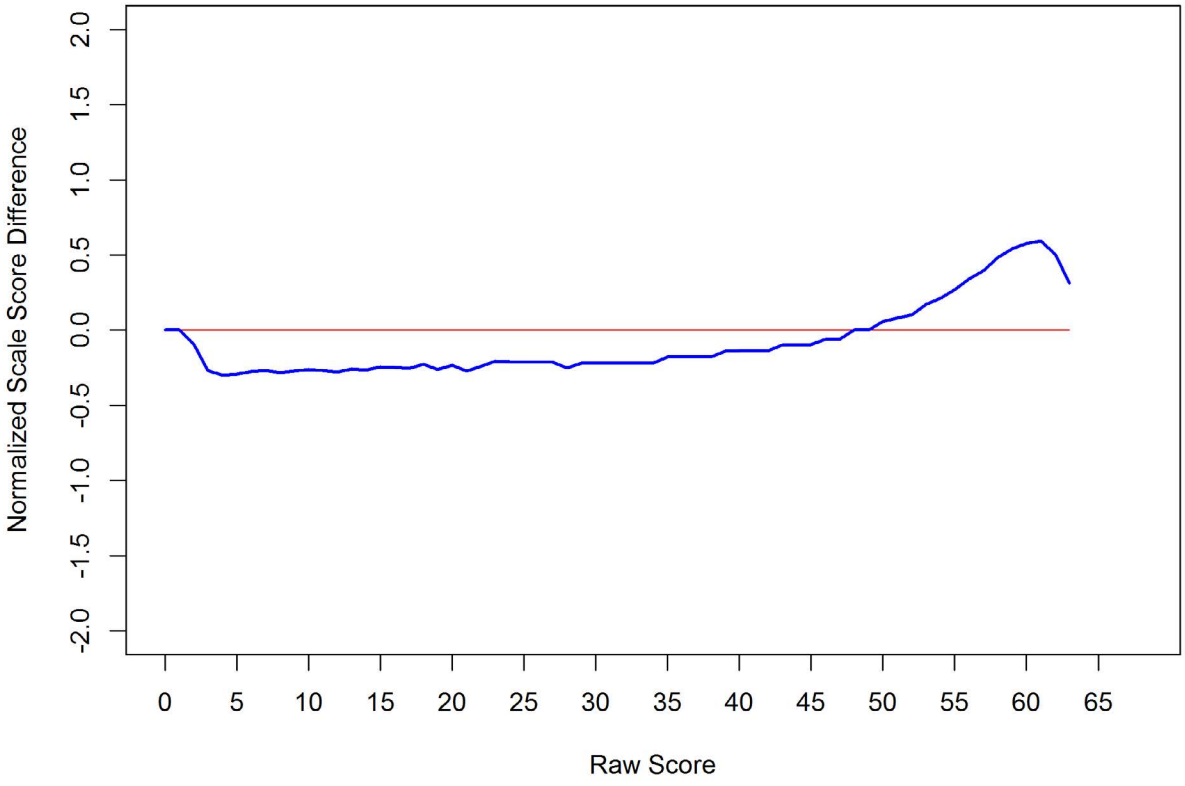
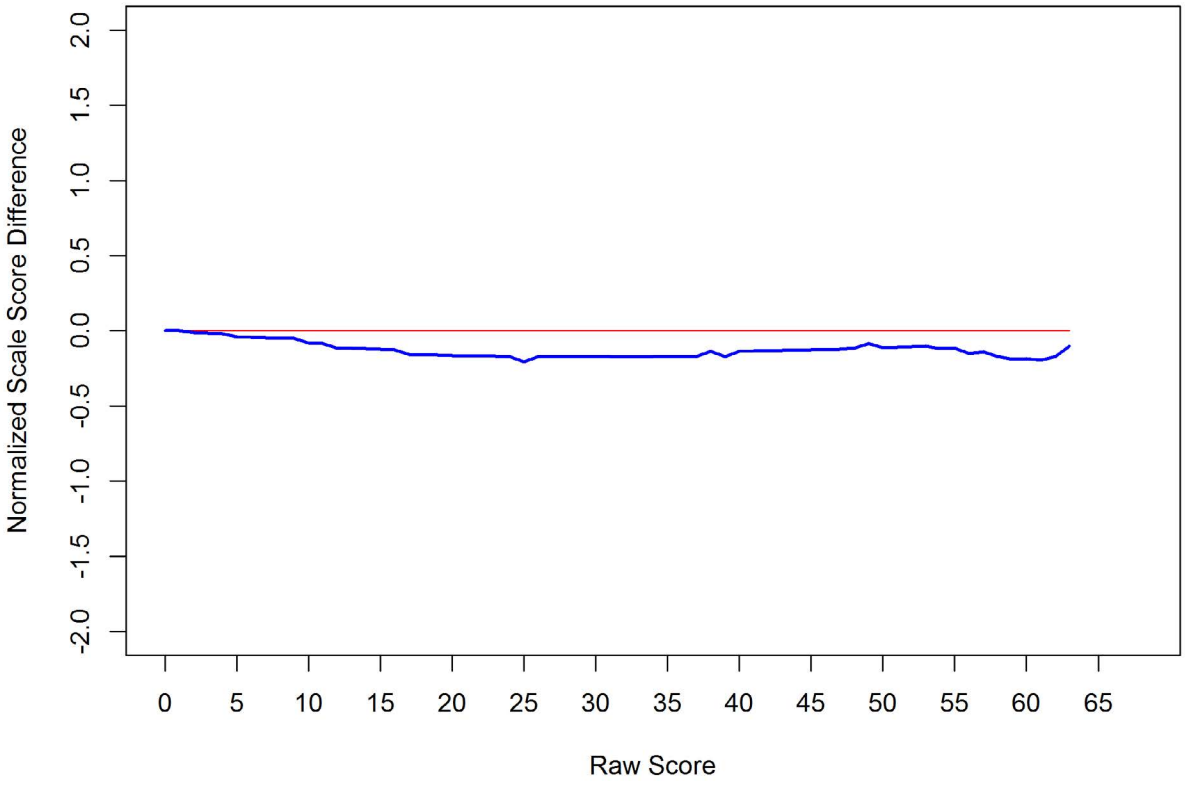
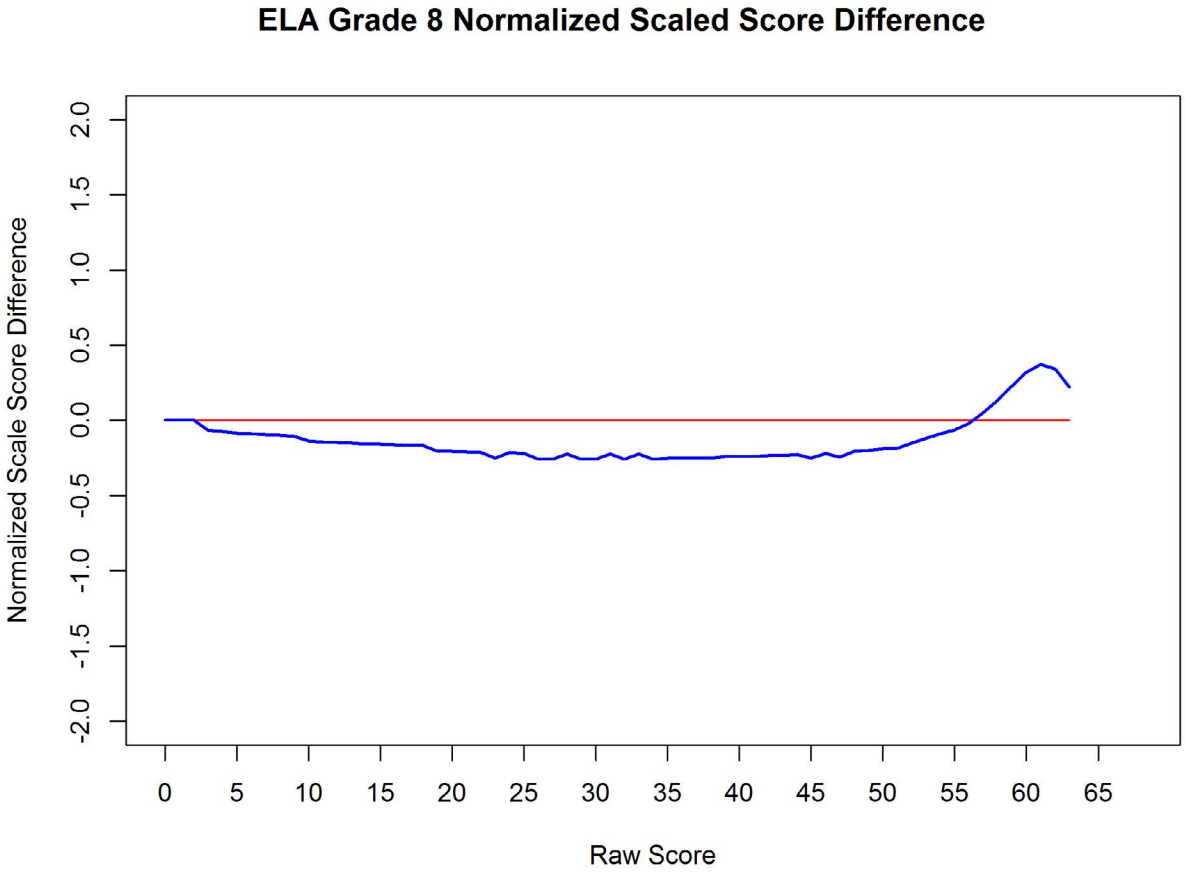
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Raw Score

