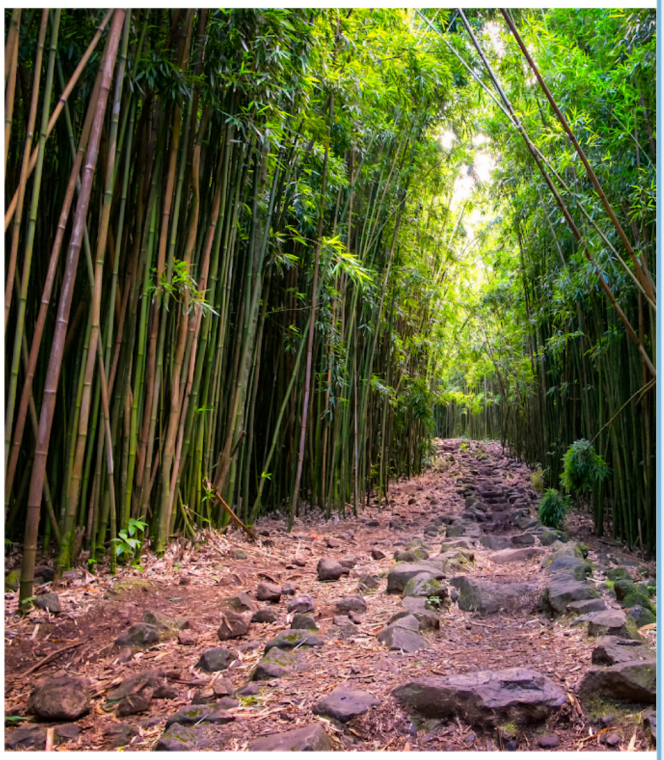
2019



KĀʻEO 2019 Technical Manual for Grades 3-8 HLA, Math, and Science Operational Tests

University of Hawaii

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Chapter 1. Introduction

The state of Hawaiʻi represents a linguistically and culturally diverse population. The state constitution names Hawaiian and English as official languages of Hawaiʻi (Article XV, Section 4), while Article XII, Section 7 ensures traditional and customary rights. These rights include but are not limited to the ability to use the Hawaiian language in home, school, and business settings; and gathering and access rights of plants and places for use in traditional Hawaiian cultural practices. In addition, the state constitution (Article X, Section 4) mandates that the Hawaiian education system support and promote the study of Hawaiian language, culture, and history. Working with parents and Hawaiian leaders, the state established the Hawaiian Language Immersion Program, Ka Papahana Kaiapuni Hawaiʻi (Kaiapuni). Kaiapuni students are instructed in native Hawaiian using a language immersion framework. Currently, 23 Kaiapuni schools instruct approximately 2,800 students in dedicated classrooms or schools. Students receive instruction exclusively in Hawaiian through 5th grade, after which English is introduced for one hour a day. The medium of instruction is Hawaiian from kindergarten to 12th grade. Any parent or guardian can enroll their child as a student in the Kaiapuni schools.

As part of the state education system, Kaiapuni schools are required to comply with student testing requirements stipulated under Every Student Succeeds Act (ESSA). For elementary and middle school students, ESSA requires testing of students in reading/Hawaiian language arts each year; math in grades 3 – 8 and high school; and science in grades 4, 8, and high school. Kaiapuni schools face a unique challenge when administering summative statewide assessments, because Kaiapuni students are taught exclusively in Hawaiian through grade 4. In the past, the Hawaiʻi Department of Education (HIDOE) implemented different assessment strategies for Kaiapuni students, including a portfolio assessment (the Hawaiian Aligned Portfolio Assessment) and a translation of the Hawaiian State Assessment. In the 2014-15 school year, the state of Hawaiʻi tested most students using the Smarter Balanced Assessment Consortium's (SBAC's) summative assessments, which do not offer a Hawaiian language translation.

Beginning with the 2014-15 school year, the HIDOE entered into a memorandum of agreement with the University of Hawaiʻi (UH) to develop the Kaiapuni Assessment of Educational Outcomes (KĀʻEO). The program started with developing assessments in grades 3-4 in math, Hawaiian Language Arts (HLA), and grade 4 science. Beginning in 2017, HIDOE stipulated the addition of grades 5-8 to the KĀʻEO assessment program. 2019 marked the first year that a comprehensive system of Hawaiian language assessments was established for grade 3-8, so that Kaiapuni students could engage in technically rigorous, native-language assessments that are culturally appropriate, meet current psychometric standards, and align to the requirements of ESSA.

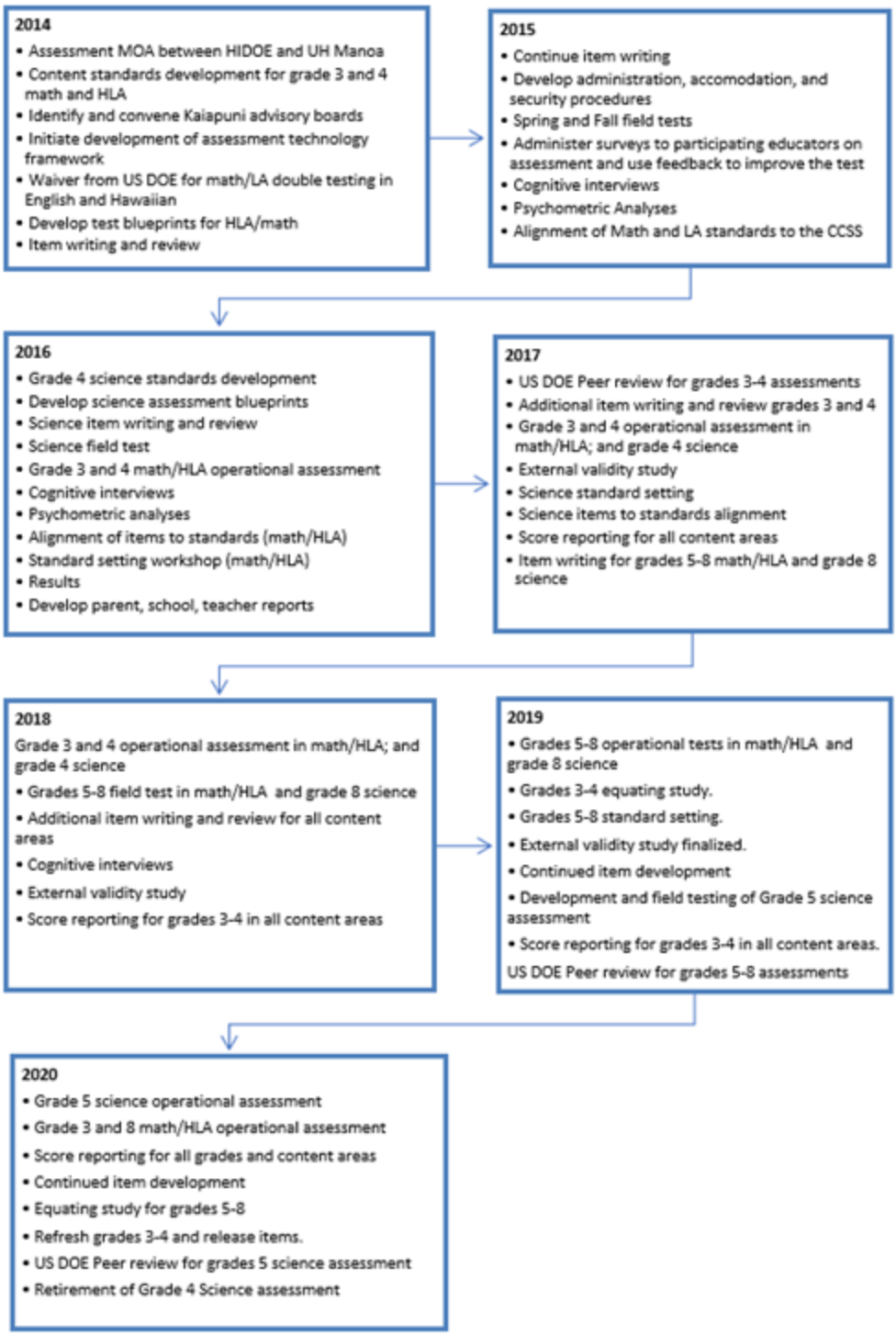
Inclusion

Hawaiian immersion students had previously been included in the statewide assessment program, which was built on a worldview and language derived from a majority perspective. A central tenet of the Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) is to develop a more valid measure for assessing immersion students by placing culture and language at the center of the assessment program. Throughout the assessment development, the program focused on building an assessment that would be more relevant and accessible to support the inclusion of immersion students. This was accomplished because all the assessment development tasks – standards development, item writing, item review, scoring, and standard setting – encompassed a purposeful collaboration and involvement of teachers from across the islands. These educators contributed a vast amount of knowledge about their communities, variations in academic language, and educational philosophy, resulting in a community of ownership in the process and product and in turn garnering community support. As a result, 100% of immersion schools participated in the operational test. The community ownership of the process supports the premise that the assessment has the potential to provide important academic achievement information to schools, teachers, parents, and the community that is grounded in the priorities of the Hawaiian people.

Project Plan

The development of the KĀ‘EO started in the fall of 2014 with initial standards development work, project plans, and timelines (See Figure 1: Assessment Development Timeline). In December 2014, the project team began initial meetings with staff members and assessment specialists to discuss elements of test design. A plan was developed that followed a foundation of assessment industry best practices (e.g., *Standards for Educational and Psychological Testing, Revised 2014 edition* developed by American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME]). This plan included developing assessment purpose statements and blueprints, building high quality items, reporting results, and technical work (e.g., item analyses, standard setting) As the project has progressed, additional grades and content areas have been added (for additional details on the development process, see 2017 Technical Report).

Figure 1.1: Assessment Development Timeline



Framing Documents

The project development and implementation was conducted on a compressed timeline for a new assessment. Even so, the project team was committed to generating an assessment that was both technically rigorous and community supported. To facilitate the process, the team purposefully considered materials generated by the Smarter Balanced Assessment Consortium. These resources included:

- Smarter Balanced Assessment Consortium assessment blueprints;
- Item writing guidance;
- Item review guidance;
- Reading and listening passage review guidance;
- Assessment Claims and Targets in mathematics;
- Achievement level descriptors (ALD) and threshold descriptors; and
- Guidance on universal design (UD) and technology-based assessment.

With these resources as a starting point, the team was able to collaborate with community members to adapt the materials, rather than developing all new materials, thereby streamlining the development effort. In addition, these documents provide information that grounds the work in a rigorous foundation and prioritizes content in a thoughtful and thorough manner. This process ensured that the assessments were built on a unified set of standards, assessment resources, and materials as adopted by Hawaiʻi's Board of Education. Throughout this report, we reference these documents and describe how they were used to inform the work.

Purpose of this Report

The purpose of this report is to provide documentation of the processes, methodologies, and progress for the time period of December 2018 through 2019 for the KĀʻEO. The specific assessments discussed include third and fourth grade math and HLA, and fourth grade science. This document includes information on the assessments' validity and reliability, including the process for developing assessment blueprints, item writing and review, computer-based administration of the operational test, scoring procedures, cognitive interviews, educator surveys, and analysis of the test items.

Technical Team and Advisors

The project work is guided by several advisory committees, UH staff, and technical consultants. Each committee and team has a specific purpose and membership to support the purpose.

UH KĀ'EO Assessment Staff

The UH staff is responsible for the oversight of the project, coordination of teams, and implementation of assessment tasks.

- Dr. Pohai Kukea Shultz, Principal Investigator
- Keely Rivera, Hawaiian Language Specialist, Project Coordinator
- ‘Ulu Victor, Hawaiian Language, Math and Science Specialist
- Keli‘i Ruth, Hawaiian Language, Math and Language Arts Specialist
- Nicholas Lum, Hawaiian Language and Hawaiian Language Arts Specialist
- Lindsey Ching, Hawaiian Language Specialist, Project Manager
- Patrick Karjala, Programmer

Technical Team

The technical team supports the ongoing work of the project including psychometrics and technical considerations (e.g., item writing). The team also supports special studies including standard setting and alignment.

- Mr. Frank Brockmann: Content development, reporting, information manager
- Dr. Karla Egan: Standard setting and overall technical consultant
- Dr. Kerry Englert: Lead psychometrician
- Dr. Bruce Randel: Psychometrician, alignment, technical consultant
- Dr. Linda Oshita: Special education, universal design
- Dr. Phoebe Winter: Peer review and technical consultant

Hawaiʻi Department of Education Technical Advisory Committee (HIDOE TAC)

The HIDOE TAC is the primary technical advisory committee for all state of Hawaiʻi assessments, including Smarter Balanced Assessment Consortium (SBAC), and Hawaiʻi State Assessments (HSA). The KĀʻEO assessment is just one of many assessments in the state of Hawaiʻi portfolios.

- Dr. Lauress Wise (chair)
- Dr. Tony Alpert
- Dr. Gage Kingsbury
- Dr. Anthony Nitko
- Dr. Guillermo Solano-Flores
- Dr. Martha Thurlow

Chapter 2. Theory of Action

The Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) is founded on the idea that the assessment will facilitate meaningful changes in instruction by providing teachers, parents, and community members with information about student achievement. The development process has sought to bring together members of the community at every milestone, including developing crosswalks, item writing, item review, alignment, standard setting, and cognitive interviews. Through these events, educators provide meaningful input into the assessment development, as well as engage each other in discourse about student learning and instruction. This process allows for ongoing reflection and collaboration, which facilitates opportunities for changes throughout the development process.

A theory of action was first developed to articulate the big goals and the specific outcomes that might manifest from the process. Theories of action offer a straightforward means of generating broad goals based on expectations. The project team considered several models that informed the development of the KĀ‘EO theory of action, including the Smarter Balanced Assessment Consortium theory of action (files.eric.ed.gov/fulltext/ED536956.pdf). These documents informed the types of goals and processes that might be included in the development of the KĀ‘EO theory of action.

Throughout the early meetings, participants (teachers, administrators, and advisory board members) were asked about their best hopes and worst fears. This open exchange allowed for shared expectations of the assessment. UH KĀ‘EO Assessment staff used the ideas and hopes documented during these meetings to begin generating a theory of action (see **Appendix A**). The theory of action was developed by identifying salient themes and synthesizing the most important ideas gathered from all stakeholders. UH KĀ‘EO Assessment staff looked at a number of theory of action models to determine which model would be appropriate from a Hawaiian cultural perspective, as well as illustrate the unique and important aspects of this theory. This document was then used to define specific purposes and goals (see **Appendix B**). As a final step, the theory of action and purpose statement was presented to the project's three advisory groups (PAG, HAC, and TAC) for feedback, revisions, and finalization. The positive response from these advisory groups was unanimous, with only slight language revisions and no substantial revisions to content. The most important part of the process of creating a theory of action and purpose statement was that it was conducted in Hawaiian from start to finish to ensure that the foundation of these assessments was situated firmly in a Hawaiian worldview, thereby strengthening the validity of these assessments for Hawaiian community stakeholders.

Chapter 3. Grounding the Assessment in a Validity Argument

The American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME] (2014) specify that "validity refers to the degree to which evidence and theory support the interpretations of test scores for the proposed uses of tests" (AERA/APA/NCME, 2014, p. 11). Education researchers and psychometricians view validity as a central concern when constructing and evaluating assessments. At its essence, validity evidence conveys the degree to which an assessment provides information on a given topic for a given purpose. Validity, however, is not a property of the test itself but rather is an evaluation of how test scores are interpreted compared to the intended purposes and uses of those scores. This type of evaluation implies that a definitive "yes" or "no" answer is never the outcome (nor the intended goal) of validity research. Instead, validity presents evidence supporting or refuting a test's use for the set of proposed purposes. This means that test validation is never complete, and validity should be revisited and supplemented over time as more data are collected about the test scores and as the proposed uses shift over time.

Constructing a validity argument is a complex process, and it is even more so with this project. There is very little research from which to draw describing how to build comprehensive validity evidence for an assessment based in native language, particularly one that supports a program of cultural immersion (Solano-Flores, 2011). In this document, we present validity as an argument-based approach, because this provides a framework for the ongoing evaluation of threats to – and the assumptions about – validity. "The argument-based approach to validation adopts the interpretive argument as the framework for collecting and presenting validity evidence and seeks to provide convincing evidence for its inferences and assumptions, especially its most questionable assumptions" (Kane, 1992, p. 527). Throughout the document, we present evidence to support the validity arguments. In addition, we seek to look toward addressing questions that might identify misinterpretations and counterfactuals that might threaten validity.

Validity Concepts

The following validity concepts form the foundation of the ongoing validity studies:

Use and Interpretation

Use and Interpretation is perhaps the most central validity issue, and so we provide evidence in support of the intended uses and interpretations of the assessment results. Messick asserts that validity is "an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment" (Messick,

1989, p. 13). This more complex schema provides a deeper understanding of the measure and the underlying constructs which are crucial to the building of theories and the progression of knowledge. Included in this type of validity evidence is a detailed development of the purposes of the assessment system, theory of action, and examination of the alignment of these concepts across the system.

Content Validity

Evidence based on content becomes central to supporting validity claims of the assessments. In other words, does the instrument sufficiently represent key content associated with student achievement on the Kaiapuni academic content standards? It is not enough to examine correlational evidence to determine if a test validly predicts a behavior or to determine if the content of a particular curriculum is represented by a test. Rather, we need to understand *what* dimensions are measured by the test and why. While this process can entail collecting content and predictive evidence, validation efforts must move beyond this to focus on critically assessing the test and challenging ourselves and our conceptions to arrive at different hypotheses. These hypotheses must be scrutinized and challenged to look for other plausible interpretations that support the interpretation of scores.

Reliability

Reliability plays an important role in providing evidence in support of validity. Reliability evidence provides information regarding the consistency of information from a measure over repeated observations (Kane 2006). Thus, the manner with which an instrument can produce consistent results speaks to its importance within the domain of validity – an instrument's validity evidence is compromised if its results vary in ways not consistent with the participant's true score. This becomes critical when looking at the implementation of the KĀ‘EO, because the consistency of the information impacts the utility of the measure for making decisions based on accurate results.

Construct Validity (Internal and External Validity)

Construct Validity (Internal and External Validity) also plays a central role in better understanding the technical qualities of the instrument. Construct validity is a broad category that focuses on the importance of the inferences based on the scores and interpretations of score meaning going beyond simple predictions or assessment of the content domain. Concurrent, predictive, discriminant, and convergent validity are subsumed under construct validation as "data collection and data analysis strategies" (Angoff, 1988, p. 28) and include an examination of construct irrelevant variance or construct underrepresentation (Brualdi, 1999). Construct validity also provides evidence regarding how well the test conforms to or measures the underlying construct. Although construct validity can be vast in scope, we focus construct validity evidence on internal consistency, the dimensionality of the assessment, the correlational patterns of items, and the relationship of scores to other factors.

Cultural Validity (including Fairness and Bias)

While the above aspects of validity are considered in typical assessment systems, a central tenet of the KĀʻEO is that it provides a more accurate and fair measure for students who are educated in Hawaiian immersion schools. Therefore, we must consider cultural validity.

The KĀʻEO program is uniquely grounded in the language, culture, and worldview of the Hawaiian immersion community. These factors play intricate and integral roles in the assessment process, thus necessitating a broader approach to the examination of validity. Because assessment practices and priorities are derived from the culture in which they are developed and are based on cultural and contextual assumptions, all aspects of testing should reflect an underlying consideration of the learner, the learning process and context, and the content being measured. These considerations place an onus on development staff to account for culture and language, because these directly impact the construct on which the test is based and will measure. If culture and language are not considered, the test could ultimately be measuring other constructs, such as knowledge of the dominant culture, which could introduce construct irrelevant variance and produce a biased assessment. Such assessments can result in negative consequences for students.

While culture is certainly considered in the assessment literature (AERA/APA/NCME, 2014), it is often viewed as a threat to validity, as opposed to an intrinsic consideration as its own aspect of validity (Solano-Flores, 2011). Kirkhart further argues that validity in itself is culturally situated and, as such, should be central to any validation efforts to ensure sensitive and accurate measurement (2016). We recognize that culture is a complex factor; there are no easy or established methods that provide a direct path for the consideration of cultural validity (Solano-Flores, 2011). However, it does not belie the need for its consideration. Researchers need to collect and present evidence to build comprehensive validity arguments that reflect the priorities and uses of the data. For example, one purpose of the KĀʻEO assessment system is to honor and preserve the values of the community (e.g., aloha) and the Hawaiian language as they are taught in schools. If researchers fail to think broadly about validity and the degree to which an assessment embodies cultural priorities, it can result in marginalization of a group or groups of participants.

Solano-Flores discusses a distinct contribution of, and definition for, cultural validity as "the effectiveness with which […] assessment addresses the socio-cultural influences that shape student thinking and the ways in which students make sense of […] items and respond to them" (Solano-Flores, 2011, p. 3 citing Solano-Flores, Nelson-Barber, 2001). This includes an array of considerations including language, worldview, teaching and learning, and values. Grounding research in a foundation of cultural validity can expand our perception of traditional ideas of validity by providing perspective and focus to our validity argument.

We propose that cultural validity is not a distinct type of validity but rather undergirds the entire body of validity work. Thus, each time validity evidence is presented as part of the KĀʻEO system, we consider the role language and culture play in the validity argument. The validity evidence advances the ways in which we think about the complexities of cultural validity which are informed by worldview, learning styles, and

community (Solano-Flores & Nelson-Barber, 2001). "Ideally, if cultural validity issues were addressed properly at the inception of an assessment … there would be no cultural bias and providing accommodations for cultural minorities would not be necessary." (Solano-Flores & Nelson-Barber, 2001, p. 557). True cultural validity goes beyond fairness and equal educational opportunity to consider culture and language via a purposeful involvement of the community. This ensures transparency, buy-in, and ownership of the community, and promotes a level of validity that cannot be achieved by traditional methods.

By taking this approach, validity studies become more actionable and focused. As part of our validation efforts, we include specific discussions of language and culture. We always involve as many educators and community members as possible, based on the context. For example, our alignment studies included teachers who were knowledgeable about Hawaiian immersion instruction as well as about culture and were therefore uniquely qualified to make informed judgements about these areas.

Validity Argument

Validation is often promoted as an ongoing effort that continually seeks to build evidence as a means to improve instruments and their associated interpretations. However, this is often infeasible, and so validity studies must consider limits and priorities. The UH KĀ‘EO Assessment team and psychometricians attempt to strike a balance: one that relies on stakeholder priorities, community perspective, and worldview, coupled with rigorous technical processes. The goal is to provide the UH KĀ‘EO Assessment team with pertinent information for evaluating the strengths of the assessment and providing ideas for future improvement. Some of the potential priorities included in the purpose statements and theory of action consist not only of summative and formative uses of the system, but also include ensuring fairness, consistency, accurate feedback, and education improvement. This work considers the priorities for stakeholders, as well as a variety of technical guidance (AERA/APA/NCME, 2014, Gullickson 2008, Haertal 2006, Kane 2006, and Messick 1989).

With regard to technical quality, the team continually examines the validity evidence pertaining to the assessment of several areas of validity that we believe to be particularly relevant and necessary to supporting this assessment. Based on the system purposes and uses, we propose to collect and present evidence that falls into the following main areas: content-based validity, validity based on cognitive processes, internal validity, external validity, reliability, and fairness and bias (including cultural validity). While we present these as distinct categories, we recognize they are interconnected. For example, it becomes difficult, if not impossible, to correctly interpret a score if the score does not adequately represent the intended content.

The validity framework is guided by both professional standards (AERA/APA/NCME, 2014) and US DOE peer review guidance (US DOE, 2015). These guidelines suggest potential topics of consideration for a validity agenda, including the examination of the content of the assessments and alignment to standards/student learning objectives, construct validity (e.g., patterns in correlations between and across different factors, unidimensionality of the assessment), bias review, standard setting, classification accuracy and consistency, and fairness (e.g., differential item functioning).

As with any assessment, validity plays an important role in laying out the development tasks and research. The US DOE peer review guidance has specified a variety of documentation that is needed to support the validity of inferences from and the uses of an assessment. The research team used the US DOE peer review guidance as a framework to ensure that we addressed a range of priorities. The tasks in the tables below provide guidance to the development team about the priorities and data that must be collected. It is also important to note that cultural validity is embedded throughout the development and research efforts as an ongoing validity consideration.

Table 3.1 presents an overall framework for the validity argument and specifies different types of validity evidence aligned to the intended purposes of the assessment system. Subsequent tables provide the sources of supporting evidence for each type of validity.

Table 3.1: Assessment Purpose Aligned to the Type of Validity Evidence

Purpose Statement	**Content Validity**	**Validity Based on Cognitive Processes**	**Internal Validity**	**External Validity**	**Additional Technical Evidence (e.g., reliability, fairness)**
To measure the achievement of Hawaiian language (immersion) schools and individual students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.	X	X	X	X	X
To provide an appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.	X	X	X	X	X
The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.	X	X	X	X	X

The following set of tables (Table 3.2-Table 3.6) outline the supporting evidence, the source of such evidence, and the specific location in the technical report for each type of validity evidence.

The assessment purposes specifically reflect on the importance of the test for informing stakeholders about student achievement on important content related to math, language arts, and science. In order to ensure that these purposes are supported, a key focus of the development is ensuring the appropriate representation of content (Table 3.2). As defined by the standards, content validity information is "evidence based on test content that supports the intended interpretations of the test" (AERA/APA/NCME, 2014, p. 218).