ELA Grade 6 Normalized Scaled Score Difference



ELA Grade 7 Normalized Scaled Score Difference




ELA Grade 8 Normalized Scaled Score Difference
Normalized Scale Score Difference
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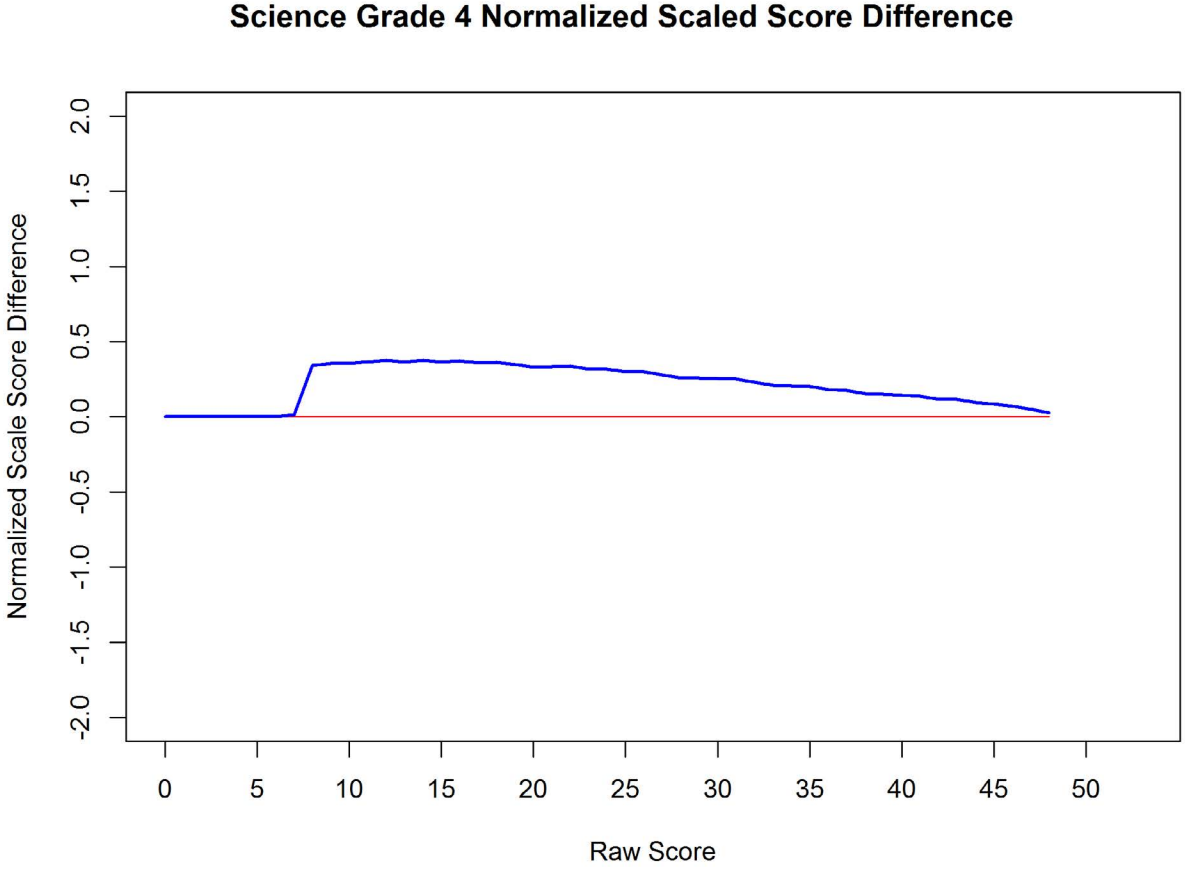
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Raw Score


Science Grade 4 Normalized Scaled Score Difference
Normalized Scale Score Difference
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
5
10
15
20
25
30
35
40
45
50
Raw Score

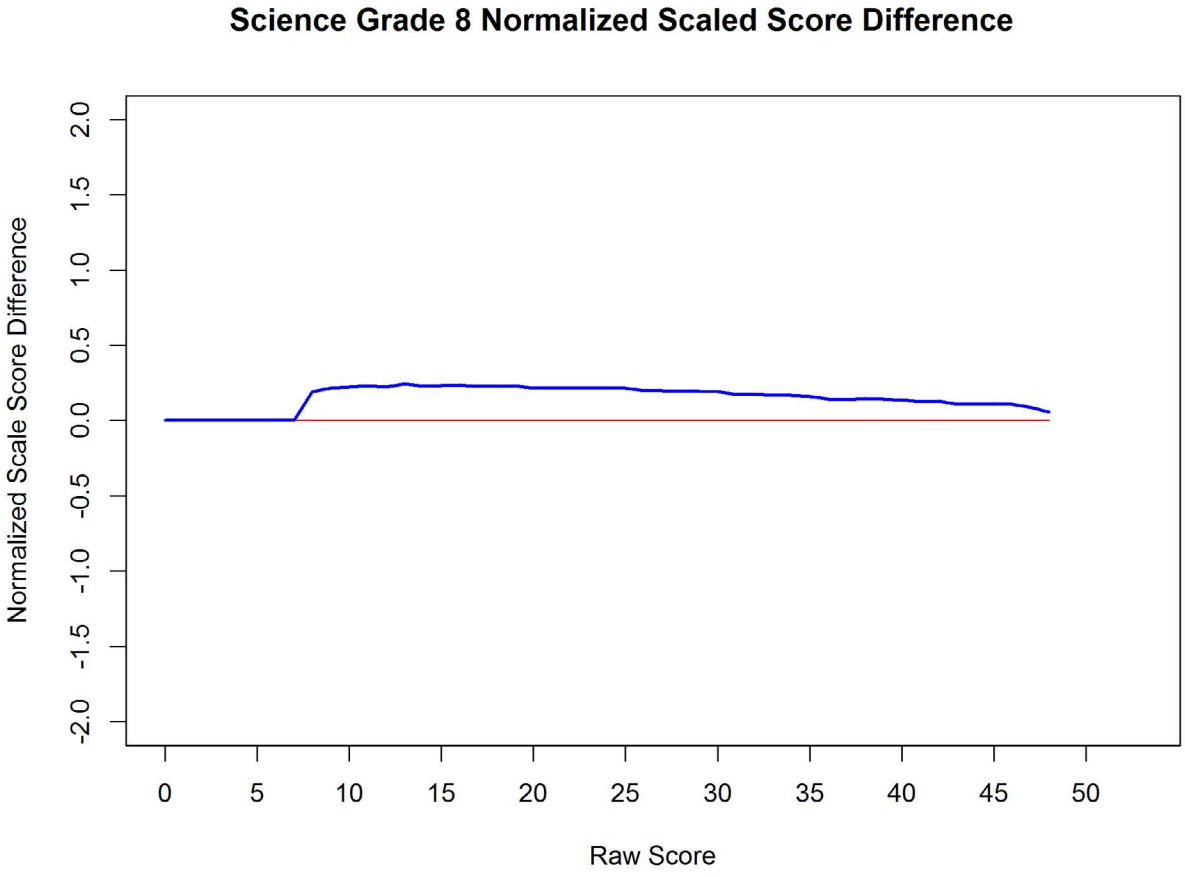


Table T-1 shows both the pre-equated and post-equated raw-to-scaled score conversion tables. Tables provide details for both pre-equated (Pre) and post-equated (Post) solutions with respect to the scaled score (SS), standard error of measurement (SEM), performance level (PL), overall proportion of students earning each raw score, and whether there were differences in the performance level classification for pre- and post-equated solutions (Same PL). All student reporting is based on the tables in Appendix N, which use the pre-equated solutions.

Table T-1. Pre- and Post-Equated Conversion Tables by Subject and Grade

Mathematics Grade 3 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	183	183	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	648	648	73	73	BB	BB	0.0	True
3	692	692	61	61	BB	BB	0.0	True
4	724	724	53	53	BB	BB	0.1	True
5	750	750	48	48	BB	BB	0.2	True
6	772	771	45	45	BB	BB	0.4	True
7	791	790	42	42	BB	BB	0.7	True
8	807	807	40	40	BB	BB	1.0	True
9	823	822	38	38	BB	BB	1.4	True
10	837	836	37	37	BB	BB	1.7	True
11	850	849	36	36	BB	BB	1.9	True
12	863	862	35	35	BB	BB	2.1	True
13	874	873	34	34	BB	BB	2.3	True
14	885	884	33	33	BB	BB	2.3	True
15	896	895	32	32	BB	BB	2.2	True
16	907	905	32	32	BB	BB	2.2	True
17	917	915	31	31	BB	BB	2.3	True
18	926	925	31	31	B	B	2.2	True
19	936	934	31	31	B	B	2.4	True
20	945	944	30	30	B	B	2.4	True
21	954	953	30	30	B	B	2.3	True
22	963	962	30	30	B	B	2.3	True
23	972	971	30	30	B	B	2.4	True
24	981	979	30	30	B	B	2.4	True
25	990	988	30	29	B	B	2.5	True
26	999	997	30	29	B	B	2.5	True
27	1008	1005	30	29	P	P	2.7	True
28	1016	1014	30	29	P	P	2.6	True
29	1025	1023	30	29	P	P	2.6	True
30	1034	1031	30	30	P	P	2.6	True
31	1043	1040	30	30	P	P	2.8	True
32	1052	1049	30	30	P	P	2.7	True
33	1061	1058	30	30	P	P	2.8	True
34	1071	1067	31	30	P	P	2.8	True
35	1080	1077	31	31	P	P	2.9	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
36	1090	1086	32	31	P	P	2.8	True
37	1100	1096	32	32	P	P	2.8	True
38	1110	1106	33	32	A	P	2.7	False
39	1121	1117	33	33	A	A	2.7	True
40	1133	1128	34	34	A	A	2.7	True
41	1145	1140	35	35	A	A	2.6	True
42	1157	1153	36	36	A	A	2.5	True
43	1171	1166	37	37	A	A	2.5	True
44	1185	1180	39	39	A	A	2.3	True
45	1201	1196	41	41	A	A	2.1	True
46	1219	1214	44	44	A	A	2.0	True
47	1240	1235	47	47	A	A	1.7	True
48	1265	1260	52	52	A	A	1.4	True
49	1295	1291	59	60	A	A	1.1	True
50	1338	1333	72	72	A	A	0.8	True
51	1409	1404	101	101	A	A	0.4	True
52	1530	1526	183	183	A	A	0.2	True

Mathematics Grade 4 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	622	615	74	74	BB	BB	0.0	True
3	666	661	61	62	BB	BB	0.0	True
4	699	694	54	54	BB	BB	0.1	True
5	726	721	49	49	BB	BB	0.1	True
6	748	743	46	46	BB	BB	0.3	True
7	768	763	43	43	BB	BB	0.6	True
8	785	781	41	41	BB	BB	1.0	True
9	801	797	39	39	BB	BB	1.4	True
10	815	812	37	38	BB	BB	1.9	True
11	829	826	36	37	BB	BB	2.2	True
12	842	838	35	36	BB	BB	2.6	True
13	854	851	34	35	BB	BB	2.7	True
14	865	862	34	34	BB	BB	2.8	True
15	876	874	33	33	BB	BB	2.9	True
16	887	885	32	33	BB	BB	3.0	True
17	897	895	32	32	BB	BB	2.9	True
18	908	905	32	32	B	BB	2.8	False
19	917	915	31	31	B	B	2.9	True
20	927	925	31	31	B	B	2.8	True
21	936	935	31	31	B	B	2.8	True
22	946	944	31	31	B	B	2.8	True
23	955	953	30	30	B	B	2.8	True
24	964	963	30	30	B	B	2.8	True
25	974	972	30	30	B	B	2.7	True
26	983	981	30	30	B	B	2.7	True
27	992	990	30	30	B	B	2.7	True
28	1001	999	30	30	P	B	2.7	False
29	1010	1009	31	31	P	P	2.7	True
30	1020	1018	31	31	P	P	2.7	True
31	1029	1028	31	31	P	P	2.7	True
32	1039	1037	31	31	P	P	2.7	True
33	1049	1047	31	31	P	P	2.5	True
34	1059	1057	32	32	P	P	2.5	True
35	1069	1067	32	32	P	P	2.5	True
36	1079	1078	33	33	P	P	2.4	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1090	1089	33	33	P	P	2.3	True
38	1101	1100	34	34	P	P	2.3	True
39	1113	1112	35	35	A	A	2.4	True
40	1125	1124	35	35	A	A	2.2	True
41	1138	1137	36	36	A	A	2.2	True
42	1152	1151	37	38	A	A	2.0	True
43	1166	1165	39	39	A	A	1.9	True
44	1181	1181	40	41	A	A	1.8	True
45	1198	1198	42	43	A	A	1.7	True
46	1217	1217	45	45	A	A	1.5	True
47	1238	1239	48	49	A	A	1.3	True
48	1263	1265	53	53	A	A	1.1	True
49	1295	1297	60	61	A	A	0.7	True
50	1338	1342	72	73	A	A	0.5	True
51	1410	1415	101	102	A	A	0.3	True
52	1532	1539	183	184	A	A	0.1	True