Table 3.2: Summary of Content Validity Evidence

Purpose Statement	**Summary**	**Chapter**	**Evidence**
To measure the achievement of Hawaiian language (immersion) schools and individual students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.	Systematic construction of assessments including blueprints, item development and representing cognitive complexity. All development tasks were completed with broad community support and involvement.	Test development Item and test analyses	Item development Blueprints Meeting notes Meeting attendance records Meeting agendas Blueprint review Model fit statistics Alignment studies Standard setting Achievement level descriptors
To provide an appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.	Systematic construction of assessments including blueprints and item development reflecting the breadth and depth of the intended content standards. All development tasks were completed with broad community support and involvement.	Test development Item and test analyses	Item development Blueprints Meeting notes Meeting attendance records Meeting agendas Blueprint review Model fit statistics Alignment studies Standard setting Achievement level descriptors
The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.	All development tasks were completed with broad community support and involvement.	Test development Kaiapuni standards development Theory of action	Meeting notes Meeting attendance records Meeting agendas Blueprint review Alignment studies Standard setting

A purpose of the KĀ‘EO testing program is to specifically measure Hawaiian immersion students' achievement in HLA, math, and science. The testing program provides a unique opportunity to develop assessments that reflect the priorities and needs of the Hawaiian community. In doing so, the assessment

program faces a unique context for the development and implementation of test items. A central issue is making sure that the assessment taps student achievement in these domains while minimizing the effects of irrelevant constructs. Toward this end, the test development process considers multiple methods for evaluating the items and the degree to which students can access each item, based on cognitive processes (Table 3.3).

Table 3.3: Summary of Validity Evidence Based on Cognitive Processes

Purpose Statement	**Summary**	**Chapter**	**Notes**
To measure the achievement of Hawaiian language (immersion) schools and students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.	Cognitive testing showed that students were interpreting the items as anticipated across different student groups (e.g., special education, language background). Teacher review of items (e.g., bias, content, depth of knowledge) indicated that the items measure content in a way that all students will interpret consistently.	Special studies Test development	Additional validity studies were conducted in 2017 to examine data related to cognitive processes. These studies will include collecting and comparing information from teachers about the degree to which they believe their students can think deeply and critically on complex assessment tasks relative to students' performance on those tasks.
To provide an appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.	Cognitive testing showed that students were interpreting the items as anticipated across different student groups (e.g., special education, language background). Teacher review of items (e.g., bias, content, depth of knowledge) indicated that the items measure content in a way that all students will interpret consistently.	Special studies Test development	Additional validity studies were conducted in 2017 to examine data cognitive processes. This study will include collecting and comparing information from teachers about the degree to which their students can think deeply and critically on complex assessment tasks relative to students' performance on those tasks.
The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.	Teacher review of items (e.g., bias, content, depth of knowledge) indicated that the items measure content in a way that all students will interpret consistently.	Test development	

Construct validity addresses the degree to which the test conforms to or measures the underlying construct or trait that is the target of the measure. This is often a statistical argument that focuses on such evidence as internal consistency in scores, relationships of scores to external factors, and understanding score patterns.

Evidence of internal validity can support the claim that the test conforms to or measures the underlying construct or trait that is the target of the measure (Table 3.4).

Table 3.4: Summary of Internal Validity Evidence

Purpose Statement	**Summary**	**Chapter**
To measure the achievement of Hawaiian language (immersion) schools and students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.	Analyses that show the internal content is consistent with the content standards (i.e., Alpha coefficient, cognitive interviews, dimensionality analysis,Rasch reliability statistics). Differential Item Functioning that shows the items perform the same way for different groups. Alignment studies that show the assessed content is consistent with the standards.	Item and test analyses Special studies Alignment studies
To provide an appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.	Analyses that show the internal content is consistent with the content standards (i.e., Alpha coefficient, cognitive interviews, dimensionality analysis, Rasch reliability statistics). Differential Item Functioning that shows the items perform the same way for different groups. Alignment studies that show the assessed content is consistent with the standards.	Item and test analyses Special studies Alignment studies
The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.	Item analyses that show the items are measuring the domain as intended. Cognitive interviews that show items are measuring the intended construct.	Item and test analyses Special studies

In a manner similar to internal validity, external validity supports the assessment by providing information with regard to the degree to which the assessment reflects key content by relating scores to other similar variables. This type of evidence is typically generated by examining the relationships between assessment scores and scores from other similar assessments (e.g., the state assessment system and NAEP, TIMMS, college readiness assessments, NWEA). There are, however, no similar Hawaiian language assessments by which to make these comparisons, so additional data will need to be collected (Table 3.5). One important note is that the KĀ‘EO program considered Smarter Balanced materials throughout the development process (e.g., blueprints, ALDs, and reports) to provide a grounding framework for the KĀ‘EO and ensure that the assessments were built on the CCSS adopted by the Hawaii Department of Education.

Table 3.5: Summary of External Validity Evidence

Purpose Statement	Summary	Chapter	Notes
To measure the achievement of Hawaiian language (immersion) schools and students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.	The assessment structures were informed by Smarter Balanced materials, including blueprints and performance standards. Additional validity study	Introduction Special studies	This type of evidence is typically generated by examining the relationships between assessment scores and scores from other similar assessments. There are, however, no similar Hawaiian language assessments with which to make these comparisons. The research team is examined relationships between KĀ‘EO scores and teacher ratings of student proficiency.
To provide an appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.	The assessment structures were informed by Smarter Balanced materials, including blueprints and performance standards. Additional validity study	Introduction Special studies	
The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.	Additional validity study	Special studies	

Generating additional technical information is necessary to ensure the adequacy of the assessments in supporting the purpose statements as well as evaluating the assessment for continued improvement. Table 3.6 outlines the evidence that was generated to support other technical qualities of the assessment including reliability, fairness, and rigor in scoring methods, in support of the test purposes. Standard 4.0 of the AERA/APA/NCME standards (2014) states that "Test developers and publishers should document steps taken during the design and development process to provide evidence of fairness, reliability, and validity for intended uses for individuals in the intended examinee population" (AERA/APA/NCME standards, 2014, p. 85).

Table 3.6: Summary of Additional Evidence

Purpose Statement	**Summary**	**Chapter**	**Notes**
To measure the achievement of Hawaiian language (immersion) schools and students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.	·Classical Test Theory (CTT) reliability statistics, Rasch reliability statistics (reliability, item and person separation statistics) ·Conditional Standard Error of Measurement (CSEM) ·Test Information Function (TIF) ·Decision Consistency ·Differential Item Functioning (DIF) ·Item writing and review ·Cognitive interviews ·Item specifications ·Usability and comparability studies ·Item by person distributions ·Scoring information	Item and test analyses Special studies Test development	The analysis plan includes an in-depth examination of the items and test which includes Rasch, Classical Test Theory (CTT) analyses, and descriptive statistics.
To provide an appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.	·CTT reliability statistics, Rasch reliability statistics (reliability, item and person separation statistics) ·Conditional Standard Error of Measurement (CSEM) ·Test Information Function (TIF) ·Decision Consistency ·Differential Item Functioning (DIF) ·Item writing and review ·Cognitive interviews ·Item specifications ·Usability and comparability Studies ·Item by person distributions ·Scoring information	Item and test analyses Special studies Test development	
The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.	·Item writing and review ·Cognitive Interviews ·Item Specifications ·Usability and Comparability Studies	Item and test analyses Special studies Test development	

Chapter 4. Academic Content Standards

As mentioned in Chapter 1, The state constitution names Hawaiian and English as official languages of Hawaiʻi (Article XV, Section 4). This provides students in the State of Hawaiʻi with a unique opportunity to follow one of two pathways in their educational journey – either in an English medium setting or a Hawaiian medium setting. Furthermore, because the State of Hawaiʻi Board of Education has adopted a unified set of standards, the Hawaiʻi Department of Education (HIDOE) has ensured that students are fairly and appropriately assessed in their medium of instruction (either Hawaiian or English). As such, the use of the Kaiapuni SLOs was done to ensure that while the standards and assessments were built in two distinct languages, that these assessments were founded on the unified set of state standards. Starting in 2015, the assessment program focused on developing assessments for Hawaiian language arts (HLA) and mathematics. This policy further states that HIDOE develop curriculum and standards to prepare students for college, career, and community contribution. To do this, HIDOE adopted a single set of standards (the CCSS) with two language paths: English and Hawaiian. The adoption of a single set of standards ensures that schools are teaching to the same expectations regardless of the language of instruction. This same set of expectations ensures that students are able to transition between language pathways.

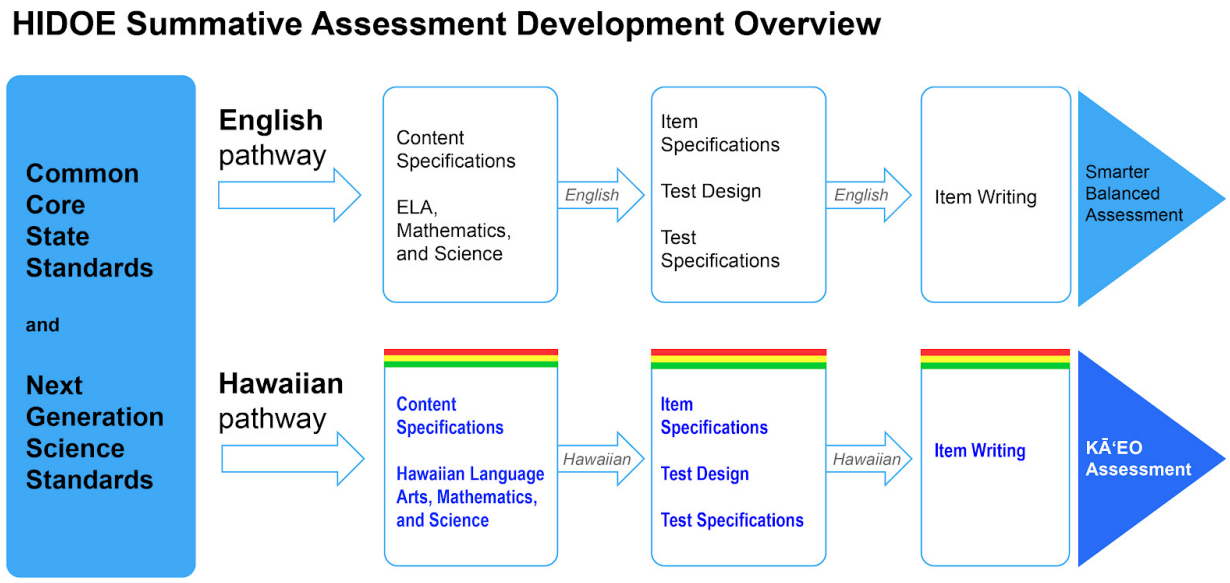
The Common Core State Standards have always been central to the development of KĀʻEO. Students in the Hawaiian Language Immersion program, like students in all Hawaii public schools, are held to the expectations (the content and cognitive processes) of the Common Core State Standards. As such, CCSS has been foundational to the development of the KĀʻEO, and HIDOE developed the Kaiapuni SLOs to specify how the CCSS would be represented on KĀʻEO. By providing a way to guide item writers in developing items aligned to the CCSS in the Hawaiian language, the Kaiapuni SLOs have served as tool to ensure content developers are consistent in their use of Hawaiian in terms of accuracy, phrasing, terminology, and fidelity to cultural norms and values as expressed through the use of the language.

The KĀʻEO Content Specifications (2019-2020) document(s) describe the interrelationships between CCSS, the Kaiapuni standards, and KĀʻEO item development. UH developed these specifications, in part, to help clarify existing relationships between test development documentation and the CCSS. Per AERA standards, content specification documents are important because they allow for a specification of the "content, skills, processes, and diagnostic features" (p. 76) of the assessment. Similarly, SBAC has a content specification document (SBAC Content Specifications for the Summative Assessment, 2015) aimed at describing the relationship between CCSS, the skills and content targeted for assessment, and the broader goals and objectives of SBAC test content development.

Student Learning Objectives (SLOs) are a critical component of the KĀʻEO Content Specifications. The use of the term "SLO" within these specifications is a direct reference to the original contract between HIDOE and UH to develop KĀʻEO, which called for the development and adoption of Student Learning Objectives. As such, "SLO" is now the preferred term, as it provides a more clear and accurate description of the place of

these KĀ‘EO-specific learning objectives within the larger context of KĀ‘EO's content specifications. (NOTE: During the transition from the previous documentation to the Content Specifications documentation, however, the terms "KĀ‘EO SLOs" and "Kaiapuni Standards" may be treated synonymously.)

Figure 4.1: Development overview



reference: adapted from the *Content Specifications for the Summative Assessment of the Common Core State Standards,* accessible at*: http://www.smarterbalanced.org/wp-content/uploads/2015/08/ELA_Content_Specs.pdf*

Chapter 5. Test Content Development

The careful development of test content is one of the most critical steps in creating a high-quality assessment. A high-quality test development process assures that test blueprints adhere to test specifications, items are written to align to test blueprints and content standards, and forms are selected to align to test blueprints.

Content-related validity, a primary concern of high-quality testing programs, depends on a strong and demonstrable relationship between the test content standards and the specifications of the content domain. The following excerpts from *Standards for Educational and Psychological Testing* (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 2014) describe the relationship:

> **Standard 4.0** Tests and testing programs should be designed and developed in a way that supports the validity of interpretations of the test scores for their intended uses. (85)
>
> **Standard 4.12** Test developers should document the extent to which the content domain of a test represents the domain defined in the test specifications. (89)

AERA/APA/NCME (2014) also describes the responsibilities of test developers, including the careful and ongoing consideration of the examinee population and its characteristics:

> **Standard 3.2.1** Test developers are responsible for developing tests that measure the intended construct and for minimizing the potential for tests being affected by construct-irrelevant characteristics, such as linguistic, communicative, cognitive, cultural, physical, or other characteristics. (64)
>
> **Standard 4.0** Test developers and publishers should document steps taken during the design and development process to provide evidence of fairness, reliability, and validity for intended uses for individuals in the intended examinee population. (85)

To this end, the Kaiapuni Assessment of Educational Outcomes (KĀʻEO) offered a unique opportunity to develop a psychometrically rigorous assessment in the context of the Hawaiian culture.

Collaborative, Community-Based Approach to Test Development

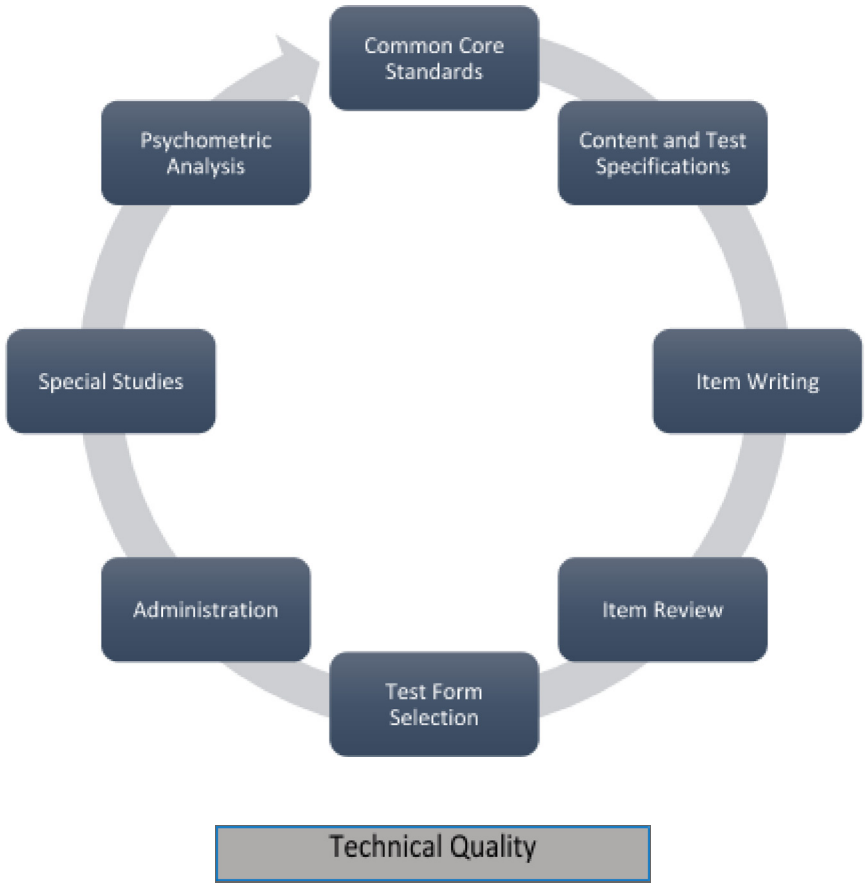
Community and collaboration are important components of Hawaiian culture. The KĀʻEO test development process reflected these aspects of Hawaiian culture, in that it was created with the explicit inclusion and involvement of community members, educators, technical experts, and UH KĀʻEO Assessment staff. These experts were included at every step in the project to ensure the quality and relevancy of the assessment. Such steps included item writing, item review, standards and alignment review, and scoring, all of which were led

and facilitated by the UH KĀʻEO assessment team staff and external experts. The development of the assessment was only possible through this collaborative structure and dedicated community involvement.

Figure 5.1a provides an overview of the test development cycle for the KĀʻEO. In this chapter, the steps specific to test content development are described in detail, from the creation of Kaiapuni test specifications to the selection of operational test forms. At every development juncture, the KĀʻEO utilized many of the resources and research generated by the Smarter Balanced Assessment Consortium (SBAC) and NGSS guidance for science. These resources included:

- SBAC assessment blueprints;
- Item writing guidance;
- Item review guidance;
- Reading and listening passage review guidance;
- Assessment Claims and Targets in mathematics;
- Achievement level descriptors (ALD) and threshold descriptors for 3rd and 4th grade; and
- Guidance on Universal Design (UD) and technology-based assessment.

Figure 5.1a: Test Development Cycle for KĀ‘EO



KĀ‘EO Test Specifications

AERA/APA/NCME (2014) Standard 4.1 states the following:

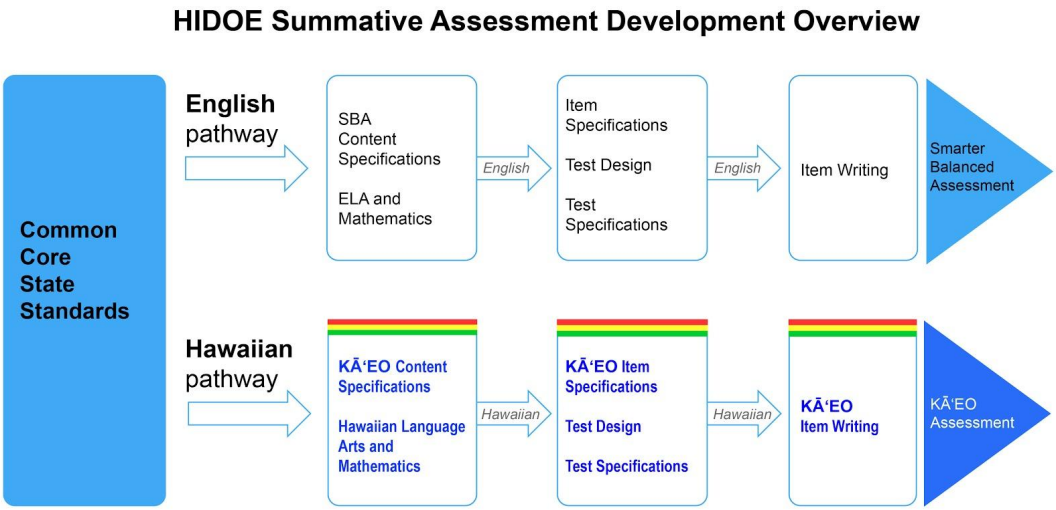
> Test specifications should describe the purpose(s) of the test, the definition of the construct or domain measured, the intended examinee population, and interpretations for intended uses. The specifications should include a rationale supporting the interpretations and uses of test results for the intended purpose(s). (85)

In 2019, a separate test specifications document was developed to clarify and consolidate the existing documentation and practices aimed at meeting this standard for KĀ‘EO. As part of the KĀ‘EO Content Specifications, the KĀ‘EO Test Specifications describe KĀ‘EO's purpose statement and provide descriptions of both the examinee population for which KĀ‘EO is intended and the domains it aims to measure. The

KĀ‘EO Test Specifications describe the ways in which test blueprints are designed to support score reports, and they describe the capacity for subscore reporting across for each of the content domains and grade levels assessed. Examples of score reports are provided in the Test Specifications, along with a discussion of how results are interpreted through both public and confidential score reporting.

Each KĀ‘EO test form was selected according to established criteria documented in the test blueprints, which specify both the content and cognitive complexity requirements at each content area and grade level. A well-constructed test blueprint is a foundational element of an assessment program because it provides documentation regarding the content to be covered in the assessment and emphasis for each standard or learning objective. Test blueprints also describe the weighting of each standard or learning objective on the test as well as the weighting across different levels of cognitive complexity (e.g., how many items will ask students to recall information versus how many items will ask students to develop a strategy or employ a multi-step solution to a problem). A high-quality blueprint then facilitates the construction of a test that is conceptually grounded in the content by providing guidance to item writers, test review panels, test developers, and test users about the test objectives and the content assessed.

Through the entire development process, the assessment team reviewed and incorporated the methodology, research, and products generated by the Smarter Balanced Assessment Consortium. For blueprint development, the team specifically considered the SBAC assessment blueprints for English language arts and mathematics (for additional information about the development of the original blueprints, see the 2017 KAEO technical manual). In this way, KAEO blueprints were designed to maintain these foundational links to the Common Core State Standards and the Next Generation Science Standards. The Student Learning Objectives (SLOs) were the cornerstone of the KĀ‘EO blueprints, as they identified the skills and knowledge eligible to be assessed in the Hawaiian pathway of the HIDOE summative assessment program.



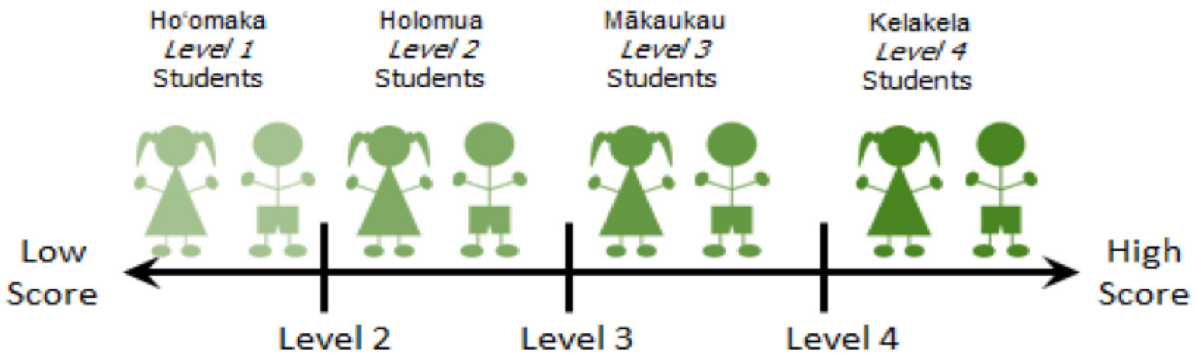
Science Evidence Statements

Evidence statements provide educators with additional information about what students should be able to know and do and performance expectations for each content standard. These evidence statements should be observable and measurable, and should identify how a proficient student can demonstrate their understanding. In order to ensure that the 3-dimensional nature of the Next Generation Science Standards (NGSS) standards was considered, teachers and content experts generated evidence statements guided by NGSS documentation (https://www.nextgenscience.org/resources/evidence-statements) and based on the content of the Hawaiian medium Kaiapuni content specifications. The evidence statements were utilized during item development.

Achievement Level Descriptors

Achievement level descriptors (ALDs) provide information on student expectations of knowledge, skills, and competencies across the standards for an assessment. ALDs provide such context by describing the students' capabilities in terms of performance categories. These performance categories divide students into levels based on what they know (see Figure 3). Level 1 students are students who can do basic skills. These skills progress across levels until students reach Level 4 where they demonstrate that they can accomplish more complex tasks.

Figure 5.2: Performance Categories



Types of ALDs

There are a variety of ALDs to meet different needs and purposes of the assessment system, and each type supports various development needs (Table 7) (Egan, Schneider, & Ferrara, 2012). Each type of ALD is written based on the task for which it is used and on the relevant stakeholder. Policy ALDs are the most general and are used by policymakers to understand high level descriptions of the levels across the system. Range ALDs are written early in the development process and describe the range of knowledge and skills within each performance level. Threshold ALDs describe the minimum knowledge students would need to get into the next performance level, which is critical to tasks such as standard setting. Finally, reporting ALDs are used to help stakeholders understand the performance levels on student reports.

Table 5.1: Types of ALDs

ALD Type	**Purpose**	**Typical Stakeholder Audience**	**Notes**
Policy ALDs	Written at a higher level that generally states goals and rigor for performance	Policy makers	Typically written as one set for use across the assessment program (not for each grade level)
Range ALDs	Describe the range of knowledge, skills, and cognitive processes required within each of the performance levels	Item writers	Usually written at the beginning of the test cycle. These are cumulative (e.g., if a student is in level 3, they have met the requirements of levels 1 and 2)
Threshold ALDs	State the minimum level of knowledge and skills required to advance to the next performance level	Standard setting participants	As with range ALDs, these represent cumulative skills.
Reporting ALDs	Written based on the results of standard setting and help stakeholders interpret assessment scores	Stakeholders	Used for reporting students' scores for the assessment
General	These are the ALDs that appear on the student reports	Parents, policy makers	

Importantly, ALDs support content validity by establishing a foundation of skills and knowledge across the performance levels and ensuring that the range of skills is considered as assessment system documents (e.g., standards, items, blueprint) are developed. This information is important to assessment tasks, such as standard setting and reporting; however, even before standard setting the KĀ‘EO team began using ALDs to help inform the development process. For example, during item writing, it is important that item writers

generate items across the continuum of skills to accurately measure the range of knowledge and skills. Figure 4 shows the development cycle of the assessment and the key junctures where ALDs were developed and used.