Mathematics Grade 5 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	183	183	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	655	656	73	73	BB	BB	0.0	True
3	698	700	61	61	BB	BB	0.0	True
4	731	732	53	53	BB	BB	0.1	True
5	756	758	48	48	BB	BB	0.3	True
6	778	780	45	45	BB	BB	0.6	True
7	797	799	42	42	BB	BB	1.0	True
8	814	815	40	40	BB	BB	1.6	True
9	829	831	38	38	BB	BB	2.2	True
10	843	845	37	37	BB	BB	2.8	True
11	857	858	36	36	BB	BB	3.2	True
12	869	870	35	35	BB	BB	3.4	True
13	881	882	34	34	BB	BB	3.5	True
14	892	893	33	33	BB	BB	3.5	True
15	903	904	33	32	B	B	3.6	True
16	913	914	32	32	B	B	3.3	True
17	923	924	32	31	B	B	3.4	True
18	933	934	31	31	B	B	3.3	True
19	943	944	31	31	B	B	3.2	True
20	952	953	30	30	B	B	3.1	True
21	961	962	30	30	B	B	3.0	True
22	970	971	30	30	B	B	3.0	True
23	979	980	30	30	B	B	2.8	True
24	988	988	30	29	B	B	2.7	True
25	997	997	30	29	B	B	2.7	True
26	1005	1005	29	29	P	P	2.6	True
27	1014	1014	29	29	P	P	2.6	True
28	1023	1022	29	29	P	P	2.6	True
29	1031	1031	29	29	P	P	2.4	True
30	1040	1039	30	29	P	P	2.4	True
31	1049	1048	30	29	P	P	2.4	True
32	1058	1056	30	30	P	P	2.3	True
33	1067	1065	30	30	P	P	2.2	True
34	1076	1074	31	30	P	P	2.1	True
35	1085	1083	31	30	P	P	2.1	True
36	1095	1093	31	31	P	P	2.0	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1105	1103	32	31	P	P	2.0	True
38	1116	1113	33	32	A	A	1.9	True
39	1127	1123	34	33	A	A	1.8	True
40	1138	1134	34	34	A	A	1.7	True
41	1151	1146	36	35	A	A	1.6	True
42	1164	1159	37	36	A	A	1.5	True
43	1178	1172	39	38	A	A	1.4	True
44	1194	1188	41	40	A	A	1.3	True
45	1211	1204	43	42	A	A	1.1	True
46	1232	1223	47	45	A	A	1.0	True
47	1255	1245	51	49	A	A	0.8	True
48	1284	1272	57	54	A	A	0.7	True
49	1321	1306	66	62	A	A	0.5	True
50	1374	1352	81	75	A	A	0.4	True
51	1462	1429	111	104	A	A	0.2	True
52	1601	1556	191	185	A	A	0.1	True

Mathematics Grade 6 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	624	619	74	74	BB	BB	0.0	True
3	669	663	61	61	BB	BB	0.0	True
4	701	697	54	54	BB	BB	0.1	True
5	728	723	49	49	BB	BB	0.1	True
6	750	746	45	46	BB	BB	0.3	True
7	769	765	43	43	BB	BB	0.6	True
8	787	783	41	41	BB	BB	0.9	True
9	803	798	39	39	BB	BB	1.4	True
10	817	813	37	37	BB	BB	2.1	True
11	830	827	36	36	BB	BB	2.5	True
12	843	839	35	35	BB	BB	3.0	True
13	855	851	34	34	BB	BB	3.3	True
14	866	863	33	33	BB	BB	3.4	True
15	877	874	33	33	BB	BB	3.4	True
16	888	884	32	32	BB	BB	3.4	True
17	898	894	31	31	B	BB	3.3	False
18	907	904	31	31	B	B	3.2	True
19	917	913	31	31	B	B	3.3	True
20	926	923	30	30	B	B	3.1	True
21	935	932	30	30	B	B	3.1	True
22	944	940	30	30	B	B	3.0	True
23	953	949	29	29	B	B	3.0	True
24	961	958	29	29	B	B	2.8	True
25	970	966	29	29	B	B	2.7	True
26	978	975	29	29	B	B	2.7	True
27	986	983	29	29	B	B	2.6	True
28	995	991	29	29	B	B	2.6	True
29	1003	1000	29	29	P	P	2.5	True
30	1012	1008	29	29	P	P	2.4	True
31	1020	1017	29	29	P	P	2.3	True
32	1029	1025	29	29	P	P	2.3	True
33	1037	1034	30	30	P	P	2.3	True
34	1046	1043	30	30	P	P	2.1	True
35	1055	1052	30	30	P	P	2.1	True
36	1064	1061	31	31	P	P	2.0	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1074	1070	31	31	P	P	2.0	True
38	1084	1080	32	32	P	P	1.9	True
39	1094	1091	32	32	P	P	1.9	True
40	1105	1101	33	33	A	P	1.7	False
41	1116	1113	34	34	A	A	1.8	True
42	1128	1125	35	35	A	A	1.6	True
43	1141	1137	37	37	A	A	1.6	True
44	1155	1152	38	38	A	A	1.5	True
45	1170	1167	41	41	A	A	1.5	True
46	1188	1185	43	43	A	A	1.4	True
47	1208	1205	47	47	A	A	1.3	True
48	1233	1230	52	52	A	A	1.2	True
49	1264	1260	60	60	A	A	1.0	True
50	1307	1303	72	72	A	A	0.8	True
51	1378	1375	101	101	A	A	0.5	True
52	1500	1497	183	183	A	A	0.2	True