Figure 5.1b: ALDs in the Development Cycle



Overview of ALD Development Process for Math and HLA

The development of the KĀ‘EO ALDs began with consideration of the Smarter Balanced Assessment Consortium (SBAC) ALDs, which provided detailed descriptions of students' skills and knowledge across performance levels. (www.smarterbalanced.org/wp-content/uploads/2015/08/Smarter-Balanced-Math-ALDs.pdf). Starting with the SBAC ALDs supported the rigor of the assessment by ensuring KĀ‘EO was grounded in a consistent set of skills and knowledge required by SBAC, again ensuring that these Hawaiian medium assessments were in line with the unified set of state standards.

Using the SBAC ALDs as a foundation, the team generated a suite of KĀ‘EO ALDs for policy, threshold, range, and reporting. These were written in Hawaiian and included language from the Hawaiian medium Kaiapuni standards. It was important to have these documents in Hawaiian to support tasks such as item writing and standard setting, which were conducted exclusively in Hawaiian.

Overview of ALD Development Process for Science

Initial drafts of the science threshold and range ALDs were drafted by the UH team using the Kaiapuni science standards. The team also considered the previously developed math and HLA ALDs, as well as guidance from SBAC to ensure consistency in language and rigor across the content areas. During standard setting, panelists began by reviewing the draft ALDs, revising and finalizing these ALDs, and subsequently using them to set bookmarks (see Standard Setting Technical Report for additional information). At the conclusion of standard setting, panelists drafted reporting ALDs based on their classroom expertise and the knowledge they gained during the standard setting process.

Kaiapuni Item Development: Phase I

Item development is a critical step in assessment. Item development for the Kaiapuni Assessment of Educational Outcomes (KĀʻEO) complies with AERA/APA/NCME (2014) standard 4.7:

> The procedures used to develop, review, and try out items to select items from the item pool should be documented (87).

The KĀʻEO specifically focused on developing items using native language teachers, coaches, and higher education staff. Supporting documentation included training materials, forms, and blueprints. Item writing was especially critical because at the onset of the development process there were limited numbers of available items. Therefore, UH staff focused on leveraging resources to write new items that aligned to the content standards and fit the test blueprints. Consultants supported this effort by focusing on developing the training for teacher item writers and on developing procedures for collecting written items.

The development of the initial KĀʻEO items for mathematics and HLA started in January of 2015 and followed an abbreviated timeline to generate sufficient items for field testing. The team identified current teachers outside of the 3rd and 4th grade testing levels in Kaiapuni schools as a main sources for generating test items. The team believed that these particular teachers were not only well versed in the content, but they might already have existing items from which to draw. However, it is important to note that while teachers might have expertise in developing classroom formative assessments, writing items for large-scale summative assessment presents unique challenges.

The item development for science followed many of the same steps as math and HLA item writing but with additional information from science specific sources. The KĀʻEO team specifically focused on developing items relying upon native language teachers, coaches, higher education staff, and content experts. This process for writing items also included training materials, forms, and blueprints. UH staff focused on leveraging resources to write new items that aligned to the content standards and fit the test blueprints.

Item Development Phase II (2016-Current)

The UH team is prioritizing additional item writing for KĀʻEO and is continuing to build the item pool. At the end of 2016, an external consultant was hired (Center Point Assessment Solutions) to work with teachers and expand the overall capacity for item development. The focus of this effort was to expand the existing knowledge of the Kaiapuni teachers with regard to item writing (based on what the program had learned from the past two years) and to use an increasingly sophisticated set of inputs to write targeted content and address areas in the item pool with potentially insufficient coverage.

Developers compare KĀʻEO item pools against the assessment blueprints, using a host of analytical tools, including spreadsheet-based gap analyses, alignment studies, test form selection tools, ad hoc reviews, and other inputs. The comparison helps to determine which areas need to be addressed and where to place their collective item development efforts. Once these determinations are made, item writing templates are generated for specific standards, DOKs, claims, and other criteria; then teachers developing items are directed to focus on specific areas of content to ensure additional coverage where needed. In this manner, the KĀʻEO item development model has evolved from *bulk item writing and item pool generation* to *item pool maintenance and targeted supplementation*. Compliance with the established blueprint(s) is always a primary point of concern; current KĀʻEO development processes are designed to detect, analyze, and narrow (or eliminate) gaps in coverage in order to mitigate future test selection constraints within the item pool itself and to help ensure compliance with the blueprint requirements. This effort also includes the development of a separate KĀʻEO item development manual. The refined processes were part of a recent item writing workshop, which built upon teachers' existing item writing knowledge and included processes to better target items needed for the item bank (for details see Kaiapuni Assessment of Educational Outcomes (KĀʻEO) Item Writing Workshop Report January 2017 and KĀʻEO Item Development Training Manual for 2017).

Item Review

The next step was to conduct a thorough review of all the items in the pool, an important phase in any assessment development process, with the goal of ensuring the inclusion of the highest quality of items possible prior to field testing. Item reviewers accomplished this by confirming that items matched the assessed content and that the items were appropriate for different subgroups of students.

University of Hawaiʻi staff recruited item reviewers with a range of schools and grade level expertise, including university faculty with Hawaiian language proficiency and experience in Hawaiian language immersion schools. This diversity of thought and experience was extremely important for the review process, because – as mentioned previously – academic language use can vary between schools. In order to address this issue, reviewers were invited from different islands, different schools, and different universities to ensure that the language used in items was appropriate for students at that grade level, that vocabulary and grammatical patterns used were familiar enough for all schools to access, and that items did not reflect a bias

toward a particular language community. The Item Review Committees were composed of representatives from various backgrounds whose purpose was to screen the items for content match to the appropriate academic standard, as well as racial, socioeconomic, gender, and other sensitivity issues, particularly within the context of the Hawaiian immersion program. All item reviewers were proficient in both English and Hawaiian. This follows AERA/APA/NCME (2014) standards 3.1 and 3.2, which state:

> **Standard 3.1** Those responsible for test development, revision, and administration should design all steps of the testing process to promote valid score interpretations for intended score uses for the widest possible range of individuals and relevant subgroups in the intended population. (63)
>
> **Standard 3.2** Test developers are responsible for developing tests that measure the intended construct and for minimizing the potential for tests' being affected by construct-irrelevant characteristics, such as linguistic, communicative, cognitive, cultural, physical, or other characteristics. (64)

These standards are particularly critical for this assessment program. The intended uses of test scores described in Chapter 2 include the use of test scores for purposes of accountability, as well as appropriately measuring students in their language of instruction. The review process was implemented in order to solicit information from reviewers about typical review criteria (e.g., alignment of the item to the appropriate standard, gender sensitivity). However, because the test needed to consider important information regarding Hawaiian language and culture, reviewers were also asked to review items in terms of linguistic appropriateness and educational value. For additional information on item review, see the KĀ‘EO 2017 Technical Report and the KĀ‘EO Item Development Manual.

Field Test of Items

At the completion of item review, math and HLA items were field tested in either the spring of 2015 or the fall of 2015. Items were analyzed using Rasch modeling and Classical Test Theory to examine their functionality. Items that did not meet pre-established criteria were flagged for review. After UH staff reviewed the flagged items, the items were deleted from the item bank, revised and re-field tested, or, on rare occasions, were retained in the item bank without revision (see KĀ‘EO 2015 Technical Report for additional details of the field test).

Science items were field tested in a similar manner in 2016 (see KĀ‘EO 2016 Science Technical Report for additional details of the field test).

Test Form Selection

For the 2019 operational assessments, the psychometric team used item metadata from the field test and test blueprints to specify operational forms. Items were stored in a spreadsheet that contained an item number

and information generated from the item reviews and the field test (i.e., content standard, the depth of knowledge or DOK, item type, and difficulty). Consultants created a series of tables to facilitate item selection in order to ensure that the content of the assessment matched the grade level blueprint. Items were selected to represent the percent ranges specified in the blueprint for each SLO/Claim and DOK level. Item difficulty also was considered. If items exceeded the specified blueprint range, adjustments were made. This iterative process continued until all blueprint criteria were satisfied. Once the psychometric team selected items that met the range of item numbers presented in the blueprint, the list of items was sent to the UH team for review to ensure a diversity of items within standards. The psychometric team then made adjustments and reran the frequency analyses to ensure blueprint coverage.

Item selection in 2019 focused on building the item pool specifically around standards that might have fewer associated items or where the alignment studies noted some weaknesses (e.g., DOK 4 items in grade 4 math). Numbers of items that were included in each assessment and numbers of items in the item pool are listed in Table 5.2. Item selection also addressed continual improvement in the assessments as identified in findings from the alignment study, item review, and psychometric analyses. Processes to ensure the results of such findings are addressed in future item selection efforts are documented thought the use of KĀ‘EO Feedback Integration Plan documents (for example, see KAEO Feedback Integration Plan: 2016 Alignment Study).

Table 5.2: Number of Items by Grade and Content Area

Content/Grade	# of Items in OP Selection	# of Points in OP Selection	# of Items Retained (FT'ed for KAEO, but not in OP)
HL3	55	64	24
HL4	58	67	22
HL5	57	68	10
HL6	58	76	14
HL7	57	77	14
HL8	55	72	18
MA3	55	58	21
MA4	56	60	24
MA5	57	65	13
MA6	57	72	12
MA7	58	66	13
MA8	56	63	20
SC4	40	49	11
SC5	53	69	7
SC8	58	66	18

The KĀ‘EO program uses an item selection tool, developed specifically for KĀ‘EO by Center Point Assessment Solutions, to allow for greater efficiency and accuracy of item selection as the item pool

expanded. To ensure that KĀ‘EO meets all testing specifications, this tool is integrated and aligned with each testing blueprint. By automating item selection, use of the tool reduces the likelihood of human error during item selection. The tool also provides visual indicators when the item numbers in each cell approach the minimum or maximum number, which prompts the item selection team to focus item development in these categories (See Figure 5.3 below for an example of this tool).

Figure 5.3: Item Selector Tool

Pilihelu (Mathematics)
Grade 4 OP Selection Output Report

Current Selection from OP Selector Tab

Reporting Category	Total Items Current Selection	Claim 1	vs. blueprint	Claims 2/4		Claim 3		Computer scored	SC MC DD STV	Hand scored	ER SA FTG	Total items within range?
Standard 1 OA	**13**	**6**	ok	**3**	ok	**4**	ok	**12**	ok	**1**	ok	**ok**
1.1	9	4		2		3		8		1		
1.2	2	1		0		1		2		0		
1.3	2	1		1		0		2		0		
Standard 2 NBT	**10**	**5**	ok	**3**	ok	**2**	ok	**8**	ok	**2**	ok	**ok**
2.1	4	3		0		1		4		0		
2.2	6	2		3		1		4		2		
Standard 3 NF	**19**	**10**	ok	**4**	ok	**5**	ok	**17**	ok	**2**	ok	**ok**
3.1	6	4		0		2		5		1		
3.2	8	4		3		1		8		0		
3.3	5	2		1		2		4		1		
Standard 4 MD/G	**14**	**6**	ok	**6**	ok	**2**	ok	**13**	ok	**1**	ok	**ok**
4.1	8	2		4		2		7		1		
4.2	1	1		0		0		1		0		
4.3	1	1		0		0		1		0		
4.4	4	2		2		0		4		0		
Total Test	56	**27**	ok	**16**	ok	**13**	ok	**50**	ok	**6**	ok	ok

Current OP Selection

	Claim 1		Claims 2/4		Claim 3		Totals		
DOK 1	11	ok	3	ok	0	ok	14	ok	
DOK 2	15	ok	4	ok	4	ok	23	ok	
DOK 3	1	ok	6	ok	7	ok	14	ok	
DOK 4	0	ok	3	ok	2	ok	5	ok	
Totals	27	ok	16	ok	13	ok	56	ok	Item Count Total
Range Checks	ok		ok		ok		ok		

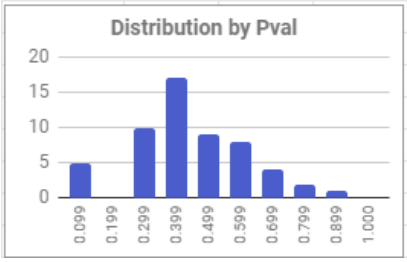
P-vals		count	%
0 to	0.099	5	9%
0.1 to	0.199	0	0%
0.2 to	0.299	10	18%
0.3 to	0.399	17	30%
0.4 to	0.499	9	16%
0.5 to	0.599	8	14%
0.6 to	0.699	4	7%
0.7 to	0.799	2	4%
0.8 to	0.899	1	2%
0.9 to	1.000	0	0%
		56	items

Difficulty	Totals	
Easy/Maʻalahi	18	
Moderate/Maʻamau	27	
Difficult/Paʻakikī	11	
	56	Item Count Total

Total OP selections	Totals	
Computer Scored	50	89%
Hand Scored	6	11%
	56	Item Count Total

Avg P-val
0.40

Hand scored only	Totals		
Short Answer/FTG	4	67%	ok
Extended Response	2	33%	
	6		Handscored Items



Technology, Graphic Design, and Layout

Throughout the development process, the assessment team worked with the university's College of Education's Distance Course Design and Consulting Group (DCDC). The DCDC team was tasked with placing the assessment online in a format similar to the SBAC assessment and in a manner that ensured consistency with the operational tests, thus ensuring students would be able to engage with the assessment using a computer-based format. Data could then be downloaded from the system, cleaned and formatted, and used to conduct subsequent item analyses and scaling.

DCDC follows universal design (UD) guidelines in response to Section 508 of the Rehabilitation Act of 1973 in the development of all educational technologies. UD is implemented via recommended web development practices outlined within the W3C Web Content Accessibility Guidelines (WCAG) 2.0 last updated in December 2008. To ensure implementation of all recommended guidelines during development, DCDC employs a pair-programming process so that multiple employees see and test code throughout creation. Accessibility issues are further exposed via usability testing with users and through external accessibility testing tools such as AChecker and WAVE.

Importantly, the computer format would allow for a range of assessment item types. This included single choice, multiple choice, fill-in-the blank, sorting values, and written responses, both short and long. The online format also facilitated access to accommodations and ensured aspects of universal design. All students were able to enlarge the text, pause the assessment, and listen at their own pace to audio passages (additional information on accommodations is provided in the administration section below). This also follows AERA/APA/NCME (2014) standards:

> **Standard 3.1** Those responsible for test development, revision, and administration should design all steps of the testing process to promote valid score interpretations for intended score uses for the widest possible range of individuals and relevant subgroups in the intended population. (63)
>
> **Standard 3.2** Test developers are responsible for developing tests that measure the intended construct and for minimizing the potential for tests' being affected by construct-irrelevant characteristics, such as linguistic, communicative, cognitive, cultural, physical, or other characteristics. (64)

Usability

For this round of 2018 - 2019 cognitive interviews, students were interviewed at three different schools on two different islands across the state in order to get a representative sample of students from the different Hawaiian immersion school communities. Our design included standard characteristics of usability testing; defined objectives, real users, real tasks, analysis, and recommendations for improvements (Miami University of Ohio, 2004; Krug, 2010). This design was chosen in order to align this usability study with the main purpose to evaluate the ease-of-use and learner experience with the assessment software. The usability study design incorporated into the cognitive study was sufficient for the purpose and doable for the researchers. It included core usability design elements and was intended to capture insights that enabled the researchers to recommend improvements to what DCDC is building (Krug, 2010).

Observations made and questions asked of students during the cognitive interviews showed that students were not inhibited by the technology; they felt comfortable using all of the functions that were present on the online assessment system. This aligned with the results of the 2016 cognitive interviews with students in grades 3 and 4, which showed that the online assessment tool was accessible and that there were no visual or

functional issues with the assessment from their perspective. The students did have minor feedback about the layout of fill-in-the-blank questions, which will be used to make slight adjustments to the visual aspects of these types of questions on future administrations (for more information see the 2018 Technical Report).

Accessibility Tools

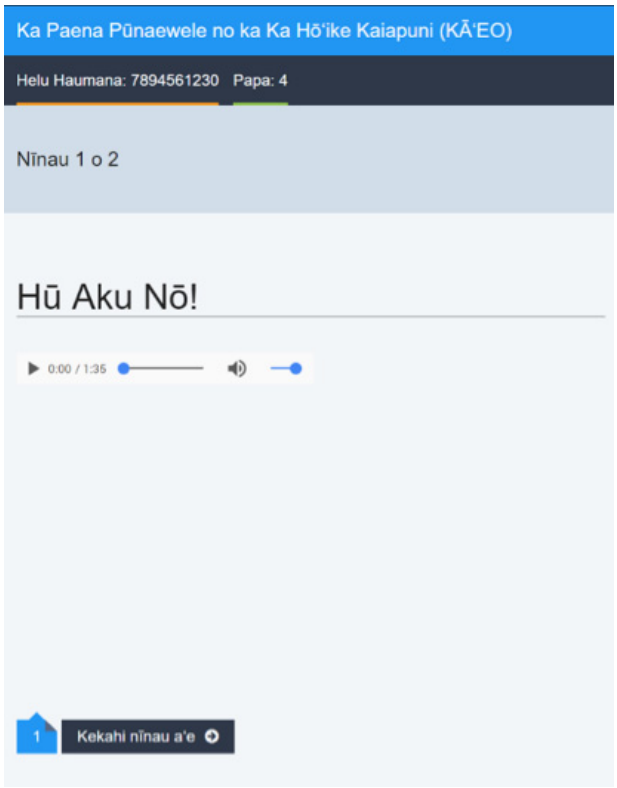
Accessibility supports for exam testing are delineated in the Designated Supports and Accommodations section of the Test Administration Manual. KĀ‘EO relies on inherent system functionality for the following accessibility functionality:

- **Zoom:** Available on all browsers supported by the testing software (Chrome, Firefox and Internet Explorer) by default
- **Magnification:** Available on all operating systems supported by the testing software (Windows and Mac) by default
- **Color Contrast:** Enables a student to adjust screen background or font color, based on his or her needs or preferences. This may include reversing the colors for the entire interface or choosing the color of font and background. (*Replaces the previous background colors on computer screen accommodation.*)
- **Masking:** Enables a student to block off content that is not of immediate need or that may be distracting. A student is able to focus his or her attention on a specific part of the test item by masking. (*Replaces the previous accommodation that involved having a student hold a template provided by the school against the computer screen to reduce his or her visual field.*)

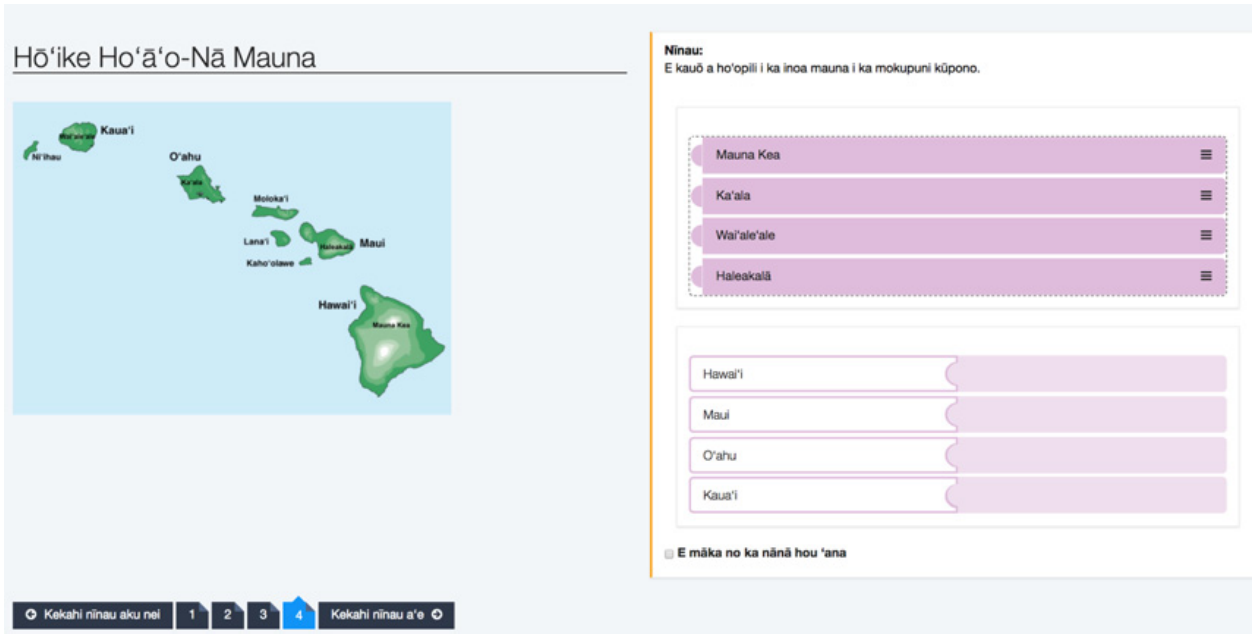
Features

The assessment software provides a series of features to assist the learner during the test taking process, which include:

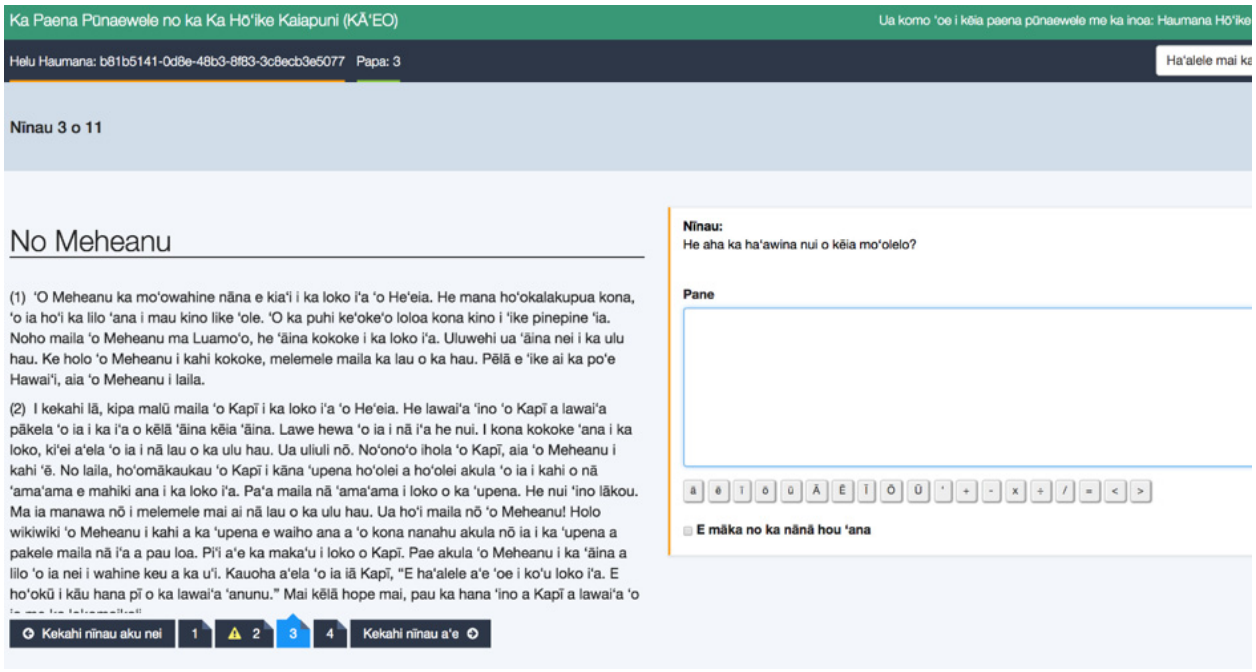
1) **Adjust the volume for listening passages:** All students can adjust the volume on their headphones for the listening passages.



2) **Visual progress:** A list of the question numbers at the bottom of each test lets students monitor their progress visually onscreen.



3) **Designate a question for later review:** Students can select any question to return to for later review. This can be marked using a checkbox available on each item and is identified on the question numbers as a warning symbol.



Chapter 6. Test Administration

Administration of the assessment needed to be conducted in a consistent manner across sites to ensure that students could demonstrate their knowledge in a reliable manner. Also, it was important that administration conditions simulated the operational assessment. To meet these demands, the UH staff and consultants framed formal administration guidelines using current and past HIDOE procedures (e.g., SBAC, Hawaiian State Assessment [HSA] for science and end of course assessments, and the Hawaiian Aligned Portfolio Assessment [HAPA] procedures). By considering these procedures, the assessment team could ensure that the test administration remained consistent with state testing protocols. These procedures were used across all operational tests in 2019.

Training

Separate sets of documents were developed by UH staff and implemented across the administration process, from training to administration and scoring. The assessment team developed administration training materials (for complete documentation see the 2019 KĀ‘EO Administration Guide: (https://kaiapuni-wp.coe.hawaii.edu/wp-content/uploads/2019/03/2019-KA%CC%84%CA%BBEO-Test-Administration-Manual-2.pdf). These materials included a training video conducted in Hawaiian that demonstrated the basic features and functions of the test and familiarized teachers with what their students would encounter on the assessment. The UH staff also provided written instructions for test administration in English with the Test Administration Guide for non-Hawaiian speaking test administrators and coordinators. Specific details were provided about the roles and responsibilities of staff members, including the school administrator, test coordinator, and test administrators; how to ensure and maintain test security; how to provide accommodations; and how to report testing incidents. School staff were then trained on the administration and procedures by the test coordinators of each school. Finally, a live webinar was held before the testing window for all test coordinators and test administrators to attend, to ask any outstanding questions. A recording of the webinar was posted to the KĀ‘EO website to be accessible to interested parties after the webinar.

Additionally, a help desk, staffed by Hawaiian and English speakers, was opened before the testing window, so that testing coordinators and administrators could call or email for answers to questions. Throughout the testing window, help desk hours were Monday-Friday from 7:30 a.m.-3:30 p.m. School staff taking part in the administration were required to complete the training and sign Appendix A of the Test Administration Guide, stating that they understood all testing procedures as presented. In addition, every test coordinator and test administrator was required to pass a certification test that ensured that all school personnel were well versed with the contents of the TAM and could securely administer the assessment; these tasks were required before each school was allowed to administer the assessment. UH staff collected documents, recorded receipt of materials, and followed up with schools to ensure that all documentation was complete.

Testing Environment and Security

The Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) prioritizes test security in order to protect student and school information as well as to protect the integrity of the test. There are three segments in the data security plan: prevention, detection, and follow-up. Prevention includes a rigorous security process throughout test development (e.g., item writing, review, standard setting, and alignment) and test administration (e.g., test administrator training on security procedures). Detection includes reporting any irregularities during the test administration (e.g., findings of the HI DOE monitoring) as well as subsequent data forensics (e.g., examination of the time it takes students to answer items, person fit statistics). Finally, the UH KĀ‘EO Assessment team follows all HIDOE security procedures and conducts follow-up and identifies corrective action for any irregularities or violations of security procedures, as well as a system for detection collusion. For additional information see the Test Security Manual.

Test Security

Test security ensures fair and equitable administration of the assessment. It is imperative that security procedures be maintained to ensure the integrity of the tests and the data; such maintenance supports the reliability of the results of the assessments. It is also critical to secure student information to protect the rights and privacy of students.

This assessment is the property of the Hawai‘i Department of Education (HIDOE). As such, these testing procedures mirrored the processes used during the Hawaiian State Assessments (HSA) (See https://hsa.alohahsap.org/resources/test-administration). It is critical that test security be maintained before, during, and after the administration of the HLA and mathematics tests. All testing incidents required documentation based on severity as described below.

Testing Incidents

A testing incident is a disruption in the stated testing procedures that might have any impact on the integrity of the test scores. Three general types of testing incidents may occur and school personnel were required to report these directly to HIDOE Assessment section as noted in the TAM. the Assessment section would then communicate with KĀ‘EOstaff as to the decisions and actions to be taken. These three categories are:

Test Impropriety: These incidents may involve one or more students and have only a small chance of impacting test results and interpretability. These include student behaviors of talking, making gestures that disturb other students, or accessing the internet or electronic devices for purposes that do not involve cheating; these also include teachers leaving instructional materials on the wall.

Irregularities: These are incidents that affect one or more students and that may impact test scores or results. These incidents include such behaviors, such as students cheating; disruptions to a test environment

(e.g., fire drill, power outage); administrators providing incorrect instructions; administrators providing a test participant's login information to another user; students receiving incorrect instructions; test administrators coaching students; or administrators providing test materials that are not on the approved list of materials.

Breaches: Breaches are serious incidents that could threaten the validity of the test scores. Breaches required schools to immediately report the incident to UH staff. Examples of breaches include the alteration of one or more students' test responses by any school staff member; the use of cellphones by students to take pictures of assessment items; the unapproved printing of test items or reading passages; and any retention or distribution of test responses and/or answers (this includes improper shredding of scratch paper, any reproduction of test materials, and removing any test materials from the test environment[1]).

Reporting Testing Incidents

It was imperative that any and all testing incidents be reported. It was important to the interpretability of the analyses that UH KĀ‘EO Assessment staff understand the type, breadth, and severity of each reported incident. Schools were trained to report and submit documentation of testing incidents to HIDOE Assessment Section for internal evaluation and resolution. Any decisions and necessary action steps were then communicated to UH KĀ‘EO staff for follow up. See https://hsa.alohahsap.org/resources/test-administration/ for more information on Hawai‘i State Assessment TAM; see https://kaiapuni-wp.coe.hawaii.edu/wp-content/uploads/2019/03/2019-KA%CC%84%CA%BBEO-Test-Administration-Manual-2.pdf for more information on KĀ‘EO TAM.

Ancillary Materials

The following materials were provided to schools to facilitate the training and administration:

- Help desk contact information: phone number is: 808-260-2356 and email: kaiapuni@hawaii.edu
- Website: https://kaiapuni.coe.hawaii.edu/kumu (including a list of frequently asked questions)
- Administration training video
- Student rosters (provided by HI DOE)
- Test log in materials
- Test Security and Administration Procedures (including a list of accommodations, student Hawaiian language script)
- Practice tests: https://kaiapuni.coe.hawaii.edu
- Testing forms
    - Test Security and Administration Procedures Acknowledgment Form
    - Accommodation Verification Form

[1] For additional examples of testing incidents, please see the HSA Science Assessment and End-of-Course Exams Test Administration Manual (p. 11-13) under the "Test Administration Documents" heading on the HSA Science Resources page at alohahsap.org

- Designated Support Verification Form
- Additional Accommodation/Designated Support Verification Form
- Testing Incident Report
- Student Progress Documentation Form

Test Administration

Test administration procedures have been and will be followed for all assessments (see KĀ‘EO Test Administration Manual for additional details) in mathematics, HLA and science. Participating schools were provided with an established window from April 1, 2019 to May 31, 2019 to administer the assessment to their students. One hundred percent of Kaiapuni schools participated in the operational tests. The assessment was administered using established procedures, which were described in the administration materials. The KĀ‘EO assessment team staffed a help desk that responded to phone and email questions about the assessment process, accommodations, technical issues, and any breaches in protocol. Help Desk staff were fluent in both English and Hawaiian.

Accommodations Information

AERA/APA/NCME (2014) state the following:

> **Standard 3.9** Test developers and/or test users are responsible for developing and providing test accommodations, when appropriate and feasible, to remove construct-irrelevant barriers that otherwise would interfere with examinees' ability to demonstrate their standing on the target constructs. (67)
>
> **Standard 6.2** When formal procedures have been established for requesting and receiving accommodations, test takers should be informed of these procedures in advance of testing. (115)

The accommodations and designated supports policies below are based on the Hawai‘i State Assessments and End-of-Course Exams Test Administration Manual. Assessment accommodations may be provided by school staff for students who are IDEA eligible or 504, and have an IEP or 504 plan. Accommodations are changes in procedures or materials that increase equitable access for IDEA-eligible and 504 students during the administration of KĀ‘EO. A student's need for an embedded or non-embedded accommodation must be documented in his or her IEP or 504 Plan. School staff must use the guidelines for determining an accommodation as follows:

- The accommodation is based on the student's learning needs
- The accommodation is one that is currently used by the student in the classroom
- School staff that work with the student agree on the accommodation
- The accommodation is stipulated in the student's IEP or 504 plan

Designated supports are access features that are available for use by a student for whom a need has been indicated by an educator or team of educators and a parent/guardian and a student. A consistent process needs to be used to determine which embedded and non-embedded designated supports are needed by a student for an assessment or exam. Educators who make these decisions for an identified student must have a clear understanding of the process for ensuring that this student is currently using the feature during classroom instruction and is given an opportunity to practice using any variation in the feature that will be provided during the administration of an assessment or exam.

For each student who receives an accommodation or designated support, the Test Administrator must complete an Accommodation Verification Form, Designated Support Verification Form, or Additional Accommodation/Designated Support Verification Form in Appendix B, C or D of the Test Administration Guide. These forms were then submitted to the HIDOE Assessment Section for verification, following HIDOE processes and procedures.

Embedded Accommodation
• **American Sign Language (ASL(, Braille (BR) or Closed Captioning (CC):** Please contact the Help Desk if you need more information about this accommodation.
Non-Embedded Accommodation
• **100s Number Table:** A table listing numbers from 1-100 is a non-embedded accommodation only for students with visual processing or spatial perception needs as documented in their IEP or 504 plan. This table may be printed only for students approved for this accommodation. Guidelines for the 100s Number Table are provided in Appendix H: Multiplication Table and 100s Number Table. • **Alternate Response Options:** Students with some physical disabilities, including both fine motor and gross motor skills, may need to use adapted keyboards, large keyboards, StickyKeys, MouseKeys, FilterKeys, adapted mouse, touch screen, head wand, and switches. • **Multiplication Table:** A single-digit (1–9) multiplication table is a non-embedded accommodation only for students with a documented and persistent calculation disability. This table may be printed only for students approved for this accommodation. Guidelines for the Multiplication Table are provided in Appendix H: Multiplication Table and 100s Number Table. • **Print on Request:** A student may request printed copies of individual test items and stimuli based on a documented need. A request must be made for this accommodation for a student using the Appendix B form in the Test Administration Manual. Please call the Help Desk for additional information.
Embedded Designated Supports
• **Zoom functionality** to increase the font size for the entire assessment or exam is native to all web browsers supported by this testing application. Please contact the Help Desk if you need assistance. • **Streamline, Color Overlay or Masking:** Please contact the Help Desk if you need more information about this accommodation.
Non-Embedded Designated Supports

- **Color Overlays:** A student who meets the criteria for the Print on Demand accommodation may place color transparencies over the printed stimuli, items, and answer options in an Assessment if these color transparencies are used during classroom instruction.
- **Magnification:** A student may adjust the size of specific areas on the screen, e.g., text, formulas, tables, graphics, and navigation buttons using the native functionality available on all supported operating systems. Please contact us if you need assistance.
- **Noise Buffers:** A student wears equipment, e.g., ear mufflers, white noise, to block external sounds and will need to wear headphones unless tested individually in a separate setting.
- **Read Aloud:** Students who are struggling readers may have all or portions of an assessment or exam read aloud, e.g., stimuli, and/or items by a trained and qualified TA human reader. The reader should review and adhere to the Read Aloud Guidelines on alohasap.org and adjust to ensure that the designated support is provided in Hawaiian. Please contact the Help Desk for further information.
- **Scribe:** A student who has documented significant motor or processing difficulties, or who has had a recent injury, such as a broken hand or arm, that makes it difficult to produce responses may dictate his or her responses to a trained and qualified TA human scribe who records the responses verbatim. The scribe must independently review the Scribing Guidelines on alohasap.org and adjust to ensure that the designated support is provided in Hawaiian. Please contact the Help Desk for further information.
- **Separate Setting:** Test location is altered so that the student is tested in a setting different from the setting made available for most students. Four previous settings that were accommodations are included.
    - Read Aloud to Self
    - Being Seated Near TA
    - Being Tested Individually
    - Being Tested in a Small Group
- **Simplified Test Directions:** Students who need additional support understanding the test directions may be provided with Simplified Test Directions as a designated support allowable across the assessments. This could include students with difficulties in auditory processing, short-term memory, attention, or decoding. This designated support may require testing in a separate setting to avoid distracting other test takers.

If a student uses an accommodation or designated support that is not listed above, an accommodation can be requested using the Accommodation Request Form. Additional designated supports for Hawaiian language learners are being discussed and developed for future administrations of the assessment.

Chapter 7. Scoring

Scoring is a critical aspect of the assessment process. Accurate, reliable, and consistent scoring ensures that the resulting information is suitable for the purposes for which it is intended.

AERA/APA/NCME (2014) specify the following:

> **Standard 4.18** Procedures for scoring and, if relevant, scoring criteria, should be presented by the test developer with sufficient detail and clarity to maximize the accuracy of scoring. Instructions for using rating scales or for deriving scores obtained by coding, scaling, or classifying constructed responses should be clear. This is especially critical for extended-response items such as performance tasks, portfolios, and essays. (91)

The KĀʻEO includes both traditional selected-response items and open-ended items that contribute to the overall student score on the assessment. Selected response items are machine scored within the assessment delivery system, which is designed and hosted by UH's KĀʻEO assessment office. As a quality assurance measure, 10% of machine scored items were checked to ensure that they were scored correctly by the system. The KĀʻEO open-ended item scoring followed a three-step process. Each step is described briefly here and in more detail, below.

The first step was the development of scoring materials. The rigor and thoroughness of the scoring materials was critical because these documents served as the foundation by which the items were scored. The details provided in these materials ensured that scorers understood the item and the range of student responses associated with each score point. The scoring materials also ensured that scorers made accurate determinations about student responses.

The second step included developing training materials and identifying and training scorers. Per AERA/APA/NCME (2014):

> **Standard 4.20** The process for selecting, training, qualifying, and monitoring scorers should be specified by the test developer. The training materials, such as the scoring rubrics and examples of test takers' responses that illustrate the levels on the rubric score scale, and the procedures for training scorers should result in a degree of accuracy and agreement among scorers that allows the scores to be interpreted as originally intended by the test developer. Specifications should also describe processes for assessing scorer consistency and potential drift over time in raters' scoring. (92)

All open-ended (i.e., constructed response) items were scored by hand, using trained scorers. UH staff recruited current or former Kaiapuni classroom teachers to participate as scorers. Requirements for participation as scorers included fluency in Hawaiian and the possession of a college degree in teaching or in

the content area to which they were assigned. Scorer training was mandatory. Prospective scorers were specifically trained on the scoring process and the items that they would score. Throughout the scoring process, scorers were monitored by a scoring manager. The scoring manager was a current 3rd or 4th grade teacher in the Kaiapuni system who had been trained by UH staff or a UH staff member.

AERA/APA/NCME (2014) specify the following with regard to monitoring the scoring process:

> **Standard 6.9** Those responsible for test scoring should establish and document quality control processes and criteria. Adequate training should be provided. The quality of scoring should be monitored and documented. Any systematic source of scoring errors should be documented and corrected. (118)

This standard was addressed in the final step: the actual scoring and analysis of the open-ended items. UH staff spent considerable time trying to ensure that scoring was accurate and consistent, while also aiming to structure the meeting and the discussion in a way that would be respectful of and appropriate to the unique circumstances of educators in a Hawaiian language immersion setting. All scorers worked through each question at the same time. UH staff led a discussion with all scorers which included: letting all scorers read and answer the question as they would expect a student at the grade level would, discussing some of the grammatical and/or language issues of the question that are unique to a Hawaiian language immersion context, examining a number of anchor papers in order to "calibrate" the participants' perspectives and ensure consensus among all scorers about how each item was scored, and answering any questions or concerns related to the questions prior to scoring. This process was followed for every extended response question that would be hand scored, and proved to be a valuable, albeit time-intensive, process. The scoring meeting was held over a 5-day period with approximately 30 scorers participating every day. Although the meeting took an extensive amount of time, UH staff wanted to ensure that scorers were properly trained for scoring items in this unique context; that scorers had opportunities to discuss any issues that may arise; and that responses were scored in a rigorous, meaningful, and accurate manner. Trained scorers read and scored items using a computer-based system. Ongoing monitoring ensured that scorers remained precise in their scoring and consistent with other scorers who worked on the same item. The scoring manager was also available to scorers to answer any questions.

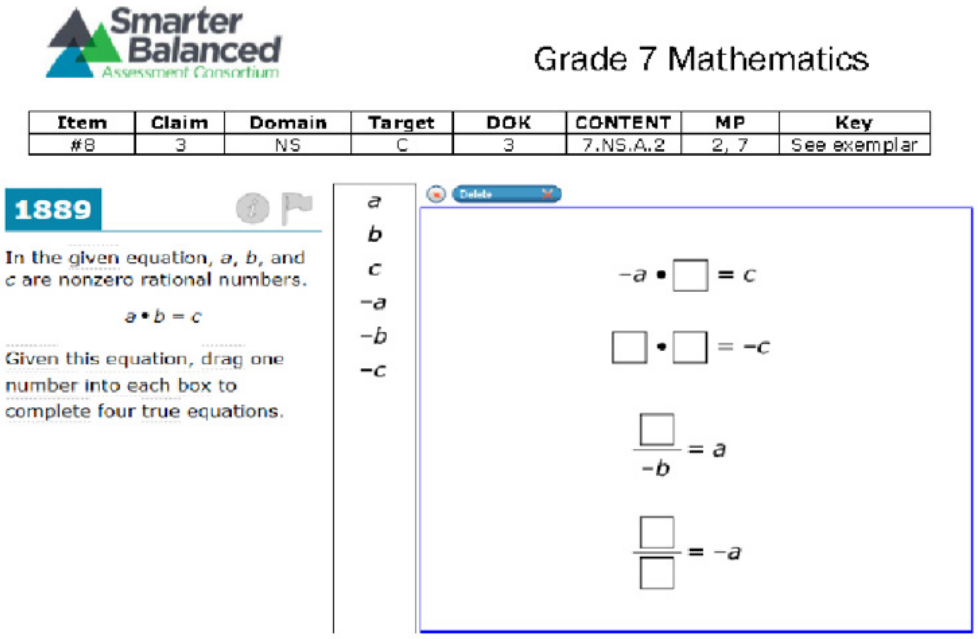
Developing Scoring Materials

It is important to the process that each open-ended item has guides that contain all critical information about the item. Guides were developed by UH KĀʻEO Assessment staff for each item. Staff members reviewed the SBAC scoring materials to ensure that KĀʻEO scoring guides included all relevant information for each item to be hand scored (downloaded from http://www.smarterbalanced.org) (Figure 6). The guides included the following information:

- Item images and question
- Item metadata (including standard, claim, target, DOK, difficulty, etc.)
- Generic item rubric for reference

- Item-specific rubric
- Anchor paper examples for each score point

Figure 7.1: Scoring Guide for a Mathematics Item



Exemplar: (shown at right)

Rubric: (2 points) Student creates four true equations. Other correct responses for second and fourth equations include:

$-a \cdot b = -c$

OR

$\frac{c}{-b} = -a$

(1 point) Student creates two or three true equations.

$-a \cdot \boxed{-b} = c$

$\boxed{a} \cdot \boxed{-b} = -c$

$\frac{\boxed{-c}}{-b} = a$

$\frac{\boxed{-c}}{\boxed{b}} = -a$

Generic Rubrics

The first step in developing scoring materials was for the UH team to construct three generic content-based rubrics. These rubrics provided basic information on the meaning of each score point and were foundational in developing the item-specific rubrics. For HLA, science, and mathematics, the team developed generic rubrics appropriate for the Hawaiian language pathway using Smarter Balanced generic rubrics to ensure the

rigor, completeness, and alignment of the rubrics (Table 7.1). Scorers were trained on how to use them during the scoring process, and the rubrics were made available throughout the scoring meetings (see Table 7.2).

Table 7.1: Examples of Smarter Balanced Mathematics General Rubrics

Smarter Balanced Mathematics General Rubric for 3-Point Items	
Score	**Description**
3	The student has demonstrated a full and complete understanding of all mathematical content and practices essential to this task. The student has addressed the task in a mathematically sound manner. The response contains evidence of the student's competence in problem solving, reasoning, and/or modeling to the full extent that these processes relate to the specified task. The response may, however, contain minor flaws that do not detract from a demonstration of full understanding.
2	The student has demonstrated a reasonable understanding of the mathematical content and practices essential to this task. The student has addressed most of the task in a mathematically sound manner. The response contains sufficient evidence of the student's competence in problem solving, reasoning, and/or modeling, but not enough evidence to demonstrate a full understanding of the processes he or she applies to the specified task. The response may contain errors that can be attributed to misinterpretation of the prompt; errors attributed to insufficient, non-mathematical knowledge; and errors attributed to careless execution of mathematical processes or algorithms.
1	The student has demonstrated a partial understanding of the mathematical content and practices essential to this task. The student's response contains some of the attributes of an appropriate response but lacks convincing evidence that the student fully comprehends the essential mathematical ideas addressed by this task. Such deficits include evidence of insufficient mathematical knowledge; errors in fundamental mathematical procedures; and other omissions or irregularities that bring into question the student's competence in problem solving, reasoning, and/or modeling related to the specified task.
0	The student has demonstrated merely an acquaintance with the topic, or provided a completely incorrect or uninterpretable response. The student's response may be associated with the task, but contains few attributes of an appropriate response. There are significant omissions or irregularities that indicate a lack of comprehension in regard to the mathematical content and practices essential to this task. No evidence is present that demonstrates the student's competence in problem solving, reasoning, and/or modeling related to the specified task.
Smarter Balanced Mathematics General Rubric for 2-Point Items	
Score	**Description**
2	The student has demonstrated a full and complete understanding of all mathematical content and practices essential to this task. The student has addressed the task in a mathematically sound manner. The response contains evidence of the student's competence in problem solving,

	reasoning, and/or modeling to the full extent that these processes apply to the specified task. The response may, however, contain minor flaws that do not detract from a demonstration of full understanding.
1	The student has demonstrated a partial understanding of the mathematical content and practices essential to this task. The student's response contains some of the attributes of an appropriate response but lacks convincing evidence that the student fully comprehends the essential mathematical ideas addressed by this task. Such deficits include evidence of insufficient mathematical knowledge; errors in fundamental mathematical procedures; and other omissions or irregularities that bring into question the student's competence in problem solving, reasoning, and/or modeling related to the specified task.
0	The student has demonstrated merely an acquaintance with the topic, or provided a completely incorrect or uninterpretable response. The student's response may be associated with the task, but contains few attributes of an appropriate response. There are significant omissions or irregularities that indicate a lack of comprehension in regard to the mathematical content and practices essential to this task. No evidence is present that demonstrates the student's competence in problem solving, reasoning, and/or modeling related to the specified task.

Smarter Balanced Mathematics General Rubric for 1-Point Items	
Score	**Description**
1	The student has demonstrated a full and complete understanding of all mathematical content and practices essential to this task. The student has addressed the task in a mathematically sound manner. The response contains evidence of the student's competence in problem solving, reasoning, and/or modeling to the full extent that these processes apply to the specified task. The response may, however, contain minor flaws that do not detract from a demonstration of full understanding.
0	The student has demonstrated merely an acquaintance with the topic, or provided a completely incorrect or uninterpretable response. The student's response may be associated with the task, but contains few attributes of an appropriate response. There are significant omissions or irregularities that indicate a lack of comprehension in regard to the mathematical content and practices essential to this task. No evidence is present that demonstrates the student's competence in problem solving, reasoning, and/or modeling related to the specified task.