Mathematics Grade 7 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	618	612	74	74	BB	BB	0.0	True
3	663	657	61	61	BB	BB	0.0	True
4	696	690	54	54	BB	BB	0.1	True
5	723	717	49	49	BB	BB	0.2	True
6	745	739	46	46	BB	BB	0.5	True
7	765	759	43	43	BB	BB	0.9	True
8	782	776	41	41	BB	BB	1.4	True
9	798	792	39	39	BB	BB	2.2	True
10	813	807	38	38	BB	BB	3.0	True
11	827	820	36	36	BB	BB	3.5	True
12	840	833	35	35	BB	BB	3.8	True
13	852	845	35	34	BB	BB	3.9	True
14	864	857	34	34	BB	BB	3.9	True
15	875	868	33	33	BB	BB	3.6	True
16	885	878	33	32	BB	BB	3.5	True
17	896	889	32	32	BB	BB	3.3	True
18	906	899	32	31	B	BB	3.1	False
19	916	908	31	31	B	B	2.9	True
20	926	918	31	31	B	B	2.7	True
21	935	927	31	31	B	B	2.7	True
22	945	937	31	30	B	B	2.5	True
23	954	946	30	30	B	B	2.6	True
24	963	955	30	30	B	B	2.6	True
25	972	964	30	30	B	B	2.4	True
26	981	973	30	30	B	B	2.4	True
27	990	982	30	30	B	B	2.4	True
28	1000	991	30	30	P	B	2.3	False
29	1009	1000	30	30	P	P	2.4	True
30	1018	1009	31	30	P	P	2.4	True
31	1028	1018	31	31	P	P	2.4	True
32	1037	1028	31	31	P	P	2.4	True
33	1047	1037	32	31	P	P	2.3	True
34	1057	1047	32	32	P	P	2.3	True
35	1068	1057	32	32	P	P	2.2	True
36	1078	1067	33	32	P	P	2.3	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1089	1078	34	33	P	P	2.2	True
38	1101	1089	34	34	P	P	2.1	True
39	1113	1101	35	34	A	P	2.1	False
40	1126	1113	36	35	A	A	1.9	True
41	1139	1126	37	36	A	A	1.9	True
42	1153	1139	38	37	A	A	1.7	True
43	1168	1154	40	39	A	A	1.6	True
44	1185	1169	41	40	A	A	1.4	True
45	1202	1186	43	42	A	A	1.2	True
46	1222	1205	46	45	A	A	1.0	True
47	1244	1227	49	49	A	A	0.8	True
48	1270	1253	53	53	A	A	0.5	True
49	1302	1285	60	61	A	A	0.4	True
50	1345	1329	72	73	A	A	0.3	True
51	1416	1401	100	101	A	A	0.1	True
52	1536	1524	182	183	A	A	0.0	True

Mathematics Grade 8 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	606	600	73	73	BB	BB	0.0	True
3	650	643	61	61	BB	BB	0.0	True
4	682	676	53	53	BB	BB	0.1	True
5	708	701	49	48	BB	BB	0.2	True
6	730	723	45	45	BB	BB	0.5	True
7	749	742	42	42	BB	BB	0.8	True
8	765	759	40	40	BB	BB	1.2	True
9	781	774	38	38	BB	BB	1.8	True
10	795	788	37	37	BB	BB	2.3	True
11	808	801	36	36	BB	BB	2.6	True
12	820	813	35	34	BB	BB	3.0	True
13	832	825	34	34	BB	BB	3.2	True
14	843	836	33	33	BB	BB	3.3	True
15	853	846	32	32	BB	BB	3.3	True
16	864	856	32	32	BB	BB	3.3	True
17	874	866	31	31	BB	BB	3.1	True
18	883	876	31	31	BB	BB	3.0	True
19	892	885	30	30	BB	BB	2.9	True
20	901	894	30	30	BB	BB	2.9	True
21	910	903	30	30	B	BB	2.8	False
22	919	911	29	29	B	B	2.7	True
23	928	920	29	29	B	B	2.8	True
24	936	928	29	29	B	B	2.7	True
25	945	937	29	29	B	B	2.7	True
26	953	945	29	29	B	B	2.7	True
27	961	953	29	29	B	B	2.7	True
28	969	962	29	29	B	B	2.7	True
29	978	970	29	29	B	B	2.5	True
30	986	978	29	29	B	B	2.4	True
31	994	987	29	29	B	B	2.3	True
32	1003	995	29	29	P	B	2.3	False
33	1011	1004	29	30	P	P	2.4	True
34	1020	1013	30	30	P	P	2.3	True
35	1029	1022	30	30	P	P	2.2	True
36	1038	1031	30	31	P	P	2.1	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1047	1041	31	31	P	P	2.1	True
38	1057	1050	31	32	P	P	2.1	True
39	1067	1061	32	33	P	P	2.1	True
40	1077	1072	33	33	P	P	1.9	True
41	1088	1083	34	34	P	P	1.9	True
42	1100	1095	35	36	P	P	1.8	True
43	1113	1108	36	37	A	A	1.7	True
44	1126	1123	38	39	A	A	1.6	True
45	1142	1139	40	41	A	A	1.5	True
46	1159	1157	43	44	A	A	1.3	True
47	1179	1177	47	48	A	A	1.2	True
48	1203	1202	52	53	A	A	1.0	True
49	1234	1234	59	60	A	A	0.8	True
50	1277	1277	72	73	A	A	0.7	True
51	1348	1350	101	102	A	A	0.4	True
52	1470	1473	183	184	A	A	0.2	True

ELA Grade 3 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	602	608	102	102	BB	BB	0.0	True
2	675	681	74	73	BB	BB	0.0	True
3	720	726	61	61	BB	BB	0.0	True
4	754	758	54	54	BB	BB	0.1	True
5	780	784	49	49	BB	BB	0.2	True
6	803	806	46	45	BB	BB	0.4	True
7	823	826	43	43	BB	BB	0.7	True
8	840	843	41	41	BB	BB	1.1	True
9	856	859	39	39	BB	BB	1.5	True
10	871	873	38	37	BB	BB	1.9	True
11	885	887	37	36	BB	BB	2.2	True
12	898	900	36	35	BB	BB	2.4	True
13	911	912	35	34	B	B	2.6	True
14	923	924	34	34	B	B	2.8	True
15	934	935	34	33	B	B	2.7	True
16	945	946	33	33	B	B	2.8	True
17	956	956	33	32	B	B	2.9	True
18	967	966	32	32	B	B	3.0	True
19	977	977	32	32	B	B	3.0	True
20	987	987	32	32	B	B	3.1	True
21	998	997	32	31	B	B	3.2	True
22	1008	1006	32	31	P	P	3.2	True
23	1018	1016	32	31	P	P	3.5	True
24	1028	1026	32	31	P	P	3.5	True
25	1038	1036	32	32	P	P	3.6	True
26	1048	1046	32	32	P	P	3.6	True
27	1058	1056	32	32	P	P	3.7	True
28	1069	1067	33	32	P	P	3.7	True
29	1080	1077	33	33	P	P	3.6	True
30	1091	1088	34	33	P	P	3.8	True
31	1102	1100	34	34	P	P	3.7	True
32	1114	1111	35	35	P	P	3.4	True
33	1126	1124	36	36	P	P	3.4	True
34	1139	1137	37	37	P	P	3.3	True
35	1153	1151	38	38	A	A	3.2	True
36	1168	1166	39	39	A	A	3.0	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1184	1182	41	41	A	A	2.6	True
38	1201	1200	43	43	A	A	2.3	True
39	1221	1220	46	46	A	A	2.0	True
40	1243	1243	49	50	A	A	1.6	True
41	1270	1270	54	55	A	A	1.1	True
42	1302	1304	61	62	A	A	0.8	True
43	1347	1349	74	74	A	A	0.5	True
44	1420	1424	102	103	A	A	0.2	True
45	1544	1548	184	184	A	A	0.0	True