Table 7.2: Example of a Generic HLA and Science Rubrics

Generic Scoring Rubric & Translation for 3-point item	
Points	**Scoring Standards for the Written Response Questions of the 3-4 Grade Test**
3	Ua hoʻonohonoho ʻia ke kākau i mōakāka loa ka manaʻo o ka haumana. Hoʻolauna pono ʻia ka manaʻo nui o ka haumana a hoʻohana ʻia nā laʻana e lawa ai ka maopopo loa o kona

	manaʻo a me ke kumu i manaʻo ʻia ai. Kākau ka haumana me ka holo pono o kona mau manaʻo, mai kekahi manaʻo a i kekahi. Ma kēia kākau ʻana, he pololei loa ke ʻano o ke kaʻina kumuhana i pili kūpono i ka pōaiapili o ka paukū kākau. Ma ka wā e pono ai, e hoʻohana kūpono ʻia nā loina Hawaiʻi a me ʻike Hawaiʻi i ʻiʻo kūpono e wehewehe piha ʻia ai ka manaʻo. Ma loko o nāmahele a pau o ke kākau ʻana, ua kū like ke ʻano o ia mahele i ke ʻano mōakāka loa no ia mau mahele a pau. The writing is formatted in a fashion that the student's thoughts are very clear. The student's main idea is introduced well and the examples are used to suffice a great understanding of his/her thoughts as well as the reason why he/she thought in that manner. The student writes with clear expression of his/her thoughts from one thought to another. In this writing, the nature of the subject order is very straightforward and relates properly with the situation of the written section. When necessary, the Hawaiian customs and traditions are used as proper substance by which the thought is fully explained. All sections of the piece are clearly written with proper convention application.
2	Ua hoʻonohonoho ʻia ke kākau a ʻano mōakāka ka manaʻo o ka haumana akā he mau ʻike iki i pono ʻole a i ʻole i komo ʻole. Hoʻolauna ʻia ka manaʻo nui o ka haumana a hoʻohana ʻia nā laʻana e ʻano maopopo ai kona manaʻo nui. Kākau ka haumana me ka holo o kona mau manaʻo, mai kekahi manaʻo a i kekahi, akā ʻaʻole nōi piha loa. Ma kēia kākau ʻana, he pololei ke kaʻina kumuhana i pili kūpono. Ma ka wā e pono ai, e hoʻokomo ʻia nā loina Hawaiʻi a me ʻike Hawaiʻi e wehewehe ʻia ai ka manaʻo. Ma loko o nā mahele a pau o ke kākau ʻana, ua ʻano mōakāka ia mau mahele a pau. The writing is formatted in a fashion that the student's thoughts are relatively clear, however, there are some pieces of information that were either not necessary, or not included. The student's main idea is introduced and the examples are used so that his/her main idea is partially understood. The student writes with expression of his/her thoughts from one thought to another however, they are not complete. In this writing, the nature of the subject order is straightforward and relative. When necessary, the Hawaiian customs and traditions are included so that the thought is explained. Within all of the sections of the writing, these sections are relatively clear, with proper conventions frequently applied.
1	Ua hoʻonohonoho ʻia ke kākau a ʻaʻole nōi mōakāka loa ka manaʻo o ka haumana. E ʻike ʻia ana ke ʻano pili ʻole o kekahi mau mahele o kēia paukū i ke kumuhana nui o ka haʻina. ʻAʻole i hoʻolauna pono ʻia ka manaʻo nui o ka haumana a ʻaʻole nō i lawa nā laʻana e maopopo ai kona manaʻo nui. ʻAʻole ka haumana i kākau me ka holo o kona mau manaʻo, mai kekahi manaʻo a i kekahi, a no laila ʻaʻole nō i pili loa a maopopo loa kona manaʻo. Ma kēia kākau ʻana, ʻaʻole i pololei loa ke kaʻina kumuhana a me ka pōʻaiapili akā ua kokoke ka haʻina i ka manaʻo i pili a pololei. ʻAʻole nō i hoʻokomo ʻia nā loina Hawaiʻi a me ʻike Hawaiʻi e wehewehe ʻia ai ka manaʻo. Ma loko o nā mahele a pau o ke kākau ʻana, ʻaʻole mōakāka nā mahele a pau. The writing is formatted in a fashion that the student's thoughts are not clear at all. The unrelated nature of some of these sections of this piece to the main idea of the answer will be seen. The student's main idea is not well introduced and the examples are not sufficient

	to understand his/her main idea. The student did not write with clear expression of his/her thoughts from one thought to another, therefore, his/her thoughts were not relative nor understandable. In this writing, the nature of the subject order and the situation are not straightforward, however, the answer was close to the thought that is relative and correct. Within all of the sections of the writing, all of the sections are not clear. All sections of the piece are not clearly written, including convention applications.
0	ʻAʻole i hoʻonohonoho ʻia ke kākau a ʻaʻole nō i mōakāka ka manaʻo o ka haumana. Pili ʻole loa nō nā mahele a pau o kēia paukū i ke kumuhana nui o ka haʻina. ʻAʻole i hoʻolauna pono ʻia ka manaʻo nui o ka haumana a ʻaʻohe laʻana kūpono e maopopo ai kona manaʻo nui. ʻAʻole ka haumana i kākau me ka holo o kona mau manaʻo, mai kekahi manaʻo a i kekahi, a no laila ʻaʻole nō i pili iki a maopopo iki kona manaʻo i ke kumuhana kūpono. Ma kēia kākau ʻana, ʻaʻole i pololei ke kaʻina kumuhana a me ka pōʻaiapili a ʻaʻole i kokoke iki ka haʻina i kekahi mea pololei. ʻAʻole nō i hoʻokomo ʻia nā loina Hawaiʻi a me ʻike Hawaiʻi e wehewehe ʻia ai ka manaʻo. He ʻano hopena kēia o ka hoʻāʻo ʻole e pane iki ma ke ʻano pololei a piha nō hoʻi. The writing is not formatted and done in a fashion that the student's thoughts are not clear whatsoever. All of the sections of this piece are not remotely related to the main subject of the answer. The student's main idea is not well introduced and there are no proper examples so that his/her main idea is understood. The student did not write with expression of his/her thoughts from one thought to another, therefore, they are not remotely related to the subject nor is their thought understood. In this writing, the nature of the subject order and situation are not straightforward and the answer is not remotely close to something correct, including conventions applications. The Hawaiian customs and traditions were not included so that the thought is explained. This perhaps is the result of not trying to answer in a correct or complete nature.
Science General Rubric	
	Ke Ana Loiloi no nā Nīnau Akeakamai understanding of the world around us. Rather than viewing the two as being in opposition to muliwai, a fertile estuary, where ocean and river meet.
3	He ʻike Hawaiʻi ko ka haumāna (ke ake akamai, ke aloha ʻāina, ka ʻike kahua) Hōʻike ʻia ke kūanaʻike kūpuna (ʻo ka noiʻi ʻoe, ʻo ka noke ʻoe, apwa) Kūpono ka ʻikepili kākoʻo, a kākoʻo ʻia nō kona manaʻo Pili nā lāliʻi kākoʻo i ke kumuhana nui Wehewehe mōakāka ʻia kona manaʻo Pololei ka ʻike ʻepekema (inā nō ʻokoʻa ia mai ka ʻike Hawaiʻi) Holo pono kāna hana (ka wehewehena, ka noiʻi, ka hoʻokolohua, apwa)

2	He ʻike Hawaiʻi mālani ko ka haumāna, akā he ʻike nō kona Hōʻike ʻia kekahi kūanaʻike, ʻaʻole naʻe ia he kūanaʻike kūpuna Hawaiʻi ʻAʻole paha kūpono ka ʻikepili no ke kākoʻo piha ʻana i ka manaʻo nui Pili kāpekepeke nā lāliʻi kākoʻo i ke kumuhana nui Wehewehe ʻia kona manaʻo, akā ʻaʻole paha akāka leʻa He ʻike ʻepekema kona Kūlanalana ka holo ʻana o kāna hana
1	ʻAʻole paʻa ka ʻike Hawaiʻi iā ia ʻAʻole akāka kona kūanaʻike ʻAʻole launa maikaʻi ka lāliʻi i ke kumuhana Pohihihi kona manaʻo ʻAʻole i paʻa kekahi ʻike ʻepekema iā ia ʻAʻole i hoʻonoho ʻia kāna hana ma kahi kaʻina holo pono
0	Ahuwale kona mākaukau ʻole ʻAʻohe noke, ʻaʻohe hoʻāʻo, auē ka minamina ē!
	Ke Ana Loiloi no nā Nīnau Akeakamai
2	He ʻike Hawaiʻi ko ka haumāna (ke ake akamai, ke aloha ʻāina, ka ʻike kahua) Hōʻike ʻia ke kūanaʻike kūpuna (ʻo ka noiʻi ʻoe, ʻo ka noke ʻoe, apwa) Kūpono ka ʻikepili kākoʻo, a kākoʻo ʻia nō kona manaʻo Pili nā lāliʻi kākoʻo i ke kumuhana nui Wehewehe mōakāk a ʻia kona manaʻo Pololei ka ʻike ʻepekema (inā nō ʻokoʻa ia mai ka ʻike Hawaiʻi) Holo pono kāna hana (ka wehewehena, ka noiʻi, ka hoʻokolohua, apwa)
1	ʻAʻole paʻa ka ʻike Hawaiʻi iā ia ʻAʻole akāka kona kūanaʻike ʻAʻole launa maikaʻi ka lāliʻi i ke kumuhana Pohihihi kona manaʻo ʻAʻole i paʻa kekahi ʻike ʻepekema iā ia ʻAʻole i hoʻonoho ʻia kāna hana ma kahi kaʻina holo pono
0	Ahuwale kona mākaukau ʻole ʻAʻohe noke, ʻaʻohe hoʻāʻo, auē ka minamina ē!
	Ke Ana Loiloi no nā Nīnau Akeakamai
1	He ʻike Hawaiʻi ko ka haumāna (ke ake akamai, ke aloha ʻāina, ka ʻike kahua) Hōʻike ʻia ke kūanaʻike kūpuna (ʻo ka noiʻi ʻoe, ʻo ka noke ʻoe, apwa) Kūpono ka ʻikepili kākoʻo, a kākoʻo ʻia nō kona manaʻo Pili nā lāliʻi kākoʻo i ke kumuhana nui Wehewehe mōakāk a ʻia kona manaʻo Pololei ka ʻike ʻepekema (inā nō ʻokoʻa ia mai ka ʻike Hawaiʻi)

	Holo pono kāna hana (ka wehewehena, ka noiʻi, ka hoʻokolohua, apwa)
0	ʻAʻole paʻa ka ʻike Hawaiʻi iā ia ʻAʻole akāka kona kūanaʻike ʻAʻole launa maikaʻi ka lāliʻi i ke kumuhana Pohihihi kona manaʻo ʻAʻole i paʻa kekahi ʻike ʻepekema iā ia ʻAʻole i hoʻonoho ʻia kāna hana ma kahi kaʻina holo pono

Item-Specific Rubrics

Using the item information and the generic rubric, UH staff members constructed item-specific rubrics for each open-ended item. The number of score points was based on the degree to which scorers could accurately differentiate between responses at each score point, as defined by the generic rubric. For example, an item that only has one possible answer might be one score point. This could be compared to a written essay that is scored on organization. In this case, a scorer might be able to accurately differentiate between several score points. The item-specific rubric contains precise information regarding which student responses could be associated with each score point.

The item-specific rubrics were developed by UH KĀʻEO Assessment staff prior to the scoring meeting, following this process:

- The target domain, standard, claim/target (if applicable) was identified and a draft of the scoring rubric was written based on the question. This scoring rubric also included possible solutions or answers to the problem, and allowed for more than one possible answer if appropriate.
- A point value for the rubric (and question) was assigned based on guidance from SBAC generic rubrics, while also considering depth of knowledge and difficulty.
- The first draft of the scoring rubric was then reviewed by a Hawaiian language expert for appropriateness of vocabulary and grammatical structures.
- UH staff then randomly selected 10% of responses (that were kept anonymous) per item and used these responses to verify that the rubric could be appropriately applied to score these sample responses.
- Based on this thorough review, any necessary revisions were made to the item-specific rubric.

Extended Writing Prompt Rubrics

The writing portion of the assessment contains an extended writing prompt. The UH KĀʻEO Assessment team used the rubrics developed by SBAC for extended-response items, while also incorporating elements that were unique to Hawaiian language arts and the Hawaiian language. SBAC rubrics are divided into three separate categories (see https://www.smarterbalanced.org/wp-content/uploads/2015/09/Narrative_PT_Rubric.pdf for an example), which were also followed for the HLA rubrics: Organization/Purpose, Development/Elaboration, and

Conventions. KĀ‘EO rubrics followed a similar structure and content, with some adaptations. For example, one portion of the rubric specified that students must be scored on their use of appropriate, grade-level conventions, but the definition of what is appropriate in the Hawaiian language is slightly different than it would be in English. Diacritical markers are an important aspect of spelling in the Hawaiian language, as the use or absence of a diacritical mark can completely change the meaning of the word – this is an issue that was not accounted for in the SBAC examples but was addressed in the KĀ‘EO rubrics. Another complicating factor is that there is no standardized academic vocabulary or grammar in the Hawaiian immersion program and specific words used for concepts can vary from island to island or school to school. While the extended writing item-scoring guide provided some general guidance for scorers related to conventions, it remained critical for the scorers to be properly trained and calibrated as they worked through each question and scoring responses to ensure that all scorers applied the same guidelines. This was an issue that was discussed extensively with common agreements made before scoring began, and highlights the importance of following the more labor and time intensive process that was outlined previously. Table 7.3 is an example of the 3rd grade writing conventions. These conventions were adapted from the SBAC guides.

Table 7.3: Writing Conventions for 3rd Grade

Spelling	Capitalization	Punctuation	Grammar Usage	Sentence Completeness
Correctly spell - • plurals (e.g., cat to cats, glass to glasses, carry to carries). • words at grade level and below (adding suffixes to bases, using spelling patterns and generalizations)	Capitalize - • person's title (e.g., President Smith vs. the president) • titles of books	Commas: • in complete address (e.g., 12345 67th Ave., Spokane, WA). • Use commas and quotation marks in dialogue Apostrophe: • in possessive nouns (e.g., the dog's house, the dogs' houses).	Nouns: • Correctly use regular and irregular plural nouns. • Correctly use abstract nouns (e.g., childhood) Verbs: • Correctly use regular and irregular verbs • Correctly use simple verb tenses (e.g., *I walked; I walk; I will walk*) Adjectives/Adverbs: • Correctly use comparative and superlative adjectives and adverbs Agreement: • Correctly use pronouns that match a [close] antecedent* (*The boy walked his dog*) • Correctly use subject verb agreement* (*He has…; They have…*) Conjunctions: • Correctly use coordinate (e.g., and, but) and subordinate conjunctions (e.g., because)	• Avoid "fused" (e.g., run together, comma splices) sentences (e.g., They went to the store they bought groceries.)*

These conventions were written in Hawaiian, but the bullets below provide a translated summary of how they were adapted:

- Spelling: Correctly spell words that are appropriate for the grade level, using proper diacritical marks (kahakō and ‘okina).
- Capitalization: Capitalize names, places, titles of books or people.
- Punctuation: Use commas appropriately to link ideas together or in dialogue. Apostrophes are not used in Hawaiian, but students should use the appropriate possessive marker (ko/ka/na/no/o/a) to show possession.

- Grammar usage: Use markers correctly for singular or plural nouns (nā/ka); use markers correctly for verb tenses (Ua, E/ana, Ke/nei); use markers correctly for different kinds of verbs (static, transitive, intransitive, etc.); use correct grammatical placement of adjectives; use coordinate and subordinate conjunctions correctly, as well as correct usage with verbs.

Anchor Papers

The first time an item is administered, a process is followed to identify anchor papers. First, UH KĀ‘EO Assessment staff scores a series of items. The number of items scored is four times the number of score points for each item (e.g., a two-point item would have eight student responses scored). From this sample of scored papers, one to two student responses are selected for each open-ended item score point. This set of papers provided examples of how student work was represented at each possible score point. Scorers and scoring managers use and refer to the anchor papers over the course of the scoring process for training, retraining, and to clarify any questions.

Second, once the anchor papers are selected by the staff, an anchor approval meeting is held. This meeting includes UH KĀ'EO Assessment staff and a team of educators and content experts consisting of at least four individuals who are knowledgeable about the content and the students' skills and knowledge at the specific grade level. The team also includes a UH facilitator who guides the team in reflective discussion about the item, the targeted content, the depth of knowledge, and the selected anchor papers. The team reviews the sample papers selected and scored by UH staff. Each team member reads through the specific open-ended item, the associated item scoring guide, and the sample student responses. The team then discusses each score point and selected at least one paper that served as the 'exemplar' student response at that score point. This paper becomes the anchor paper for that item and score point. Additional anchor papers are selected if the committee believed that the additional work more accurately captured the breadth and depth of the student response. If the committee determines that none of the selected student responses provide an accurate indicator of a given score point, UH staff pull additional papers until one is agreed upon.

The UH staff takes detailed notes regarding the final selection of the anchor papers. The notes include any scoring information the committee felt was helpful, including information about any subtleties in potential student responses, which is an important part of the discussions during the scoring meeting. Anchor papers are a major focus of the scoring training, which will be summarized in future sections. The anchor papers are used as a jumping off point during the anchor paper meeting, but the anchor paper team ensures that those papers that are selected for the scoring meeting are appropriate within a Hawaiian context. Each anchor paper is signed off by both a UH staff member and one of the review committee members.

The end result of the anchor review meetings isa complete scoring guide for each open-ended item. This includes a summary of the item that is used in discussion with scorers, and a set of anchor papers for each score point.

Training

Training is essential to ensure that items are accurately and consistently scored. Only through scoring accuracy that we can begin to support score reliability. Furthermore, stakeholders cannot hope to make appropriate decisions or interpretations from scores that are not reliable. This speaks directly to the issue of validity. Thoughtful and thorough training forms a solid foundation for the technical merits of the assessment.

Each scorer was assigned to a grade level and content area and was thoroughly trained to score each item in that assessment. Each scorer was instructed to read the item scoring guide, the anchor papers, and the annotations for each anchor paper. The annotations that were generated during anchor paper selection were particularly important as they provided the scorer guidance on why the specific student response is an exemplar for that score point. The scorer was asked to reflect on the meaning of each score point. Scorers were encouraged to ask questions, and the trainer provided time for questions and answers.

Scorers then read through a series of training papers. There was a minimum of five papers at each grade and content level which were previously scored by at least two UH staff members. Scorers practiced scoring these papers. Once the scorers completed the scoring, the scoring manager polled them about the scores they assigned. Scorers were allowed to ask questions and discuss their scores.

Certification

Before scorers began scoring actual test items, they were certified to score papers in the designated content area (McClellan, 2010). In order that scorers felt comfortable with the process, the UH team used a collaborative process to ensure that the entire group of scorers were in agreement. This entailed looking at anchor papers that represented the range of possible score points for each item as a group. The group would have an in-depth discussion about the score that it should be assigned and why. If there was disagreement, the group would continue to discuss the response, refer to the rubric, and talk through the disagreement until they reached consensus. This happened before the scoring of each item and was done conducted in this way to calibrate the group and enable them to score each item consistently.

The UH team pulled a series of student responses that represented a range of scores at each content area (12 papers). Two team members scored each student test and reached consensus on the scores for each paper. These papers became the papers that each scorer needed to score correctly to become certified on that item. These papers were then divided into three sets: one for initial certification and two for recertification. UH included papers that might be difficult to score (e.g., the specific score point might not be clearly delineated).

Scorers were required to achieve a high agreement (80%) on all 12 items, relative to the scores generated by UH staff. A scorer who did not pass the first round was retrained and repeated the certification process. If

scorers did not pass the second recertification round, they were thanked and excused from scoring. All scoring managers completed two passing rounds.

Scoring

UH staff designated a sufficient number of scorers who were responsible for a designated grade and content area. The need for scorers to be proficient in the Hawaiian language limited the pool of scorers. This limitation was considered when planning the timeline, and careful documentation of time spent scoring items was recorded and monitored. Once scorers were trained, they were considered certified and were assigned responses to score.

Scoring was done one question at a time. All scorers were engaged in a discussion about each question, the rubric, and sample anchor papers for each specific question. As a result, all scorers scored each question simultaneously, which allowed for in-depth discussion about the rubrics and an opportunity for scorers to "calibrate" and discuss the nuances of the different score points.

Here sample anchor papers were thoroughly discussed and used to provide more in-depth training to scorers. The discussion occurred at this point of the scoring process for multiple reasons. First, as mentioned previously, academic vocabulary is not necessarily standardized across all schools on the different islands; however, all islands were represented at the scoring meeting. This made it an opportune time to calibrate the group, not just on the specific scoring rubrics, but also on the language that would be appropriate to see at this grade level for these specific set of questions. Achieving consensus on a score that would be assigned to an anchor paper and the discussion that ensued to reach that consensus was an important part of ensuring that papers were scored consistently. Additionally, having these conversations in real time, versus presenting the scorers with a summary of a conversation conducted in a previous meeting, provided teachers with the opportunity to hear a diversity of thought as well as reach a consensus immediately before they scored an item.

After this discussion, scorers were assigned to a secured scoring computer terminal. A student response was viewed on the screen. This was done anonymously, so that the scorer could not identify the student or the student's school. They scored the items using the rubric and item-specific training materials. These materials were accessible on the computer screen and included the question, the standard and all metadata associated with the question, the scoring rubric, and the anchor papers. Each score was entered into the scoring database. Scorers continued scoring responses for the same question on that grade level until all responses were scored. Once all the scoring for a question was done, the group moved on to the next question.

All student responses were double-scored by another trained scorer; neither scorer could see the score given by the other. This process helped establish inter-rater reliability. The computer software used in scoring had been built specifically for the KĀʻEO Assessment program and was the same software used to administer the assessment. This means that all student responses and scores were a part of a fully integrated system, which reduced the likelihood of human error. If the computer program detected disagreement in the scores from

the double scoring, these papers/items were sent to a third scoring manager to be read and rescored. The scoring manager could not see the first two scores given. If two of the three scores were in agreement, the computer program marked the response as complete, with the final score being the one that was agreed upon by the scoring manager and one scorer. If the two scorers and the scoring manager could not reach agreement, another scoring manager was alerted and he/she scored the paper/item. This process was thoroughly documented including the number of items the scoring manager rescored, reasons for the discrepancy, and final disposition. Full automation by the computer software enabled UH KĀ‘EO Assessment staff to monitor the progress of scoring in real time, ensure that responses got scored properly, and respond to issues immediately. It also streamlined the scoring process and made the inputting of scores efficient and further mitigated the possibility of human error.

If scorers read any information that was disturbing or inappropriate, they were instructed to immediately bring that to the attention of the scoring manager. Examples might include students writing about harming themselves, harming others, or being in a dangerous situation. If this occurred, the HIDOE Assessment Section office was notified, a Test Incident form was completed detailing the response, and the Assessment Section followed up as necessary, notifying the KĀ‘EO Assessment staff if additional follow up were needed.

Documentation

The scoring manager documented the training and scoring process thoroughly. All scorers signed a document stating that they were thoroughly trained and would maintain the security of the items and the student responses. The scoring manager ensured that all training was documented including which scorer was trained, who they were trained by, and when the certification occurred. The scoring manager also documented which scorers were assigned to each content area and grade level. Finally, they documented any questions that arose, as well as any issues that occurred during scoring. All records are maintained by the project team.

Analysis

Reliability and precision of assessment scores are critical to any testing program. The Standards for Educational and Psychological Testing defined this as the degree to which students' scores would be the same across multiple administrations of the same assessment (AERA/APA/NCME, 2014). Part of building reliability evidence is examining the scoring processes to ensure consistency and accuracy of the methods.

The testing program analyzed scoring data for accuracy and reliability per AERA/APA/NCME (2014):

> **Standard 2.7** When subjective judgment enters into test scoring, evidence should be provided on both interrater consistency in scoring and within-examinee consistency over repeated measurements. A clear distinction should be made among reliability data based on (a) independent panel of raters scoring the same performances or products, (b) a single panel scoring successive performances or new products, and (c) independent panels scoring successive performances or products.

Each of the fourteen assessments contained numerous open-ended items. As described above, these items were hand-scored by trained scorers. The scorers used rubrics to establish the value of each student's response to an item and to achieve consistency. All open-ended items were **double scored** and any discrepancies noted. Any response that did not receive an identical score from the two scorers was scored by the scoring manager. The project team psychometricians reviewed and analyzed all items to document the reliability. The goal of these analyses was to provide a thorough quality check and to assess the final reliability of the scores.

First, the psychometric team evaluated the scoring information to understand patterns in scoring. The first step was to analyze each item and calculate the percent agreement between scores on each item. Agreement was calculated as *exact* (the same score from each scorer) or *adjacent* (scores between the scorers differed by 1) between the first two scorers. Table 7.4 shows the consistency of the scorers and any variation in scoring. When combining exact and adjacent agreement categories, agreement ranged from 95% to 100% with only 11 items falling below 95%.

Table 7.4: Assessments: Items by Percent of Scorer Agreement

HLA Grade 3	*(n = 344)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 99	1	0.66	83%	17%	100%
Item 92	1	0.68	84%	16%	100%
Item 127	1	0.43	94%	6%	100%
Item 138	2	0.48	75%	23%	98%
Item 145	1	0.86	94%	6%	100%
Item 1020	2	0.43	73%	23%	96%
Item 1024	**3**	**0.42**	**64%**	**27%**	**91%**

HLA Grade 4	*(n = 227)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 11	1	0.89	96%	4%	100%
Item 17	1	0.65	84%	16%	100%
Item 35	**2**	**0.36**	**73%**	**23%**	**96%**
Item 42	**3**	**0.41**	**62%**	**32%**	**95%**
Item 1013	**3**	**0.43**	**58%**	**36%**	**95%**

HLA Grade 5	*(n = 280)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 690	1	0.64	82%	18%	100%
Item 722	**3**	**0.51**	**65%**	**30%**	**95%**
Item 712	**4**	**0.44**	**65%**	**25%**	**90%**
Item 706	2	0.59	87%	13%	100%

HLA Grade 6	*(n = 239)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 643	**3**	**0.56**	**67%**	**31%**	**98%**
Item 664	3	0.58	71%	24%	95%
Item 680	**4**	**0.50**	**61%**	**33%**	**94%**
Item 666	**4**	**0.38**	**54%**	**28%**	**82%**
Item 694	2	0.47	74%	24%	98%
Item 1173	**3**	**0.42**	**59%**	**34%**	**93%**
Item 1308	**3**	**0.45**	**66%**	**28%**	**93%**

HLA Grade 7	*(n = 185)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 1032a	2	.60	78%	21%	99%
Item 1032b	**3**	**.23**	**44%**	**37%**	**81%**
Item 1032c	1	.51	76%	24%	100%

HLA Grade 8	*(n = 136)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 767	2	0.55	70%	24%	95%
Item 911	**3**	**0.47**	**66%**	**33%**	**99%**
Item 761	1	0.63	83%	17%	100%
Item 1196	3	0.62	76%	16%	93%
Item 820	4	0.52	72%	24%	96%
Item 780	4	0.68	79%	16%	95%
Item 1214	4	0.50	71%	21%	92%

Science Grade 4	*(n = 226)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 290	2	0.49	77%	21%	99%
Item 301	3	0.57	72%	24%	96%
Item 324	**3**	**0.53**	**66%**	**31%**	**97%**
Item 295	1	0.71	85%	15%	100%
Item 298	1	0.88	94%	6%	100%
Item 318	2	0.58	72%	24%	96%
Item 365	2	0.85	90%	10%	100%

HLA Grade 8	*(n = 136)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 767	2	0.55	70%	24%	95%
Item 911	**3**	**0.47**	**66%**	**33%**	**99%**
Item 761	1	0.63	83%	17%	100%
Item 1196	3	0.62	76%	16%	93%
Item 820	4	0.52	72%	24%	96%
Item 780	4	0.68	79%	16%	95%
Item 1214	4	0.50	71%	21%	92%

Mathematics Grade 3	*(n = 343)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 233	2	0.81	99%	1%	100%
Item 234	2	0.57	92%	8%	100%
Item 235	2	0.57	93%	7%	100%
Item 1294	2	0.82	98%	2%	100%

Mathematics Grade 4	*(n = 227)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 262	2	0.76	85%	14%	99%
Item 1010	**3**	**0.29**	**97%**	**3%**	**100%**

Item 375	2	0.51	70%	27%	97%

Mathematics Grade 5	*(n = 278)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 463	2	0.74	96%	3%	99%
Item 414	3	0.71	86%	5%	92%
Item 435	3	0.72	84%	15%	99%
Item 464	3	0.80	91%	9%	100%
Item 1093	2	0.45	91%	9%	100%
Item 1100	2	0.89	100%	0%	100%

Mathematics Grade 6	*(n = 238)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 469	4	0.68	76%	21%	97%
Item 502	4	0.76	87%	12%	99%
Item 472	2	0.95	97%	3%	100%
Item 1131	4	0.75	84%	15%	99%
Item 1062	4	0.81	93%	6%	99%

Mathematics Grade 7	*(n = 190)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 481	2	0.73	87%	12%	99%
Item 519	2	0.58	96%	4%	100%
Item 555	**2**	**0.36**	**97%**	**1%**	**98%**
Item 547	3	0.70	94%	5%	99%

Mathematics Grade 8	*(n = 135)*				
Item	**Maximum Points**	**Kappa**	**Percent Exact**	**Percent Adjacent**	**Percent Exact and Adjacent**
Item 618	1	0.97	99%	1%	100%
Item 583	2	0.76	88%	12%	100%
Item 582	2	0.57	91%	9%	100%
Item 613	4	0.83	93%	6%	99%

Item 1135	2	0.84	97%	2%	99%
Item 1138	2	0.49	90%	10%	99%
Item 1069	**4**	**0.30**	**93%**	**7%**	**100%**

*Items with Kappa values less than .40, or less than 70% exact agreement are highlighted in bold in the table.

Next, standardized reliability coefficients (i.e., Cohen's Kappa) were generated to assess the overall reliability of the scorers (Haertel, 2006). The Kappa statistics provide information on the degree to which scorers rate students' responses consistently. Calculation of Cohen's Kappa is performed according to the following formula:

$$\kappa = \frac{Pr(a) - Pr(e)}{1 - Pr(e)}$$

*Where Pr(a) represents the observed agreement, and Pr(e) represents agreement that would occur by chance (McHugh 2012).

Kappa values in Table 7.3 indicate that there was general agreement between the scorers for most items. Kappa values ranged between .26 and .85. This is an improvement from last year's scoring which saw two items with Kappa values less than .2. Values of .21 to .40 are considered fair, .41 to .60 is generally seen as moderate agreement, and .61 to .80 as substantial (Cohen, 1960). One note, there are some Kappa values that are relatively low given the percent of exact agreement. For example, item 1061 had a Kappa value of .3 but the raters agreed 93% of the time (most of the responses received 0 score points from each rater resulting in a high rate of agreement that would occur by chance). This represents a potential limitation of the Kappa value in estimating the percent agreement related to chance (McHugh, 2012). In these cases, the degree of rater agreement was determined by looking at the item holistically (examining both Kappa and percent agreement).

The results showed that all items were within established criteria for percent agreement and Kappa. However, there were some items with low results. Items with Kappa values less than .40 or exact agreement percentages less than .70 are highlighted in bold.

These eighteen items were examined by the UH staff to discern if there might be patterns or reasons for the inconsistencies between the scorers (e.g., ambiguity in the rubric). If specific reasons were found for low consistency, training for next year will be modified to ensure consistent scoring. In addition, UH staff have been purposeful about participants in these meetings, ensuring there is representation from a variety of schools and different islands to properly represent the variety of language that is present across schools. Double-blind scoring as well as the use of scoring managers and scoring administrators ensures that there is a general consensus between as many as four scorers, despite some inconsistencies between two different

scorers. The low reliability of these few items should not impact the overall student scores because all items where the two scorers disagree are scored by the scoring manager. In the event that the three scorers cannot agree (i.e., when the two scorers and the scoring manager cannot achieve agreement for a minimum of two scorers) the UH staff resolves differences by using an additional scoring manager to achieve score consensus.

Drift Analysis

Trend scoring was also included in the scoring analyses. Trend scoring is a method of including student responses from past field tests into the scoring of the operational assessment to compare how scorers rate those responses in the current versus past administrations. Scorers read these papers without knowing that they are from past years. Ratings on the same items are compared across years to ensure that scores and rubrics are being applied consistently. This method allows for an understanding of how scores might have (or might not have) changed over time.

The analyses were conducted on approximately 10 percent of the papers for each item. The analyses showed that the majority of the papers received similar scores from the first operational assessment of the item to 2019 with 88%-100% receiving the exact or adjacent score point (Table 7.5). Across the assessments, some of the items were scored slightly more or less rigorously in 2019 relative to the comparison data. These differences seemed to balance across the assessments with no discernible trend for items being more or less rigorously scored.

Table 7.5: Assessments: Items by Percent of Scorer Agreement for Trend Analysis

Grade/Item	Max Points	Percent Exact	Percent Adjacent: Scoring was more rigorous in 2019	Percent Adjacent: Scoring was less rigorous in 2019	Percent Exact & Adjacent
3rd HLA (n=26)					
Item 1024	3	73	0	15	88
Item 1020	2	73	15	4	92
Item 138	2	65	23	8	96
Item 145	1	100	0	0	100
4th HLA (n=25)					
Item 11	1	92	8	0	100
Item 17	**1**	**100**	**0**	**0**	**100**
Item 35	2	88	8	0	96
Item 1013	3	60	8	24	92
3rd math (n=26)					
Item 233	2	84	4	4	92
Item 234	2	81	8	12	100
Item 235	2	92	0	8	100
4th math (n=26)					

Item 262	2	77	8	8	93
Item 1010	3	96	0	4	100
Item 375	2	88	4	8	100

*Items were compared to data from the first operational assessment of the item.

UH staff monitor the scoring of computer-scored items. For each item, 10 percent of the total number of student responses are selected at random and manually checked against the answer keys. If any discrepancy exists, a thorough investigation is conducted until the underlying cause of the discrepancy is identified and all items are rescored.

Chapter 8. Empirical Analyses: Validity

During 2019, the Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) conducted the third operational test of HLA and math for 3rd and 4th grade, the second operational assessment for 4th grade science, and the first operational assessment for 5th through 8th grade math, HLA, and 8th grade science. The validity analyses focused on generating statistics in support of content and internal validity.

In order to achieve these goals and provide the greatest amount of information on the KĀ‘EO, researchers generated multiple statistics on both items and the overall assessment. Researchers began by employing Classical Test Theory (CTT) methods such as point biserial correlations, and p-value statistics. These statistics provide information about the items and assessment in an easy to understand metric. The analysis plan also mapped each analytic method to the US DOE peer review requirements.

Participation

Currently, out of the 24 Hawaiian language immersion schools across the state of Hawai‘i,there are 17 Hawaiian language immersion schools that teach at least one of the assessed grade levels. All 17 schools participated in the 2019 operational assessments, with a participation rate between 79 - 98 percent across grades (as indicated in the last row in Table 8.1).

Table 8.1: Demographics Frequency Table

Category		Grade 3 (n=345)		Grade 4 (n=227)		Grade 5 (n=280)		Grade 6 (n=239)		Grade 7 (n=189)		Grade 8 (n=135)	
		n	%	n	%	n	%	n	%	n	%	n	%
Language background	English	313	90.7%	198	87.2%	259	92.5%	211	88.3%	152	80.4%	112	83.0%
	Hawaiian	27	7.8%	28	12.3%	20	7.1%	28	11.7%	37	19.6%	23	17.0%
	Spanish	0	0.0%	0	0.0%	1	0.4%	0	0.0%	0	0.0%	0	0.0%
	Samoan	0	0.0%	1	0.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	French	1	0.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Japanese	2	0.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Portuguese	2	0.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
IEP	N	336	97.4%	210	92.5%	271	96.8%	229	95.8%	177	93.7%	125	92.6%
	Y	9	2.6%	17	7.5%	9	3.2%	10	4.2%	12	6.3%	10	7.4%
504	N	338	98.0%	224	98.7%	273	97.5%	235	98.3%	182	96.3%	134	99.3%
	Y	7	2.0%	3	1.3%	7	2.5%	4	1.7%	7	3.7%	1	0.7%
Lunch	No	151	43.8%	89	39.2%	128	45.7%	103	43.1%	76	40.2%	66	48.9%
	Free or reduced	194	56.2%	138	60.8%	152	54.3%	136	56.9%	113	59.8%	69	51.1%

	price lunch												
Migrant	N	343	99.4%	223	98.2%	273	97.5%	234	97.9%	186	98.4%	133	98.5%
	Y	2	0.6%	4	1.8%	7	2.5%	5	2.1%	3	1.6%	2	1.5%
Gender	Female	193	55.9%	130	57.3%	135	48.2%	129	54.0%	97	51.3%	75	55.6%
	Male	152	44.1%	97	42.7%	145	51.8%	110	46.0%	92	48.7%	60	44.4%
Federal Ethnicity	American Indian or Alaska Native	1	0.3%	1	0.4%	1	0.4%	1	0.4%	0	0.0%	1	0.7%
	Asian	2	0.6%	0	0.0%	4	1.4%	3	1.3%	1	0.5%	0	0.0%
	Black	1	0.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Hispanic	75	21.7%	46	20.3%	57	20.4%	46	19.2%	33	17.5%	6	4.4%
	Multiple	42	12.2%	22	9.7%	24	8.6%	23	9.6%	13	6.9%	2	1.5%
	Pacific Islander	218	63.2%	154	67.8%	191	68.2%	163	68.2%	142	75.1%	122	90.4%
	White	6	1.7%	4	1.8%	3	1.1%	3	1.3%	0	0.0%	4	3.0%
Total in grade (from roster)		352	98.0	231	98.4	290	96.62	268	89.2	214	88.3	169	79.9

Classical Test Theory Analysis

Researchers examined the assessments and items using Classical Test Theory (CTT). Item statistics included point biserial correlations, the proportion of students who answered the item correctly (p-value), and the proportion of students in each of the response categories. All CTT analysis results presented here are for the final operational test forms. These analyses provided information about the difficulty of each item, the range of difficulty across the items, and the ability of the items to discriminate between high and low performing students. In addition, descriptive statistics were calculated for the total score on each assessment including case counts, mean, standard deviation, mean p-value, and alpha coefficient. Throughout these analyses, researchers conducted quality assurance checks to verify accuracy in coding data and examine any anomalies in the results. Students who omitted an individual item were treated as 'missing' the item response.

Researchers from Seneca Consulting and Century Analytics conducted the analyses independently; one using Stata 12 and the other SPSS 24. This allowed for a comprehensive quality assurance check of the information. In general, the results indicated that the items were functioning well, and there was a range of item difficulty within each test form (**see Appendix C**). Point biserial and item test correlations (studied item excluded) also indicated that most items were discriminating between high and low performing students. The individual items that did not show strong point biserials were thoroughly reviewed by UH staff and identified for revision or deletion from the item bank.

Researchers examined the overall test statistics for the assessments (Table 8.2). In general, the raw scores had a normal distribution. Most assessments showed no evidence of floor or ceiling effects with the exception of 7th and 8th grade math and 8th grade science which were very difficult for students. These tests will be monitored in future years by UH staff who will also work to generate additional items that could improve the

distribution. The alpha coefficients ranged from .70 to .92 which indicates the tests have good internal reliability.

Table 8.2: Summary Raw Scores Test Statistics for Operational Test

	N valid	Number of Items	Number of Points Possible	Mean Raw Score	Stand Dev	Mean p-values	Alpha in 2019
Mathematics							
3rd grade	345	55	58	21.87	7.97	0.38	0.86
4th grade	227	56	61	23.11	8.45	0.38	0.84
5th grade	278	57	65	19.63	8.52	0.30	0.83
6th grade	238	57	72	19.18	9.13	0.27	0.82
7th grade	189	58	66	12.87	5.58	0.20	0.70
8th grade	135	56	63	13.47	6.68	0.21	0.78
Hawaiian Language Arts							
3rd grade	344	55	64	26.23	10.81	0.41	0.90
4th grade	227	58	67	33.12	12.02	0.49	0.90
5th grade	280	57	68	27.67	11.99	0.41	0.90
6th grade	239	58	76	30.97	12.39	0.41	0.89
7th grade	189	57	77	24.34	10.40	0.32	0.86
8th grade	135	55	72	26.47	11.45	0.37	0.88
Science							
4th grade	226	40	49	22.90	10.86	0.47	0.92
8th grade	133	58	66	14.23	7.33	0.22	0.79

Item analysis results are discussed below for each grade and test form. In general, an item is a candidate for exclusion from the item bank if its point biserial is below .15 or if the omit rate is higher than 10%. Omit rates exceeding 10% and increasing toward the end of the test might indicate *speededness* (i.e., students did not have enough time to respond to all items).

As anticipated, the test analysis did not indicate high omit rates because test administrators were instructed to provide as much time as needed for the student to complete the assessment. However, some items did not meet the criterion with a point biserial correlation of at least .15. These items fell into three categories: very poor (point biserials less than .05), poor (point biserials between .05 and .1), and marginal (point biserials between .1 and .15). Items that were very difficult (p-value less than .20) or very easy (above .95) were also reviewed to verify the answer key was correct. These items were specifically reviewed by the UH staff to disposition the items (e.g., remove from the item pool). For example, items might be reviewed to determine if the item was unclear and whether the item could be revised. Items were reviewed with these considerations:

- Is the answer key correct (did we select the correct answer and is there only one correct answer – if there are two answers we can recode the file so that students who picked either can receive the point) and was it coded correctly in DCDC's program?
- Is the item clearly worded?
- Does the item contain unnecessary or burdensome language/text?
- Does the item contain academic vocabulary that not all students might not have access to?
- Is there any reason that the item might be biased against certain groups (e.g., gender)?

The classical test theory information is described below and subsequent Rasch item statistics were reviewed for these items.

Math

3rd grade

In general, researchers found that the items in 3rd grade mathematics represented a range of difficulty, had low omit rates, and met item criteria. However, there were 7 items identified for having a moderately low point biserial and 10 items for difficulty. This was an improvement in the number of items flagged from 2018. These items were reviewed by UH staff who determined that seven of the items be revised and re-field tested to clarify the wording. In addition, one item was identified as needing to be replaced. The remaining items were deemed to be clearly worded with correct answer keys. These items will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

4th grade

Item statistics for the 4th grade mathematics assessment represented a range of p-values and showed that items had low omit rates. However, as with 3rd grade, there were some items with low point biserial correlations. Specifically, 9 items had low to moderately low point biserial correlations, and 4 items were very difficult (4 fewer items were flagged in 2019 relative to 2018). Flagged items were reviewed closely by UH staff for any issues with the answer key, item input, or other sources of variance that might contribute to the item statistics. Eight items were identified for revisions and re-field testing. The remaining items were deemed to be clearly worded with correct answer keys. These items will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

5th grade

Item statistics for the 5th grade mathematics assessment represented a range of p-values and showed that items had low omit rates. There were some items with low point biserial correlations. Twenty-six items were flagged for low point biserial correlations or for being difficult. Flagged items were reviewed closely by UH staff for any issues with the answer key, item input, or other sources of variance that might contribute to the item statistics. Five items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

6th grade

Item statistics for the 6th grade mathematics assessment represented a range of p-values and showed that items had low omit rates. There were 26 flagged items. Flagged items were reviewed closely by UH staff for any issues with the answer key, item input, or other sources of variance that might contribute to the item statistics. Five items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

7th grade

Item statistics for the 7th grade mathematics assessment represented a range of p-values and showed that items had low omit rates. However, there were 41 flagged items. Five items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

8th grade

Item statistics for the 8th grade mathematics assessment represented a range of p-values and showed that items had low omit rates. There were 32 flagged items. Three items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

Hawaiian Language Arts

3rd grade

Overall, item statistics for 3rd grade Hawaiian language arts (HLA) were acceptable. There was one item with a low point biserial correlations, and 6 items were flagged for being difficulty difficult (p-value less than .20). There were 9 fewer items flagged in 2019 relative to 2018. Flagged items were reviewed carefully by UH staff. While most items were determined to be acceptable, the item with a low point biserial correlation was identified as a candidate for revision because the wording was very complex for 3rd grade. This item will be revised and re-field tested. The remaining items that were flagged for difficulty were deemed to be clearly worded and had correct answer key information. These items will be monitored in future test administrations.

4th grade

Item statistics for 4th grade HLA were reviewed and were generally acceptable. Seven items had low to moderately low point biserial correlations, and 1 item was flagged for difficulty (p-value less than .2) (2 fewer items were flagged in 2019 relative to 2018). All items were reviewed carefully. These items were deemed to be clearly worded with correct answer keys. One item was identified as needing revision and re-field testing because of the wording in a distractor. Other items that were flagged will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

5th grade

Item statistics for the 5th grade HLA assessment represented a range of p-values and showed that items had low omit rates. Flagged items were reviewed closely by UH staff for any issues with the answer key, item input, or other sources of variance that might contribute to the item statistics. However, there were 11 flagged items. Two items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

6th grade

Item statistics for the 6th grade HLA assessment represented a range of p-values and items had low omit rates. There were 18 flagged items. Flagged items were reviewed closely by UH staff for any issues with the answer key, item input, or other sources of variance that might contribute to the item statistics. Two items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items'

functionality. If these items continue to function below the specifications, they might become candidates for removal.

7th grade

Item statistics for the 7th grade HLA assessment represented a range of p-values and showed that items had low omit rates. There were 21 flagged items. Four items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

8th grade

Item statistics for the 8th grade HLA assessment represented a range of p-values and showed that items had low omit rates. There were 19 flagged items. Five items were identified for revisions and re-field testing. Because this was the first year of the operational test, most flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

Science

4th grade

Finally, item statistics for science were considered. Overall, items were shown to function well with a variety of difficulty levels, low omit rates, and acceptable fit statistics. These items were reviewed and retained on the assessment. In addition, due to the fact that this was the final year of administration for this test, no items were identified for revisions.

8th grade

Item statistics for the 8th grade HLA assessment represented a range of p-values and showed that items had low omit rates. There were 36 flagged items. Twenty items were identified for revisions and re-field testing. Because this was the first year of the operational test, many flagged items were retained and will be monitored in future test administrations to better understand the items' functionality. If these items continue to function below the specifications, they might become candidates for removal.

It should be noted that the item review criteria described above are not firm criteria for exclusion or inclusion of a specific item but rather provide information to guide item review. When considering items for inclusion or exclusion on the item pool, staff considered myriad information including item content, item statistics, and item difficulty in order to ensure a balanced assessment with high technical quality.

Item Response Theory Analyses

The CTT item and test statistics calculated above provide crucial information about the technical quality of the assessments and their items. In order to generate a more complete picture of the items and test forms, researchers conducted Rasch analyses. These analyses provide additional information about the item characteristics and test forms with regard to the technical quality of the items. Rasch methods generate information about the reliability of the assessment as well as the functionality of the items. This information includes statistics about the difficulty of an item, the degree to which an item fits the Rasch model, and reliability coefficients. While researchers focused primarily on the item characteristics, consideration was also given to the overall assessment in order to build an understanding of any issues or concerns that might need to be addressed before the operational assessment.

The Rasch analyses were conducted using Winsteps 4.0.0. Winsteps software was chosen because it has been used and refined for over thirty years and is well established in the education research and assessment community. Analyses were conducted based on the Rasch model which accounts for a single difficulty parameter. Other IRT models accommodate additional parameters (e.g., guessing); however, the sample size of the current assessment did not allow for these models to be implemented. Rasch modeling is a method that allows for a measurement model to be developed while accommodating the small sample sizes from the assessment.

Rasch models are logit linear models and are expressed in Winsteps as follows:

> "The dichotomous model:
> $\log_e(P_{ni1} / P_{ni0}) = B_n - D_i$
> The polytomous 'Partial Credit' model:
> $\log(P_{nij} / P_{ni(j-1)}) = B_n - D_i - F_{ij} = B_n - D_{ij}$
> where
>
> - P_{nij} is the probability that person n encountering item i is observed in category j,
> - B_n is the 'ability' measure of person n,
> - D_i is the 'difficulty' measure of item i, the point where the highest and lowest categories of the item are equally probable,
> - F_j is the 'calibration' measure of category j relative to category j-1, the point where categories j-1 and j are equally probable" (p. 31, Linacre, 2012).

First, data files for the Rasch analysis were created in Stata (version 12) by one researcher and SPSS (version 24) by another researcher. By creating data files and conducting analyses independently, researchers were able to conduct quality checks of the analyses to ensure there were no coding errors, data cleaning concerns, or software issues. Second, Winsteps analyses were conducted independently by both researchers and results were matched to help ensure accuracy and technical quality. This thorough checking of the results ensured the veracity of the Rasch findings, which is critical for a high stakes assessment.

Researchers then analyzed each assessment by fitting the Rasch model to the examinee data. Using the joint maximum likelihood estimation process implemented by Winsteps, this analysis iteratively estimated item characteristics—difficulty parameters, standard errors, discrimination, and fit statistics—while also estimating student test scores. Rasch scores are often referred to as scaled scores. Through a process known as *calibration,* items (based on difficulty) and the students (based on performance) are placed on a scale where the increments of measurement are equal all along the scale.

Test Fit Statistics

It was important to document how each assessment performed overall. These values can help inform whether any adjustments need to be made for the next year's assessment in areas such as item difficulty, number of items, and overall model fit. Researchers first examined the summary statistics generated by Winsteps for each assessment. These statistics include overall test and summary item fit statistics, person and test histograms, separation and reliability statistics, and the measure versus person statistics.

First, the results of the calibrations were checked. For each grade level, the calibration converged in a small number of iterations, suggesting good model fit. As a further quality control check, the item difficulties generated by Winsteps were cross-checked against the item difficulties generated by the CTT analyses, and these p-values agreed with each other. This is a further indication that the data are performing as expected.

Second, researchers generated descriptive statistics for each grade level and content area (Table 8.3). These descriptive statistics build information for the assessment team to understand the distribution of scores. In general, the descriptive statistics showed that the overall mean for each assessment is slightly negative indicating that the assessments were slightly difficult for the students. The exception was grade 4 HLA which showed the mean to be centered close to 0. Logit means ranged from -1.66 to .08 If the assessment was perfectly matched to the students' ability, the overall mean would equal 0. If the person mean was greater than 2 or less than -2 we might consider the assessment too easy or difficult respectively (Green & Franton, 2002). Because these criteria were not exceeded, the psychometric team will continue to monitor these values and work with the UH staff to ensure the assessments do not fall outside these ranges.

Table 8.3: Table for Logit Score Summary Statistics

Grade and Content	N	Minimum	Maximum	Mean (not lower than -2)	Std. Deviation	Measure SEM
Mathematics						
3rd grade	345	-3.36	3.23	-0.62	0.89	0.05
4th grade	227	-3.8	1.44	-0.63	0.77	0.05
5th grade	278	-2.39	1.29	-0.88	0.67	0.04
6th grade	238	-3.26	0.64	-1.12	0.69	0.05
7th grade	189	-3.06	0.14	-1.7	0.59	0.04

8th grade	135	-3.28	0.72	-1.53	0.69	0.06
Hawaiian Language Arts						
3rd grade	344	-3.41	1.9	-0.39	0.95	0.05
4th grade	227	-2.25	3.12	0.08	0.97	0.06
5th grade	280	-3.16	1.93	-0.52	0.95	0.06
6th grade	239	-3.14	1.6	-0.67	0.89	0.06
7th grade	189	-3.66	1.23	-1.03	0.83	0.06
8th grade	135	-3.78	1.97	-0.67	0.95	0.08
Science						
4th grade	226	-4.13	3.02	-0.12	1.28	0.09
8th grade	133	-3.83	-0.04	-1.66	0.74	0.06

Third, summary item fit statistics were reviewed which describe the degree to which items fit the Rasch model and are functioning in a logical and predictable manner. For example, a test that is *not* functioning correctly might be evidenced by high achievement students scoring easy items incorrectly. Misfit items may result from confusing wording, unnecessary item complexity, or mismatch of the construct. Person fit similarly reflects the degree to which a respondent's choices are logical and consistent across items (Green & Franton, 2002). For the assessment, fit was examined by looking at summary infit and outfit values (see **Appendix D**). Mean square infit and outfit values should have means of approximately 1 (values substantially higher indicate outliers in the data and values substantially lower indicate dependency (Linacre, 2012)). Person and item statistics for these assessments were acceptable and had means very close to 1 (+/- .2).

Researchers also considered the items' distribution across students' abilities by examining histograms and item maps that compare these two sources of information (see **Appendix E.**). The histograms show how the items are spread out across a range of difficulties that align with students' abilities. It is important in test development that items reflect a range of difficulties across students' abilities. For example, a test will be more accurate at measuring students' ability if items are not vastly more difficult or easy relative to the students' ability. In general, we see alignment in these statistics across the tests with a higher number of more difficult items (but still within an adequate difficulty level). The only exceptions were Grade 4 HLA and science where the difficulty of the test matched closely to students' abilities.The histograms also who that there are no significant gaps across the assessments in terms of items (i.e., there are sufficient numbers of items across the range of students' abilities).