ELA Grade 4 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	617	615	73	73	BB	BB	0.0	True
3	661	660	61	61	BB	BB	0.0	True
4	693	692	53	53	BB	BB	0.0	True
5	719	718	48	48	BB	BB	0.0	True
6	740	739	45	45	BB	BB	0.1	True
7	759	758	42	42	BB	BB	0.2	True
8	776	775	40	40	BB	BB	0.2	True
9	791	790	38	38	BB	BB	0.4	True
10	804	804	36	36	BB	BB	0.5	True
11	817	816	35	35	BB	BB	0.7	True
12	829	828	34	34	BB	BB	0.9	True
13	840	840	33	33	BB	BB	1.0	True
14	851	850	32	32	BB	BB	1.2	True
15	861	860	31	32	BB	BB	1.4	True
16	871	870	31	31	BB	BB	1.5	True
17	880	880	30	30	BB	BB	1.7	True
18	889	889	30	30	B	B	1.7	True
19	898	897	29	29	B	B	1.7	True
20	906	906	29	29	B	B	1.8	True
21	915	914	29	29	B	B	1.8	True
22	923	922	28	28	B	B	1.8	True
23	931	930	28	28	B	B	1.7	True
24	939	938	28	28	B	B	1.9	True
25	946	946	28	28	B	B	1.8	True
26	954	954	28	28	B	B	1.8	True
27	962	961	28	28	B	B	1.9	True
28	969	969	28	28	B	B	2.0	True
29	977	977	28	28	B	B	2.0	True
30	984	984	28	28	B	B	2.0	True
31	992	992	28	28	B	B	2.2	True
32	1000	1000	28	28	P	P	2.2	True
33	1007	1007	28	28	P	P	2.3	True
34	1015	1015	28	28	P	P	2.4	True
35	1023	1023	28	28	P	P	2.5	True
36	1031	1031	28	28	P	P	2.7	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1039	1039	29	29	P	P	2.8	True
38	1047	1048	29	29	P	P	2.9	True
39	1055	1056	29	29	P	P	3.0	True
40	1064	1065	30	30	P	P	3.1	True
41	1073	1074	30	30	P	P	3.1	True
42	1082	1083	30	31	P	P	3.2	True
43	1091	1093	31	31	P	P	3.3	True
44	1101	1103	32	32	P	P	3.2	True
45	1111	1113	32	33	A	A	3.2	True
46	1122	1124	33	33	A	A	3.3	True
47	1133	1136	34	34	A	A	3.1	True
48	1145	1148	35	35	A	A	2.9	True
49	1157	1161	36	37	A	A	2.7	True
50	1171	1175	37	38	A	A	2.5	True
51	1185	1189	38	39	A	A	2.2	True
52	1200	1205	39	41	A	A	1.8	True
53	1216	1223	41	43	A	A	1.5	True
54	1233	1241	42	45	A	A	1.2	True
55	1252	1262	44	47	A	A	0.9	True
56	1272	1285	47	49	A	A	0.7	True
57	1295	1311	49	52	A	A	0.5	True
58	1321	1341	52	56	A	A	0.4	True
59	1351	1375	57	61	A	A	0.2	True
60	1387	1415	64	68	A	A	0.1	True
61	1435	1468	76	79	A	A	0.1	True
62	1511	1550	103	106	A	A	0.1	True
63	1636	1679	184	186	A	A	0.0	True

ELA Grade 5 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	609	608	74	74	BB	BB	0.0	True
3	654	653	61	61	BB	BB	0.0	True
4	687	685	54	54	BB	BB	0.0	True
5	713	712	49	49	BB	BB	0.0	True
6	736	734	46	45	BB	BB	0.0	True
7	755	753	43	43	BB	BB	0.1	True
8	773	771	41	41	BB	BB	0.2	True
9	789	787	39	39	BB	BB	0.3	True
10	803	801	37	37	BB	BB	0.5	True
11	817	814	36	36	BB	BB	0.6	True
12	829	827	35	35	BB	BB	0.7	True
13	841	839	34	34	BB	BB	1.0	True
14	853	850	33	33	BB	BB	1.1	True
15	864	861	33	32	BB	BB	1.3	True
16	874	871	32	32	BB	BB	1.5	True
17	884	881	31	31	BB	BB	1.8	True
18	894	891	31	31	B	BB	1.9	False
19	903	900	30	30	B	B	2.1	True
20	912	909	30	30	B	B	2.2	True
21	921	918	30	30	B	B	2.3	True
22	930	927	30	30	B	B	2.3	True
23	939	936	29	29	B	B	2.4	True
24	947	944	29	29	B	B	2.5	True
25	956	953	29	29	B	B	2.7	True
26	964	961	29	29	B	B	2.5	True
27	972	969	29	29	B	B	2.7	True
28	980	978	29	29	B	B	2.7	True
29	989	986	29	29	B	B	2.8	True
30	997	994	29	29	B	B	2.7	True
31	1005	1002	29	29	P	P	2.9	True
32	1013	1011	29	29	P	P	2.9	True
33	1021	1019	29	29	P	P	2.9	True
34	1030	1027	29	29	P	P	2.9	True
35	1038	1036	29	29	P	P	3.0	True
36	1046	1045	29	29	P	P	3.1	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1055	1053	29	30	P	P	3.0	True
38	1063	1062	30	30	P	P	3.0	True
39	1072	1071	30	30	P	P	3.0	True
40	1081	1080	30	30	P	P	2.9	True
41	1090	1090	30	31	P	P	2.9	True
42	1100	1099	31	31	P	P	2.8	True
43	1110	1109	31	32	P	P	2.7	True
44	1119	1120	32	32	P	P	2.6	True
45	1130	1130	32	33	P	P	2.5	True
46	1140	1141	33	34	A	A	2.3	True
47	1152	1153	34	34	A	A	2.2	True
48	1163	1165	34	35	A	A	1.9	True
49	1175	1178	35	36	A	A	1.8	True
50	1188	1192	36	37	A	A	1.6	True
51	1202	1206	37	39	A	A	1.4	True
52	1216	1222	39	40	A	A	1.1	True
53	1232	1238	40	42	A	A	1.0	True
54	1248	1256	42	44	A	A	0.7	True
55	1266	1276	43	46	A	A	0.6	True
56	1286	1298	46	48	A	A	0.4	True
57	1308	1323	48	51	A	A	0.3	True
58	1333	1351	52	55	A	A	0.2	True
59	1362	1384	56	60	A	A	0.1	True
60	1398	1423	63	67	A	A	0.1	True
61	1445	1475	75	78	A	A	0.1	True
62	1522	1556	103	105	A	A	0.0	True
63	1647	1684	184	186	A	A	0.0	True