Next, the item maps were reviewed which indicated how specific items are spread across student abilities. These maps in general show that there are sufficient items across the range of student abilities. In particular, the item maps show the difficulty of each score point which indicates that for many of the tests. The development team noted that there was a higher proportion of items in the center as well as at the upper (more difficult) end of the distribution. This was particularly true for grades 5-8 math and science. These issues were also noted during the 2018 field test and have started to be addressed through new item development. For the 2019 assessment, items were added to the grade 5-8 tests to increase the numbers of

items by 10 percent to improve reliability and separation. Items were specifically written that were easier items in order to better match students' abilities. These additions improved the reliability and the UH assessment team will continue to focus on improving the distributions in the item map through new item development and field testing.

Item Fit Statistics

The next step in the Rasch analysis was to examine the functioning of the items. This analysis was conducted on the assessment using Winsteps software, which has the capacity to generate multiple statistics and output tables. For the purposes of this project, researchers focused their examination on several important criteria. These criteria included item fit statistics, which provide an indication of how well the item fits the Rasch model, and root mean square residual (RMSR), which provides information on the observed versus expected values. Results of the initial calibration for each grade level were examined to identify any instances that met the following indications of good model fit.

- General criteria and considerations for item analyses include (Linacre, 2012):
- Mean square infit between 0.6 and 1.4 (Underfit is indicated by values higher than the criteria and can indicate unusual response patterns while overfit can indicate redundancy in the items),
- Mean square outfit lower than 1.4 (values between 1.5 and 2.0 are generally considered as not degrading the measure),
- RASCH item discrimination typically between .5 and 2.0,
- Root mean square residual (RMSR) values close to 0. RMSR is a measure of the difference between the observed and expected values and is related to misfit,
- Rating scales functionality, and
- Differential Item Functioning (DIF) (which is addressed in Chapter 11: Fairness).

In general, the items fit the model well using the above criteria (see **Appendix F**) with a few exceptions as detailed below.

Grade 3 HLA

For 3rd grade HLA, all items met the criteria except three items that had lower discrimination indices between -.43 and .40. Also, the item with a negative descrimination index had high infit and outfit values. These items were reviewed to ensure they measured the construct and the response key was correct. While two of the items were retained, one item was identified for revision and re-field testing (this item had not met other criteria such as point biserial).

Grade 4 HLA

Results for items in grade 4 HLA were similar to the findings for grade 3 items. Overall, most items fit well (infit was between .6 and 1.4 and outfit was lower than 1.4). Three items showing higher than expected outfit. In addition, there were seven items with moderately low discrimination indices (.18-.49). These items were reviewed for clarity, content, and to ensure the answer key was correct. All flagged items were determined to be important items in terms of measuring the construct and were retained. The items will be monitored in future administrations.

Grade 5 HLA

For 5th grade HLA, all items met the criteria except two items that had slightly lower discrimination indices of .43 and .44 than the criterion. Also, there were two items with slightly high outfit values (1.42 and 1.44). These items were reviewed to ensure they measured the construct and the response key was correct. While three of the items were retained, one item was identified for removal from the test because the language was difficult for grade 5 (this item had not met other criteria such as point biserial).

Grade 6 HLA

Results for items in grade 6 HLA were similar to the findings to other grades. Overall, most items fit well (infit was between .6 and 1.4 and outfit was lower than 1.4). There were two items with moderately low discrimination indices (-.02-.40). In addition, one of these items had a slightly high outfit (1.45). These items were reviewed for clarity, content, and to ensure the answer key was correct. Both flagged items were determined to be important items in terms of measuring the construct and were retained. The items will be monitored in future administrations.

Grade 7 HLA

For 7th grade HLA, all items met the criteria except two items that had lower discrimination indices between .24 and .42 and three items that had slightly high outfit values (1.54-1.66). These items were reviewed to ensure they measured the construct and the response key was correct. While most of the items were retained, one item was identified for removal from the next operational assessment because of difficult language for this grade level (this item had not met other criteria, such as point biserial).

Grade 8 HLA

Results for items in grade 8 HLA were similar to the findings from other grades. Overall, most items fit well (infit was between .6 and 1.4 and outfit was lower than 1.4). Five items had low to moderately low discrimination indices (.01 -.48). Three of these items and three additional items also showed slightly higher

than expected outfit (1.44-1.73). These items were reviewed for clarity, content, and to ensure the answer key was correct. All flagged items were determined to be important items in terms of measuring the construct and were retained. The items will be monitored in future administrations.

Grade 3 Mathematics

Items in 3rd grade mathematics displayed similar statistics to the previous HLA items. Overall, most items fit well, with only two items showing a higher than expected outfit (1.52 and 1.54). While the values were higher than the desired threshold, it should be noted that these values are sensitive to outliers. One item was identified to be revised and re-field tested while the other item was retained as-is.

Grade 4 Mathematics

Grade 4 mathematics was composed of items with similar statistics to the grade 3 mathematics assessments. Overall, items fit well in terms of infit and outfit. There were, however, four items with lower than expected discrimination indices (.01-.40). In addition, two items had high outfit values (1.44 and 1.60). All but one of the items were determined to be good measures of the construct; the one item was identified as a candidate for removal in future administrations.

Grade 5 Mathematics

Grade 5 mathematics was composed of items with similar statistics to the other grades. Overall, items fit well. There were, however, two items with lower than expected discrimination indices (between .49 and .50). In addition, one item had slightly high outfit and infit values (1.48 and 1.54). All items were determined to be good measures of the construct and will be retained but monitored in future.

Grade 6 Mathematics

Grade 6 mathematics was composed of items with similar statistics to other grade levels. There was one item with a lower discrimination index relative to the criteria (.498). In addition, two items had high outfit values (1.56 and 1.59). All items were determined to be good measures of the construct and will be retained but monitored in future.

Grade 7 Mathematics

Grade 7 mathematics had no items that were flagged during the WINSTEPs analyses.

Grade 8 Mathematics

Grade 8 mathematics was composed of items with similar statistics to other grade levels. Overall, items fit well in terms of fit statistics. There were, however, four items with lower than expected discrimination indices

(.42). In addition, two items had high outfit values (1.54 to 1.71). All but one of the items was determined to be good measures of the construct. This item will be revised and re-field tested.

Grade 4 Science

The grade 4 science test had its last operational administration in 2019 (it will be replaced by a grade 5 science assessment). Overall, items fit well; however, four items were flagged for high outfit and/or low discrimination. All items were retained.

Grade 8 Science

Grade 8 science was composed of items with similar statistics to other assessments. Overall, items fit well in terms of fit statistics. There was, however, one item with lower than expected discrimination indices (.27). In addition, two items had high outfit values (1.42 to 2.41). Two items will be revised and re-field tested, and one will be removed.

Rating Scale Review

Finally, researchers examined the score point estimation for the open-ended items. This was accomplished by examining the item curves to ensure that each score point was correctly ordered and the score points functioned as expected. The graphs below show each item's score point and its respective correspondence to any increase in the overall respondent correct score (i.e., respondents with an overall higher score on the assessment should receive more points on open-ended items). The midpoint of each line on the graphs occurs where the probability is .5 for a respondent receiving that score level on the item given their overall score. This is an indication of the difficulty for each score point. For many of the open-ended items, the curves looked reasonable in terms of ordering, with the score points becoming sequentially more difficult (see Figure 8.1 for an example curve). However, some probability curves did not form distinct peaks, indicating lower differentiation between this category and the adjacent ones. In addition, sometimes the score points did not have much separation in terms of difficulty (see Figure 8.2). These items will be monitored in future administrations to see if the curves improve or if revising the items is warranted (Table 8.4).

Figure 8.1: Acceptable item response curve

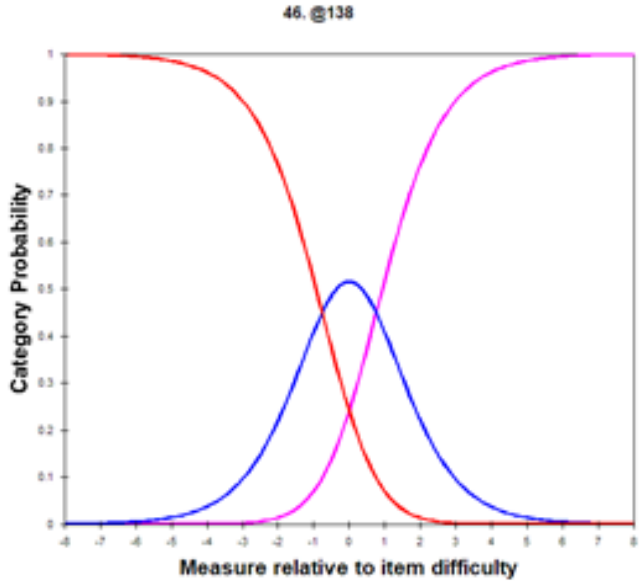


Figure 8.2: Item response curve for monitoring

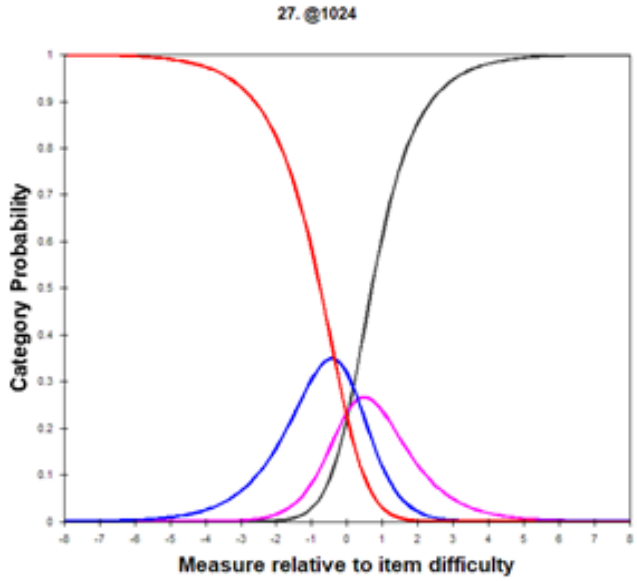


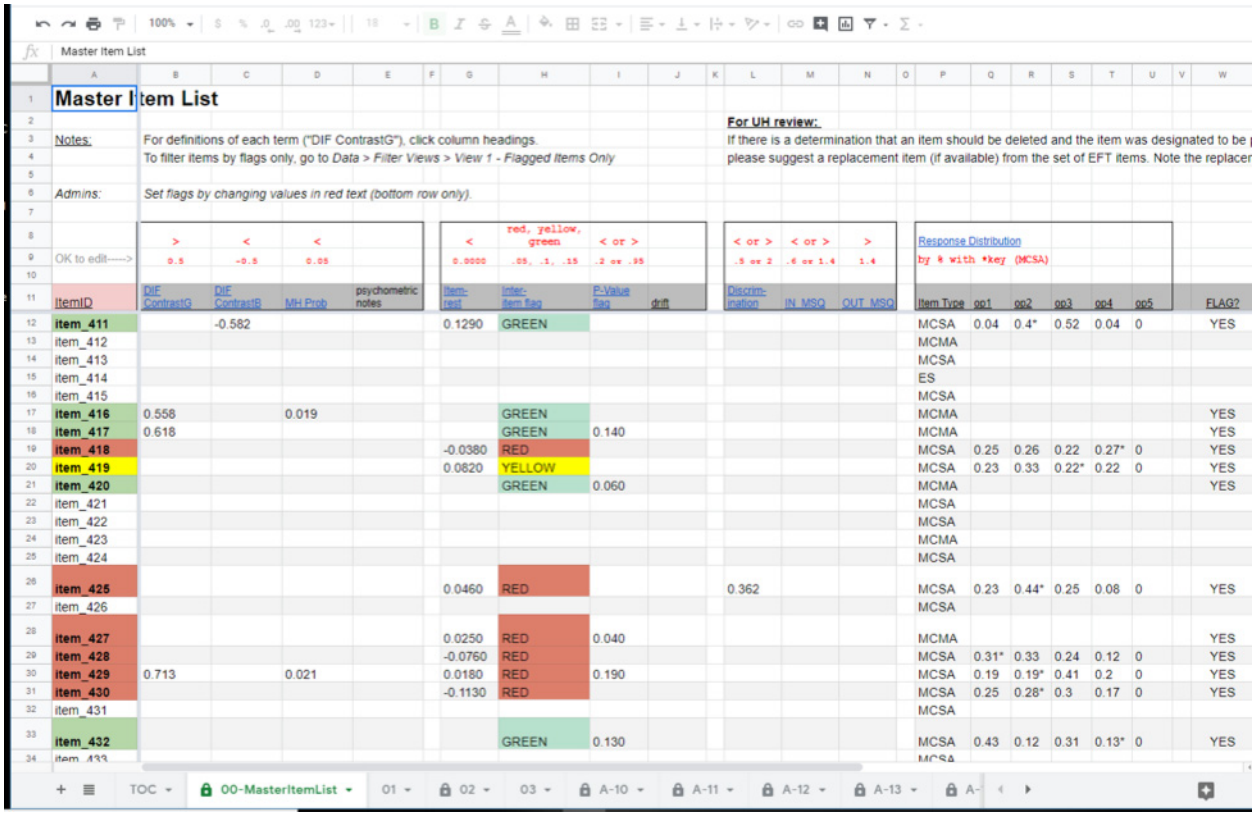
Table 8.4: Item numbers for monitoring the rating scales

Grade/Content	OE items with acceptable curves	Rating scales need monitoring
GR3 HLA	1020, 379, 138, 394	1024
GR4 HLA	42, 1013, 395	35
GR5 HLA	722, 706, 1030	712
GR6 HLA	643, 1173, 680, 694	664, 666, 1031
GR7 HLA	770, 1032	1097, 878, 808, 1096, 872, 889
GR8 HLA	911, 1034	767, 820, 780, 1214
Gr3 MA	235	233, 234
Gr4 MA	262, 375	
Gr5 MA	464	463, 414, 1093, 435
Gr6 MA	502, 472	469, 1131, 1062, 491
Gr7 MA	562, 467	481, 555, 547
Gr8 MA	583, 582	1135, 1138, 613
GR4 SC	290, 301, 324, 318, 365, 367	
GR8 SC		937, 1114, 945

Item Review

All item data is placed by grade and content area in the KĀ‘EO Item Review System (KIRS). This system automatically flags items that do not meet pre-specified criteria. The UH team then accesses the KIRS to review the items that are flagged and makes a determination about item revisions or deletion from the item bank. (see Figure 8.3).

Figure 8.3: Item Review Ecosystem



Master Item List

Notes: For definitions of each term ("DIF ContrastG"), click column headings.
To filter items by flags only, go to *Data > Filter Views > View 1 - Flagged Items Only*

Admins: *Set flags by changing values in red text (bottom row only).*

For UH review:
If there is a determination that an item should be deleted and the item was designated to be
please suggest a replacement item (if available) from the set of EFT items. Note the replacer

	>	<	<		<	red, yellow, green	< or >		< or >	< or >	>	Response Distribution by % with *key (MCSA)						
OK to edit---->	0.5	-0.5	0.05		0.0000	.05, .1, .15	.2 or .95		.5 or 2	.6 or 1.4	1.4							
ItemID	DIF ContrastG	DIF ContrastB	MH Prob	psychometric notes	Item-rest	Inter-item flag	P-Value flag	drift	Discrim-ination	IN_MSQ	OUT_MSQ	Item Type	op1	op2	op3	op4	op5	FLAG?
item_411		-0.582			0.1290	GREEN						MCSA	0.04	0.4*	0.52	0.04	0	YES
item_412												MCMA						
item_413												MCSA						
item_414												ES						
item_415												MCSA						
item_416	0.558		0.019			GREEN						MCMA						YES
item_417	0.618					GREEN	0.140					MCMA						YES
item_418					-0.0380	RED						MCSA	0.25	0.26	0.22	0.27*	0	YES
item_419					0.0820	YELLOW						MCSA	0.23	0.33	0.22*	0.22	0	YES
item_420						GREEN	0.060					MCMA						YES
item_421												MCSA						
item_422												MCSA						
item_423												MCMA						
item_424												MCSA						
item_425					0.0460	RED			0.362			MCSA	0.23	0.44*	0.25	0.08	0	YES
item_426												MCSA						
item_427					0.0250	RED	0.040					MCMA						YES
item_428					-0.0760	RED						MCSA	0.31*	0.33	0.24	0.12	0	YES
item_429	0.713		0.021		0.0180	RED	0.190					MCSA	0.19	0.19*	0.41	0.2	0	YES
item_430					-0.1130	RED						MCSA	0.25	0.28*	0.3	0.17	0	YES
item_431												MCSA						
item_432						GREEN	0.130					MCSA	0.43	0.12	0.31	0.13*	0	YES

TOC | 00-MasterItemList | 01 | 02 | 03 | A-10 | A-11 | A-12 | A-13

Corrective Actions from Math, HLA and Science Assessments

Based on the review of the item statistics in 2016 through 2018, several items were determined to not be measuring the construct appropriately. As part of the KĀʻEO continuous improvement process (now documented formally via the use of *KĀʻEO Feedback Integration Forms*) new items were field tested in 2017 and 2018 and were functioning appropriately.

Validity Based on Internal Structure

Types of validity evidence should align to the purposes and priorities of the assessment. As such, psychometricians often specify types of validity when evaluating an instrument. For example, **construct validity** addresses the degree to which the test conforms to or measures the underlying construct or trait that is the target of the measure. This is often a statistical argument that focuses on such evidence as internal consistency in scores, relationships of scores to external factors, and understanding score patterns. Evidence

of internal consistency can support the claim that the test conforms to or measures the underlying construct or trait that is the target of the measure.

Statistical Analyses of Assessment Data (Internal Structure): These analyses examine the degree to which the assessment represents the reporting structure. Psychometricians conducted correlation analyses and dimensionality analyses to better understand the KĀ‘EO assessment structure.

Dimensionality

Measurement research should include the consideration of unidimensionality to support score interpretation (Yu, Popp, DiGangi, & Jannash-Pennel, 2007; Tennant & Conaghan, 2007). It is assumed that the KA'EO assessments are unidimensional and measure a single content domain. In order to test this assumption, Winsteps was used to conduct a Principal Component Analysis (PCA) of item residuals with the Rasch model (Yu, Popp, DiGangi, & Jannash-Pennel, 2007; Linacre, 2012; Tennant & Conaghan, 2007). If the assessment is represented by only one dimension (e.g., unidimensional), the results will indicate a random pattern of residuals. However, if the initial eigenvalues are higher than what would be expected by chance (i.e., above 2), this could indicate the presence of a second underlying dimension thus necessitating further examination. This approach is considered robust to detecting multiple dimensions (Tennant & Conaghan, 2007) (see results in **Appendix J**).

The results suggested that each assessment had higher eigenvalues than might be attributed to chance (i.e., greater than 2). The results were examined for distinct content-related interpretations (Table 18). In general, the items loading positively on construct one consisted of items that were flagged for review in the Classical Test Theory analyses (e.g., low point biserial correlations) or the Rasch analyses (e.g., misfit the model).

Table 8.5: Contrasts from Rasch Dimensionality Analysis

Grade/ content	Eigenvalue	Dimension 1 Items loading positively on contrast 1	Dimension 2 Items loading negatively on contrast 1	Notes on item content between dimensions
GR3 MA	2.44	172, 174, 213, 204, 191, 368	225, 210, 230, 218, 374, 223	Five out of six items flagged in dimension 2; various content represented across dimensions; no pattern of challenging vocabulary.
GR4 MA	3.68	164, 261, 1006, 254, 253, 264	267, 378, 1005, 272, 242, 154	All items in dimension 1 were flagged; six questions across dimensions related to fractions, but no consistent pattern is apparent.No relationship seen across dimensions.
GR5 MA	2.54	1187, 1130, 445, 1229, 416, 1202	414, 428, 444, 425, 419, 446	All items in dimension 2 were flagged; six questions across dimensions related to fractions, but no consistent pattern is apparent.No relationship seen across dimensions
GR6 MA	2.46	577, 526, 1256, 1142, 534, 514	472, 491, 1131, 468, 575, 520	Four out of six items were flagged in dimension 2; various content represented across dimensions; no pattern of challenging

				vocabulary or relationship across dimensions.
GR7 MA	2.68	479, 565, 498, 522, 1065, 541	506, 493, 505, 511, 616, 477	All items were flagged in dimension 2; across dimensions, there are three items that relate to probability, and three other items that relate to fractions. No consistent pattern apparent.
GR8 MA	3.01	1269, 618, 582, 1135, 590, 583	530, 596, 576, 615, 594, 597	All items were flagged in dimension 2; across dimensions, there are five items related to using graphs and five other items related to exponents. No relationship across dimensions apparent.
GR3 HLA	2.51	1022, 130, 143, 384, 123, 383	104, 145, 381, 88, 1026, 101	Four out of six items flagged in dimension 1; majority of items in dimension 1 are related to main ideas and character perspectives; majority of items in dimension 2 are related to listening passages but no content specific patterns are apparent. No relationship apparent across dimensions.
GR4 HLA	3.04	20, 15, 65, 64, 8, 14	25, 1014, 36, 63, 40, 56	All items in dimension 2 were flagged; five out of six items in dimension 1 are related to listening passages but no consistent content-specific pattern is apparent; half of items in dimension 2 are related to grammar or identification.No relationship apparent across dimensions.
GR5 HLA	2.72	696, 684, 719, 637, 720, 721	718, 729, 1183, 711, 1222, 1074	Five out of six items were flagged in dimension 2; no consistent pattern seen across dimension 1 items; three out of six items are related to the same stimulus but no pattern seen.
GR6 HLA	2.34	661, 1170, 641, 660, 704, 676	694, 680, 666, 1031, 679, 697	Four out of six items were flagged in dimension 1 Various content throughout.Broad range of contents and question types. No apparent relationship.
GR7 HLA	2.36	1032, 1097, 1096, 874, 808, 770	769, 888, 877, 883, 892, 1104	Two out of six items were flagged in dimension 2 (this might not follow the pattern in other tests) Broad range of contexts. In Dimension 1, there are four out of six questions that are essay type. No apparent relationship between dimensions.
GR8 HLA	3.06	924, 1092, 914, 893, 826, 916	911, 848, 910, 771, 917, 833	Five out of six items were flagged in dimension 1 Broad range of contents and question types. No apparent relationship.
GR4 SC	2.15	321, 298, 304, 318, 293, 316	288, 297, 309, 296, 315, 308	These items did not show a flagging pattern but the eigenvalue was also fairly low Various content throughout. Some challenging vocabulary but nothing notable. No relationship

				across dimensions seen.
GR8 SC	3.02	944, 978, 939, 932, 974, 946	949, 948, 956, 1265, 1109, 1238	These items did not show a flagging pattern Five out of six questions in Dimension 1 dealt with finding/hypothesizing the outcome of a situation. Many of these questions were also multiple choice. Very difficult vocabulary in Dimension 1. No content specific patterns apparent

It was important to understand if different constructs were being measured within a test, which would violate the assumption of unidimensionality; for example, whether the math test had subtests that focused heavily on reading. The items in each contrast were reviewed by project staff. UH staff noted that the items within the contrasts typically represent challenging vocabulary (e.g., unfamiliar words) or content (e.g., fractions). However, these differences were represented across both constructs and not embedded within a specific contrast. As a result, it was determined that it would not be productive to generate subtests to improve unidimensionality. The results for science indicated that there were no underlying dimensions and that the assessment was unidimensional.

Correlations

These analyses examined correlations between the assessment subdomains to examine if these factors correlate more highly with each other than with domains within a test of the other content area (e.g., algebra with measurement higher than algebra with reading literary text). Correlations were corrected for disattenuation to account for measurement error. Values were typically above .85 with 2 values falling below .8 between Heluhelu and Olelo, and Kekau and Olelo in grade 8 (disattenuated correlations are shaded in grey in Tables 8.6 - 8.8). These values show a strong relationship between the domains in each of the content areas as expected. WIth median values of .97 for math, .98 for HLA and 1.0 for science. It is important to note that disattenuated values greater than 1.00 indicate non-randomly distributed measurement error and these values are reported as 1 (Schumacker, 1996). The observed correlations were slightly lower with values ranging between .4 and .8.