ELA Grade 6 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	185	185	BB	BB	0.0	True
1	600	600	104	103	BB	BB	0.0	True
2	600	607	76	75	BB	BB	0.0	True
3	637	654	64	63	BB	BB	0.0	True
4	673	690	57	56	BB	BB	0.0	True
5	703	718	52	51	BB	BB	0.0	True
6	729	742	48	47	BB	BB	0.1	True
7	751	763	46	44	BB	BB	0.1	True
8	770	782	43	42	BB	BB	0.1	True
9	788	799	41	40	BB	BB	0.2	True
10	804	814	39	38	BB	BB	0.3	True
11	819	829	38	37	BB	BB	0.5	True
12	832	842	36	36	BB	BB	0.7	True
13	845	854	35	35	BB	BB	0.9	True
14	857	866	34	34	BB	BB	1.1	True
15	869	877	33	33	BB	B	1.3	False
16	880	888	33	32	B	B	1.6	True
17	890	898	32	31	B	B	1.8	True
18	900	907	31	31	B	B	2.0	True
19	909	917	31	30	B	B	2.1	True
20	919	926	30	30	B	B	2.1	True
21	927	935	30	29	B	B	2.2	True
22	936	943	29	29	B	B	2.2	True
23	945	951	29	29	B	B	2.3	True
24	953	959	29	28	B	B	2.4	True
25	961	967	28	28	B	B	2.3	True
26	969	975	28	28	B	B	2.5	True
27	977	983	28	28	B	B	2.5	True
28	984	991	28	28	B	B	2.5	True
29	992	998	28	27	B	B	2.7	True
30	1000	1006	28	27	P	P	2.7	True
31	1007	1013	28	27	P	P	2.7	True
32	1015	1021	28	27	P	P	2.8	True
33	1022	1028	28	27	P	P	2.7	True
34	1030	1036	28	27	P	P	2.9	True
35	1038	1043	28	28	P	P	2.7	True
36	1046	1051	28	28	P	P	2.9	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1053	1058	28	28	P	P	3.0	True
38	1061	1066	28	28	P	P	2.9	True
39	1070	1074	29	28	P	P	3.0	True
40	1078	1082	29	29	P	P	2.9	True
41	1087	1091	30	29	P	P	2.9	True
42	1095	1099	30	29	P	P	2.9	True
43	1105	1108	31	30	P	P	2.9	True
44	1114	1117	31	30	P	A	2.7	False
45	1124	1127	32	31	A	A	2.7	True
46	1134	1136	33	32	A	A	2.6	True
47	1145	1147	34	32	A	A	2.4	True
48	1157	1157	35	33	A	A	2.2	True
49	1169	1169	36	34	A	A	2.0	True
50	1183	1181	37	35	A	A	1.8	True
51	1197	1194	38	36	A	A	1.5	True
52	1212	1208	40	38	A	A	1.3	True
53	1229	1222	42	39	A	A	1.1	True
54	1247	1238	44	41	A	A	0.9	True
55	1268	1256	46	43	A	A	0.7	True
56	1291	1275	49	45	A	A	0.5	True
57	1317	1297	53	48	A	A	0.3	True
58	1347	1321	57	51	A	A	0.3	True
59	1382	1350	62	56	A	A	0.2	True
60	1424	1386	69	63	A	A	0.1	True
61	1479	1433	80	75	A	A	0.1	True
62	1562	1509	107	103	A	A	0.0	True
63	1692	1634	186	184	A	A	0.0	True

ELA Grade 7 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	603	604	73	74	BB	BB	0.0	True
3	647	648	61	61	BB	BB	0.0	True
4	680	681	54	54	BB	BB	0.0	True
5	706	708	49	49	BB	BB	0.0	True
6	728	730	45	46	BB	BB	0.0	True
7	748	750	43	43	BB	BB	0.1	True
8	765	767	41	41	BB	BB	0.1	True
9	781	783	39	39	BB	BB	0.2	True
10	795	798	37	38	BB	BB	0.3	True
11	809	812	36	36	BB	BB	0.4	True
12	821	825	35	35	BB	BB	0.5	True
13	833	837	34	35	BB	BB	0.7	True
14	845	849	33	34	B	B	0.9	True
15	856	860	33	33	B	B	1.0	True
16	866	870	32	32	B	B	1.2	True
17	876	881	32	32	B	B	1.3	True
18	886	891	31	31	B	B	1.5	True
19	896	901	31	31	B	B	1.7	True
20	905	910	30	31	B	B	1.7	True
21	914	919	30	30	B	B	1.8	True
22	923	928	30	30	B	B	1.9	True
23	932	937	30	30	B	B	2.0	True
24	941	946	29	29	B	B	2.1	True
25	949	955	29	29	B	B	2.3	True
26	958	963	29	29	B	B	2.4	True
27	966	971	29	29	B	B	2.6	True
28	975	980	29	29	B	B	2.8	True
29	983	988	29	29	B	B	2.8	True
30	991	996	29	29	B	B	3.0	True
31	999	1004	29	29	B	P	3.2	False
32	1007	1012	29	28	P	P	3.4	True
33	1015	1020	29	28	P	P	3.3	True
34	1024	1029	29	29	P	P	3.5	True
35	1032	1037	29	29	P	P	3.5	True
36	1040	1045	29	29	P	P	3.6	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1048	1053	29	29	P	P	3.6	True
38	1057	1061	29	29	P	P	3.6	True
39	1065	1070	29	29	P	P	3.4	True
40	1074	1078	30	29	P	P	3.4	True
41	1083	1087	30	30	P	P	3.4	True
42	1092	1096	30	30	P	P	3.2	True
43	1101	1105	31	30	P	P	3.1	True
44	1110	1114	31	31	P	P	2.8	True
45	1120	1124	32	31	P	P	2.7	True
46	1130	1134	32	32	A	A	2.5	True
47	1141	1145	33	33	A	A	2.4	True
48	1152	1156	34	34	A	A	2.0	True
49	1164	1167	35	35	A	A	1.7	True
50	1176	1180	36	36	A	A	1.5	True
51	1189	1193	37	37	A	A	1.3	True
52	1203	1207	38	38	A	A	1.0	True
53	1218	1222	39	40	A	A	0.8	True
54	1234	1239	41	42	A	A	0.7	True
55	1252	1257	43	44	A	A	0.5	True
56	1271	1278	46	47	A	A	0.3	True
57	1294	1301	49	50	A	A	0.2	True
58	1319	1328	52	54	A	A	0.1	True
59	1349	1360	57	59	A	A	0.1	True
60	1386	1398	64	66	A	A	0.1	True
61	1434	1449	76	78	A	A	0.0	True
62	1512	1530	104	105	A	A	0.0	True
63	1639	1658	185	186	A	A	0.0	True

ELA Grade 8 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	600	600	184	184	BB	BB	0.0	True
1	600	600	102	102	BB	BB	0.0	True
2	600	600	73	73	BB	BB	0.0	True
3	640	644	61	61	BB	BB	0.0	True
4	673	677	53	53	BB	BB	0.0	True
5	698	702	48	48	BB	BB	0.0	True
6	720	724	45	45	BB	BB	0.1	True
7	739	743	42	42	BB	BB	0.1	True
8	756	760	40	40	BB	BB	0.2	True
9	771	775	38	38	BB	BB	0.3	True
10	784	789	36	37	BB	BB	0.4	True
11	797	802	35	35	BB	BB	0.5	True
12	809	814	34	34	BB	BB	0.6	True
13	820	825	33	33	BB	BB	0.8	True
14	831	836	32	32	BB	BB	1.0	True
15	841	846	31	32	BB	BB	1.2	True
16	851	856	31	31	BB	BB	1.3	True
17	860	865	30	30	BB	BB	1.3	True
18	869	874	30	30	BB	BB	1.5	True
19	877	883	29	29	BB	BB	1.5	True
20	886	892	29	29	B	B	1.6	True
21	894	900	28	29	B	B	1.5	True
22	902	908	28	28	B	B	1.5	True
23	909	916	28	28	B	B	1.7	True
24	917	923	28	28	B	B	1.7	True
25	925	931	27	28	B	B	1.7	True
26	932	939	27	27	B	B	1.7	True
27	939	946	27	27	B	B	1.7	True
28	947	953	27	27	B	B	1.8	True
29	954	961	27	27	B	B	1.9	True
30	961	968	27	27	B	B	1.9	True
31	969	975	27	27	B	B	2.0	True
32	976	983	27	27	B	B	2.2	True
33	984	990	27	27	B	B	2.2	True
34	991	998	27	27	B	B	2.3	True
35	998	1005	28	28	B	P	2.4	False
36	1006	1013	28	28	P	P	2.5	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1014	1021	28	28	P	P	2.6	True
38	1022	1029	28	28	P	P	2.7	True
39	1030	1037	29	29	P	P	2.8	True
40	1038	1045	29	29	P	P	2.9	True
41	1046	1053	29	29	P	P	3.0	True
42	1055	1062	30	30	P	P	3.2	True
43	1064	1071	30	30	P	P	3.3	True
44	1074	1081	31	31	P	P	3.4	True
45	1083	1091	32	32	P	P	3.4	True
46	1094	1101	32	32	P	P	3.2	True
47	1104	1112	33	33	P	P	3.3	True
48	1116	1123	34	34	P	P	3.2	True
49	1128	1135	35	35	P	A	3.2	False
50	1141	1148	37	37	A	A	2.9	True
51	1155	1162	38	38	A	A	2.7	True
52	1171	1177	40	40	A	A	2.4	True
53	1188	1193	42	41	A	A	2.2	True
54	1207	1211	45	44	A	A	1.8	True
55	1228	1231	48	46	A	A	1.5	True
56	1253	1254	52	49	A	A	1.1	True
57	1282	1279	57	53	A	A	0.8	True
58	1317	1309	62	57	A	A	0.5	True
59	1360	1345	68	62	A	A	0.3	True
60	1411	1388	75	69	A	A	0.2	True
61	1474	1443	85	81	A	A	0.2	True
62	1565	1528	110	107	A	A	0.1	True
63	1699	1658	188	187	A	A	0.0	True

Science Grade 4 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	1050	1050	324	324	BB	BB	0.0	True
1	1050	1050	179	180	BB	BB	0.0	True
2	1050	1050	129	129	BB	BB	0.0	True
3	1050	1050	107	107	BB	BB	0.0	True
4	1050	1050	94	94	BB	BB	0.0	True
5	1050	1050	85	86	BB	BB	0.1	True
6	1050	1050	79	79	BB	BB	0.3	True
7	1051	1050	74	75	BB	BB	0.4	True
8	1081	1057	70	71	BB	BB	0.8	True
9	1108	1084	67	68	BB	BB	1.1	True
10	1132	1109	65	65	BB	BB	1.4	True
11	1155	1132	63	63	B	BB	1.7	False
12	1177	1154	61	62	B	B	2.0	True
13	1197	1175	60	60	B	B	2.2	True
14	1217	1195	58	59	B	B	2.4	True
15	1236	1215	57	58	B	B	2.6	True
16	1254	1233	56	57	B	B	2.5	True
17	1272	1252	56	56	B	B	2.7	True
18	1289	1269	55	56	P	B	2.8	False
19	1306	1287	54	55	P	P	2.9	True
20	1322	1304	54	55	P	P	3.0	True
21	1339	1321	54	54	P	P	3.1	True
22	1355	1337	53	54	P	P	3.2	True
23	1371	1354	53	54	P	P	3.3	True
24	1387	1370	53	54	P	P	3.4	True
25	1403	1387	53	54	P	P	3.5	True
26	1419	1403	53	54	P	P	3.7	True
27	1435	1420	53	54	P	P	3.6	True
28	1451	1437	54	55	P	P	3.5	True
29	1468	1454	54	55	P	P	3.6	True
30	1485	1471	55	55	A	P	3.8	False
31	1502	1488	55	56	A	A	3.6	True
32	1519	1506	56	57	A	A	3.5	True
33	1537	1525	57	57	A	A	3.6	True
34	1556	1544	58	58	A	A	3.4	True
35	1575	1563	59	60	A	A	3.4	True
36	1595	1584	61	61	A	A	3.0	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1617	1606	62	63	A	A	2.9	True
38	1639	1629	64	65	A	A	2.7	True
39	1663	1653	67	67	A	A	2.4	True
40	1690	1680	70	70	A	A	2.1	True
41	1719	1709	74	74	A	A	1.7	True
42	1751	1742	78	79	A	A	1.4	True
43	1789	1779	85	85	A	A	1.0	True
44	1833	1824	93	93	A	A	0.8	True
45	1889	1880	106	106	A	A	0.4	True
46	1966	1957	128	128	A	A	0.2	True
47	2093	2084	179	179	A	A	0.1	True
48	2309	2301	324	324	A	A	0.0	True

Science Grade 8 Raw-to-Scaled Score Comparison for Pre-Equated and Post-Equated Solutions.

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
0	925	925	352	352	BB	BB	0.0	True
1	925	925	195	195	BB	BB	0.0	True
2	925	925	140	140	BB	BB	0.0	True
3	925	925	116	117	BB	BB	0.0	True
4	925	925	103	103	BB	BB	0.1	True
5	925	925	93	94	BB	BB	0.1	True
6	925	925	86	87	BB	BB	0.2	True
7	925	925	81	82	BB	BB	0.5	True
8	940	925	77	78	BB	BB	0.8	True
9	970	954	74	75	BB	BB	1.1	True
10	998	982	72	72	BB	BB	1.4	True
11	1024	1008	69	70	BB	BB	1.8	True
12	1048	1033	67	68	BB	BB	1.9	True
13	1072	1056	66	66	BB	BB	2.2	True
14	1094	1079	65	65	BB	BB	2.5	True
15	1115	1100	64	64	BB	BB	2.7	True
16	1136	1121	63	63	BB	BB	2.7	True
17	1156	1142	62	62	B	BB	2.9	False
18	1176	1162	61	62	B	B	2.9	True
19	1195	1181	61	61	B	B	3.1	True
20	1214	1201	60	61	B	B	3.1	True
21	1233	1220	60	60	B	B	3.1	True
22	1252	1239	60	60	B	B	3.5	True
23	1270	1257	60	60	B	B	3.5	True
24	1289	1276	60	60	P	P	3.6	True
25	1308	1295	60	60	P	P	3.9	True
26	1326	1314	60	60	P	P	3.9	True
27	1345	1333	60	60	P	P	4.0	True
28	1364	1352	61	61	P	P	4.1	True
29	1383	1371	61	61	P	P	4.1	True
30	1403	1391	62	62	P	P	4.2	True
31	1423	1412	63	63	P	P	4.2	True
32	1444	1433	63	64	P	P	4.0	True
33	1465	1454	65	65	A	P	3.9	False
34	1488	1477	66	66	A	A	3.6	True
35	1511	1500	68	68	A	A	3.2	True
36	1535	1525	69	70	A	A	3.0	True

Raw Score	Pre-SS	Post-SS	Pre-SEM	Post-SEM	Pre-PL	Post-PL	Proportion (%)	Same PL
37	1561	1551	72	72	A	A	2.5	True
38	1589	1578	74	74	A	A	2.1	True
39	1619	1608	77	77	A	A	1.7	True
40	1652	1641	81	81	A	A	1.3	True
41	1688	1677	86	86	A	A	1.0	True
42	1730	1718	92	92	A	A	0.6	True
43	1777	1766	100	99	A	A	0.5	True
44	1834	1822	110	109	A	A	0.2	True
45	1906	1892	125	124	A	A	0.1	True
46	2003	1987	149	148	A	A	0.0	True
47	2158	2140	203	202	A	A	0.0	True
48	2406	2386	357	356	A	A	0.0	True

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