Table 8.6: HLA Observed and Disattenuated (in grey) Correlation Results for Subscores

Grade	Subscore	Ka Heluhelu	Ka Olelo	Ke Kekau	Ke Mele Oli
3	Ka Heluhelu	1.00	0.89	1.02	0.89
	Ka Olelo	0.64	1.00	0.90	0.96
	Ke Kekau	0.70	0.65	1.00	0.90
	Ke Mele Oli	0.61	0.71	0.64	1.00
4	Ka Heluhelu	1.00	0.83	0.97	0.80
	Ka Olelo	0.61	1.00	0.93	0.96
	Ke Kekau	0.73	0.65	1.00	0.84
	Ke Mele Oli	0.61	0.67	0.61	1.00

5	Ka Heluhelu	1.00	1.04	1.05	0.98
	Ka Olelo	0.72	1.00	1.06	1.11
	Ke Kekau	0.75	0.64	1.00	1.08
	Ke Mele Oli	0.66	0.63	0.63	1.00
6	Ka Heluhelu	1.00	0.91	1.04	1.06
	Ka Olelo	0.53	1.00	0.87	1.11
	Ke Kekau	0.79	0.53	1.00	1.05
	Ke Mele Oli	0.60	0.50	0.61	1.00
7	Ka Heluhelu	1.00	0.83	1.01	0.98
	Ka Olelo	0.47	1.00	0.87	1.06
	Ke Kekau	0.71	0.51	1.00	0.99
	Ke Mele Oli	0.51	0.45	0.52	1.00
8	Ka Heluhelu	1.00	0.74	1.09	0.90
	Ka Olelo	0.51	1.00	0.74	1.04
	Ke Kekau	0.80	0.47	1.00	0.85
	Ke Mele Oli	0.53	0.52	0.46	1.00

Table 8.7: Math Observed and Disattenuated (in grey) Correlation Results for Subscores

Grade	Column1	C1	C2_C4	C3
3	C1	1.00	0.98	0.92
	C2_C4	0.71	1.00	0.93
	C3	0.53	0.53	1.00
4	C1	1.00	0.94	0.95
	C2_C4	0.63	1.00	0.88
	C3	0.58	0.48	1.00
5	C1	1.00	1.04	1.00
	C2_C4	0.68	1.00	0.95
	C3	0.55	0.48	1.00
6	C1	1.00	0.98	0.99
	C2_C4	0.67	1.00	1.01
	C3	0.64	0.63	1.00
7	C1	1.00	0.83	1.30
	C2_C4	0.49	1.00	1.04
	C3	0.55	0.47	1.00
8	C1	1.00	1.12	1.11
	C2_C4	0.55	1.00	1.13
	C3	0.66	0.50	1.00

Table 8.8: Science Observed and Disattenuated (in grey) Correlation Results for Subscores

		Halawai	Luna	Lalo
4	Luna	--	1.00	1.02
	Lalo	--	0.82	1.00
8	Halawai	1.00	1.32	1.21

	Luna	0.38	1.00	1.28
	Lalo	0.64	0.52	1.00

Validity Based on Relationship with External Variables

It is also important to consider the relationship between the assessment and scores from other tests of the same content area and/or tests of different content areas. These analyses provide information with regard to the degree to which the assessment reflects key content by relating scores to other variables. This type of evidence is typically generated by examining the relationships between assessment scores and scores from other similar assessments (e.g., the state assessment system and NAEP, TIMSS, college-readiness assessments, NWEA). However, there are no similar Hawaiian language assessments by which to make these comparisons. Future studies are planned to examine concurrent/external validity by collecting information from teachers and students about achievement and factors related to achievement.

In order to generate information regarding validity related to external variables, correlations were generated between subscores in math and HLA and science. Disattenuated results are in Table 8.9. In general, the subscore correlations were lower than .80 math, HLA, and science (median value of the correlations across grades was .75) relative to the correlations seen between the math subscores and HLA subscores reported above (median values were approximately 1.0 for corrected correlations). There was a pattern of higher correlations between the HLA subscores and the math domain of "Communicating Reasoning" with correlations between .89 and 1.0. These higher correlations might be attributed to relationships between the two constructs; however, has identified the need to improve the reliability of C3 which might also improve the correlations across subscores (by reducing the impact of the disattenuation correction).

Table 8.9: Correlations between Mathematics, science and HLA Subscores (disattenuated)

		HLA				Math		
Grade	**Subscore**	**Ka Heluhelu**	**Ka Olelo**	**Ke Kekau**	**Ke Mele Oli**	**C1**	**C2_C4**	**C3**
3 HLA	**C1**	0.88	0.76	0.82	0.78	--	--	--
	C2_C4	0.90	0.75	0.87	0.78	--	--	--
	C3	0.74	0.62	0.79	0.74	--	--	--
4 HLA	**C1**	0.80	0.77	0.79	0.64	--	--	--
	C2_C4	0.82	0.81	0.77	0.77	--	--	--
	C3	0.92	0.96	0.94	0.81	--	--	--
4 Science	**Luna**	0.62	0.51	0.59	0.71	0.64	0.70	0.63
	Lalo	0.71	0.60	0.67	0.79	0.73	0.76	0.75
5 HLA	**C1**	0.80	0.80	0.82	0.72	--	--	--
	C2_C4	0.88	0.83	0.83	0.79	--	--	--
	C3	0.80	0.81	0.74	0.66	--	--	--
6 HLA	**C1**	0.75	0.64	0.70	0.79	--	--	--

	C2_C4	0.77	0.60	0.77	0.71	--	--	--
	C3	0.97	0.89	0.91	0.96	--	--	--
7 HLA	**C1**	0.75	0.64	0.84	0.82	--	--	--
	C2_C4	0.83	0.67	0.89	0.63	--	--	--
	C3	0.94	0.90	1.09	1.01	--	--	--
8 HLA	**C1**	0.75	0.52	0.81	0.77	--	--	--
	C2_C4	0.77	0.59	0.93	0.83	--	--	--
	C3	0.77	0.54	0.78	0.97	--	--	--
8 Science	**Halawai**	0.42	0.34	0.41	0.60	0.39	0.58	0.41
	Luna	0.42	0.28	0.38	0.48	0.30	0.48	0.30
	Lalo	0.57	0.40	0.49	0.72	0.36	0.69	0.47

Table 8.10: Correlations between Mathematics , science and HLA Subscores (observed)

		HLA				Math		
Grade	**Subscore**	**Ka Heluhelu**	**Ka Olelo**	**Ke Kekau**	**Ke Mele Oli**	**C1**	**C2_C4**	**C3**
3 HLA	**C1**	0.62	0.56	0.59	0.57	--	--	--
	C2_C4	0.62	0.55	0.61	0.56	--	--	--
	C3	0.41	0.36	0.45	0.43	--	--	--
4 HLA	**C1**	0.62	0.55	0.58	0.48	--	--	--
	C2_C4	0.56	0.51	0.50	0.50	--	--	--
	C3	0.58	0.56	0.56	0.49	--	--	--
4 Science	**Luna**	0.71	0.64	0.70	0.63	0.62	0.51	0.59
	Lalo	0.79	0.73	0.76	0.75	0.71	0.60	0.67
5 HLA	**C1**	0.62	0.52	0.56	0.45	--	--	--
	C2_C4	0.62	0.49	0.51	0.45	--	--	--
	C3	0.47	0.40	0.38	0.32	--	--	--
6 HLA	**C1**	0.54	0.37	0.52	0.44	--	--	--
	C2_C4	0.54	0.34	0.55	0.38	--	--	--
	C3	0.64	0.47	0.62	0.49	--	--	--
7 HLA	**C1**	0.46	0.32	0.52	0.38	--	--	--
	C2_C4	0.55	0.36	0.59	0.31	--	--	--
	C3	0.45	0.35	0.53	0.36	--	--	--
8 HLA	**C1**	0.55	0.33	0.55	0.41	--	--	--
	C2_C4	0.42	0.27	0.47	0.33	--	--	--
	C3	0.51	0.31	0.47	0.47	--	--	--
8 Science	**Halawai**	0.60	0.39	0.58	0.41	0.42	0.42	0.57
	Luna	0.48	0.30	0.48	0.30	0.34	0.28	0.40
	Lalo	0.72	0.36	0.69	0.47	0.41	0.38	0.49

Finally, the team matched the students' scores for the two cohorts for which there were data. Cohort 1 included students in grade 3 in 2017, grade 4 in 2018 and grade 5 in 2019. Cohort 2 included students in grade 3 in 2018 and grade 4 in 2019. Correlations were generated to examine the relationships between their scores (Table 8.11). The correlations tended to be highest between the scores within a content area (e.g., between HLA tests) and between HLA and science (.72 to .87). Scores between math and HLA were generally lower especially across grade levels (.58 to .74).

Table 8.11: Correlations between students' scores across years

Grade/ Content	GR3 HLA	GR3 MA	GR4 HLA	GR4 MA	GR4 SC	GR5 HLA	GR5 MA
2017 GR3 HLA	--	0.75	0.77	0.62	0.76	0.71	0.60
2017 GR3 MA	--	--	0.74	0.77	0.75	0.65	0.69
2018 GR4 HLA	--	--	--	0.74	0.84	0.79	0.63
2018 GR4 MA	--	--	--	--	0.73	0.65	0.75
2018 GR4 SC	--	--	--	--	--	0.77	0.65
2019 GR5 HLA	--	--	--	--	--	--	0.67
2019 GR5 MA	--	--	--	--	--	--	--
Grade/ Content	GR3 HLA	GR3 MA	GR4 HLA	GR4 MA	GR4 SC		
2018 GR3 HLA	--	0.67	0.76	0.69	0.72	--	--
2018 GR3 MA	--	--	0.56	0.74	0.58	--	--
2019 GR4 HLA	--	--	--	0.74	0.87	--	--
2019 GR4 MA	--	--	--	--	0.78	--	--
2019 GR4 SC	--	--	--	--	--	--	--

Chapter 9: Reliability

Reliability and precision of assessment scores are a critical consideration of any testing program. The Standards for Educational and Psychological Testing defines this as the degree to which students' scores would be the same across multiple administrations of the same assessment (AERA/APA/NCME, 2014). Building evidence in support of reliability includes evaluating reliability statistics, generating estimates of classification consistency and accuracy, and examining the scoring processes to ensure consistency and accuracy of the scores provided.

The testing program analyzed operational test data for accuracy and reliability per AERA/APA/NCME (2014):

> **Standard 2.0** Appropriate evidence of reliability/precision should be provided for the interpretation for each intended score use.

This standard explicitly states that the reliability of the test should align with the uses of the test scores. As such, assessments with outcomes that are associated with high stakes decisions should demonstrate higher reliability. One of the purposes of the Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) is that the results be used for accountability and therefore analyses were conducted to demonstrate reliability in several ways.

Classical Test Theory Statistics

The first reliability analyses focused on Classical Test Theory (CTT) methods. These analyses included generating item p-values, point biserial correlations, and alpha if item removed (how the alpha values would change if the item was removed from the test) statistics for all items on each test. Item statistics showed that the items were functioning in a consistent manner to support the overall test reliability. Test level statistics were also computed for each test, including mean p-values, alpha coefficients, and mean scores (Table 9.1). Alpha values ranged from .7 to .9 and mean p-values ranged from .2-.5. These values indicate that each test has good internal reliability but also that these tests tended to be slightly difficult for students.

In addition, the average raw score SEM was calculated using the formula (where σ_X is the raw test score standard deviation and ρ_{XX} is the reliability):

$$\sigma_E = \sigma_X \sqrt{1-\rho_{XX}}$$

Table 9.1: Overall Reliability by Test

	N valid	Number of Items	Number of Points Possible	Mean Raw Score	Stand Dev	Mean p-values	Alpha in 2019	SEM
Mathematics								
3rd grade	345	55	58	21.87	7.97	0.38	0.86	2.98
4th grade	227	56	61	23.11	8.45	0.38	0.84	3.38
5th grade	278	57	65	19.63	8.52	0.30	0.83	3.51
6th grade	238	57	72	19.18	9.13	0.27	0.82	3.87
7th grade	189	58	66	12.87	5.58	0.20	0.70	3.06
8th grade	135	56	63	13.47	6.68	0.21	0.78	3.13
Hawaiian Language Arts								
3rd grade	344	55	64	26.23	10.81	0.41	0.90	3.42
4th grade	227	58	67	33.12	12.02	0.49	0.90	3.80
5th grade	280	57	68	27.67	11.99	0.41	0.90	3.79
6th grade	239	58	76	30.97	12.39	0.41	0.89	4.11
7th grade	189	57	77	24.34	10.4	0.32	0.86	3.89
8th grade	135	55	72	26.47	11.45	0.37	0.88	3.97
Science								
4th grade	226	40	49	22.9	10.86	0.47	0.92	3.07
8th grade	133	58	66	14.23	7.33	0.22	0.79	3.36

The reliability analyses also provide information on the degree to which the assessments were reliable for demographic subgroups. Cronbach alpha statistics and SEMs were calculated for each subgroup that showed consistency in reliability across the subgroups (Tables 9.2), with reliability generally ranging from .8-.9 which was similar to the overall assessments. The only lower reliabilities were observed for students with IEPs in grades 4, 6, and 7 (.58, .61, and .35 respectively) and boys in grade 7 math (.61). These values will be monitored in future administrations. In addition, grade 7 math will be the focus of the 2019 cognitive interviews. Students with and without IEPs will be included in the cognitive interviews, with the goal of understanding how students are interpreting the items. These data will inform item writing.

Table 9.2: Overall Reliability by Subgroup for HLA

GR3

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	French	1	–	–	–	–
	English	312	25.60	10.70	0.89	8.37
	Hawaiian	27	29.30	12.46	0.91	8.64
	Japanese	2	–	–	–	–

	Portuguese	2	–	–	–	–
IEP	N	335	26.21	10.87	0.89	8.50
	Y	9	–	–	–	–
Plan504	N	337	26.30	10.87	0.89	8.55
	Y	7	–	–	–	–
Lunch	N	151	27.77	11.43	0.90	8.66
	FRL	193	24.74	10.33	0.88	8.44
Migrant	N	342	26.11	10.92	0.90	8.44
	Y	2				
Gender	F	192	28.05	10.60	0.89	9.30
	M	152	23.57	10.83	0.90	7.61
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Asian	2	–	–	–	–
	Black	1	–	–	–	–
	Hispanic	75	26.44	11.20	0.90	8.33
	Mult	42	30.67	11.47	0.90	9.83
	Pac. Isl.	217	24.80	10.62	0.89	8.17
	White	6	–	–	–	–

GR4

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	198	32.59	12.24	0.90	10.09
	Hawaiian	28	32.71	12.43	0.90	10.33
	Samoan	1	–	–	–	–
IEP	N	210	33.81	11.65	0.89	10.97
	Y	17	18.18	9.92	0.89	6.07
Plan504	N	224	32.73	12.26	0.90	10.15
	Y	3	–	–	–	–
Lunch	N	89	36.98	11.86	0.89	12.12
	FRL	138	29.85	11.66	0.90	9.61
Migrant	N	223	32.82	12.23	0.90	10.20
	Y	4	–	–	–	–
Gender	F	130	34.56	12.53	0.91	10.59
	M	97	30.07	11.36	0.89	9.89
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Hispanic	46	33.26	13.91	0.93	8.93
	Mult	22	33.95	10.31	0.87	12.44
	Pac. Isl.	154	32.21	11.94	0.90	10.29
	White	4	–	–	–	–

GR5

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	259	27.47	11.97	0.89	8.97
	Hawaiian	20	27.25	13.37	0.92	7.52
	Spanish	1	–	–	–	–
IEP	N	271	27.76	12.07	0.90	8.98
	Y	9	–	–	–	–

Plan504	N	273	27.59	12.16	0.90	8.89
	Y	7	–	–	–	–
Lunch	N	128	30.01	12.48	0.90	9.56
	FRL	152	25.20	11.30	0.88	8.58
Migrant	N	273	27.21	11.95	0.89	8.88
	Y	7	–	–	–	–
Gender	F	135	30.07	12.29	0.89	9.90
	M	145	24.90	11.36	0.89	8.16
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Asian	4	–	–	–	–
	Hispanic	57	25.60	11.87	0.89	8.48
	Mult.	24	29.08	13.45	0.91	8.50
	Pac. Isl.	191	27.69	11.94	0.89	9.01
	White	3	–	–	–	–

GR6

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	211	30.54	12.51	0.89	10.27
	Hawaiian	28	31.71	13.09	0.89	10.59
IEP	N	229	31.20	12.49	0.88	10.59
	Y	10	18.70	6.99	0.72	9.88
Plan504	N	235	30.86	12.47	0.89	10.46
	Y	4	–	–	–	–
Lunch	N	103	31.66	12.94	0.89	10.47
	FRL	136	29.93	12.25	0.88	10.24
Migrant	N	234	30.88	12.55	0.89	10.41
	Y	5	–	–	–	–
Gender	F	129	33.31	12.99	0.89	10.84
	M	110	27.59	11.33	0.86	10.15
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Asian	3	–	–	–	–
	Hispanic	46	33.20	12.39	0.88	11.43
	Mult	23	34.13	11.43	0.87	12.32
	Pac. Isl.	163	29.15	12.51	0.89	9.76
	White	3	–	–	–	–

GR7

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	152	23.63	10.61	0.86	8.80
	Hawaiian	37	25.92	11.12	0.87	9.25
IEP	N	177	24.67	10.69	0.86	9.12
	Y	12	15.33	6.85	0.76	7.54
Plan504	N	182	24.44	10.73	0.86	9.04
	Y	7	–	–	–	–
Lunch	N	76	26.16	10.36	0.86	9.92

	FRL	113	22.67	10.77	0.87	8.31
Migrant	N	186	24.25	10.65	0.86	9.03
	Y	3	–	–	–	–
Gender	F	97	27.25	11.30	0.87	9.65
	M	92	20.73	8.98	0.82	8.75
Fed. Ethnicity	Asian	1	–	–	–	–
	Hispanic	33	21.97	9.16	0.82	9.44
	Mult	13	26.62	11.59	0.90	8.40
	Pac. Isl.	142	24.27	10.98	0.87	8.81

GR8

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	112	25.79	11.48	0.88	8.75
	Hawaiian	23	28.83	11.31	0.86	10.70
IEP	N	125	27.27	11.23	0.88	9.60
	Y	10	14.20	6.70	0.76	6.97
Plan504	N	134	26.34	11.51	0.88	9.04
	Y	1	–	–	–	–
Lunch	N	66	27.77	12.87	0.90	8.71
	FRL	69	24.90	9.84	0.85	9.62
Migrant	N	133	26.47	11.37	0.88	9.18
	Y	2	–	–	–	–
Gender	F	75	29.36	11.95	0.88	10.09
	M	60	22.48	9.65	0.85	8.58
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Hispanic	6	–	–	–	–
	Mult	2	–	–	–	–
	Pac. Isl.	122	26.39	11.75	0.89	8.94
	White	4	–	–	–	–

Table 9.3: Overall Reliability by Subgroup for Math

GR3

Category		n	Raw score mean	Raw score SD	Alpha	SEM
Lang. Back.	French	1	–	–	–	–
	English	313	21.76	7.88	0.85	8.36
	Hawaiian	27	20.81	8.11	0.85	8.02
	Japanese	2	–	–	–	–
	Portuguese	2	–	–	–	–
IEP	N	336	21.87	7.96	0.85	8.36
	Y	9	–	–	–	–
Plan504	N	338	21.90	8.04	0.86	8.29
	Y	7	–	–	–	–
Lunch	N	151	23.19	8.91	0.89	7.85

	FRL	194	20.74	7.05	0.81	9.04
Migrant	N	343	21.83	8.02	0.86	8.28
	Y	2	–	–	–	–
Gender	F	193	22.04	7.90	0.85	8.55
	M	152	21.51	8.14	0.86	7.95
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Asian	2	–	–	–	–
	Black	1	–	–	–	–
	Hispanic	75	22.52	7.80	0.85	8.84
	Mult	42	26.00	9.13	0.89	8.43
	Pac. Isl.	218	20.60	7.46	0.83	8.41
	White	6	–	–	–	–

GR4

Category		n	Raw score mean	Raw score SD	Alpha	SEM
Lang. Back.	English	198	22.97	8.43	0.84	9.13
	Hawaiian	28	24.11	8.03	0.82	10.19
	Samoan	1	–	–	–	–
IEP	N	210	23.65	8.35	0.84	9.49
	Y	17	16.35	4.87	0.58	10.61
Plan504	N	224	23.24	8.33	0.84	9.37
	Y	3	–	–	–	–
Lunch	N	89	26.06	8.67	0.85	10.13
	FRL	138	21.20	7.59	0.81	9.31
Migrant	N	223	23.21	8.40	0.84	9.27
	Y	4	–	–	–	–
Gender	F	130	23.56	8.69	0.85	9.02
	M	97	22.49	7.89	0.82	9.64
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Hispanic	46	22.46	8.53	0.85	8.81
	Mult	22	23.95	8.44	0.85	9.39
	Pac. Isl.	154	22.99	8.25	0.83	9.35
	White	4	–	–	–	–

GR5

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	257	19.60	8.59	0.83	8.07
	Hawaiian	20	20.50	7.54	0.77	9.86
	Spanish	1	–	–	–	–
IEP	N	269	19.85	8.55	0.83	8.28
	Y	9	–	–	–	–
Plan504	N	271	19.79	8.55	0.83	8.22
	Y	7	–	–	–	–
Lunch	N	128	21.36	9.24	0.85	8.38
	FRL	150	18.15	7.56	0.79	8.32
Migrant	N	271	19.69	8.57	0.83	8.16
	Y	7	–	–	–	–

Gender	F	135	19.73	8.23	0.81	8.66
	M	143	19.52	8.81	0.84	7.71
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Asian	4	–	–	–	–
	Hispanic	56	17.68	7.67	0.80	7.92
	Mult	23	22.65	9.82	0.86	8.57
	Pac. Isl.	191	19.68	8.42	0.82	8.29
	White	3	–	–	–	–

GR6

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	210	19.16	9.37	0.84	7.62
	Hawaiian	28	18.86	6.69	0.75	9.42
IEP	N	228	19.39	9.14	0.84	7.85
	Y	10	13.10	4.86	0.61	8.22
Plan504	N	234	19.26	9.05	0.83	7.87
	Y	4	–	–	–	–
Lunch	N	102	19.62	9.12	0.84	7.95
	FRL	136	18.76	9.08	0.84	7.61
Migrant	N	231	19.15	9.06	0.84	7.74
	Y	7	–	–	–	–
Gender	F	129	19.46	9.64	0.85	7.53
	M	109	18.73	8.41	0.81	8.06
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Asian	3	–	–	–	–
	Hispanic	46	20.83	9.88	0.84	8.23
	Mult	23	23.57	9.18	0.82	10.14
	Pac. Isl.	163	17.78	8.53	0.82	7.48
	White	2	–	–	–	–

GR7

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	153	12.53	5.54	0.70	6.88
	Hawaiian	36	14.36	5.94	0.73	7.51
IEP	N	178	13.11	5.69	0.71	7.09
	Y	11	9.09	3.30	0.35	7.31
Plan504	N	182	12.98	5.72	0.71	6.93
	Y	7	–	–	–	–
Lunch	N	77	13.62	5.92	0.74	6.97
	FRL	112	12.37	5.42	0.68	7.01
Migrant	N	186	12.93	5.68	0.71	6.97
	Y	3	–	–	–	–
Gender	F	96	13.66	6.34	0.76	6.71
	M	93	12.08	4.73	0.61	7.54

Fed. Ethnicity	Asian	1	–	–	–	–
	Hispanic	33	11.79	5.40	0.71	6.33
	Mult	13	13.69	7.38	0.82	5.74
	Pac. Isl.	142	13.06	5.56	0.69	7.27

GR8

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	112	13.61	6.94	0.81	5.87
	Hawaiian	23	12.78	5.33	0.67	7.37
IEP	N	125	13.81	6.80	0.80	6.15
	Y	10	9.20	2.35	.	
Plan504	N	134	13.47	6.70	0.80	6.07
	Y	1	–	–	–	–
Lunch	N	66	14.24	7.28	0.83	5.91
	FRL	69	12.72	6.01	0.75	6.34
Migrant	N	133	13.45	6.65	0.80	6.09
	Y	2	–	–	–	–
Gender	F	75	14.12	7.35	0.83	5.85
	M	60	12.65	5.68	0.73	6.61
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Hispanic	6	–	–	–	–
	Mult	2	–	–	–	–
	Pac. Isl.	122	13.47	6.79	0.80	5.98
	White	4	–	–	–	–

Table 9.4: Overall Reliability by Subgroup for Science

GR4

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	197	22.68	10.68	0.92	6.60
	Hawaiian	28	23.71	12.44	0.94	5.76
	Samoan	1	–	–	–	–
IEP	N	209	23.84	10.54	0.91	7.00
	Y	17	10.47	6.50	0.85	4.00
Plan504	N	223	22.93	10.88	0.92	6.52
	Y	3	–	–	–	–
Lunch	N	88	25.63	11.15	0.93	7.00
	FRL	138	21.06	10.35	0.91	6.32
Migrant	N	222	22.96	10.92	0.92	6.50
	Y	4	–	–	–	–
Gender	F	129	24.53	10.91	0.92	6.96
	M	97	20.58	10.46	0.91	6.01
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Hispanic	46	21.93	11.72	0.93	5.77

	Mult	22	23.55	9.96	0.91	7.00
	Pac. Isl.	153	22.92	10.76	0.92	6.60
	White	4	–	–	–	–

GR8

Category		n	Raw Score Mean	Raw Score SD	Alpha	SEM
Lang. Back.	English	110	14.25	7.51	0.81	6.17
	Hawaiian	23	14.13	6.56	0.75	7.11
IEP	N	124	14.77	7.25	0.79	6.74
	Y	9	–	–	–	–
Plan504	N	132	14.27	7.35	0.80	6.34
	Y	1	–	–	–	–
Lunch	N	66	15.02	8.01	0.83	6.25
	FRL	67	13.46	6.56	0.76	6.54
Migrant	N	131	14.26	7.37	0.80	6.30
	Y	2	–	–	–	–
Gender	F	73	15.70	7.60	0.80	7.05
	M	60	12.45	6.62	0.79	5.69
Fed. Ethnicity	AI/AN	1	–	–	–	–
	Hispanic	6	–	–	–	–
	Mult	2	–	–	–	–
	Pac. Isl.	120	14.43	7.46	0.81	6.33
	White	4	–	–	–	–

Statistics were also computed for all the subscales (Table 9.5). These alpha values generally ranged between .6 to .9, which exceeded the general guidance of .50 set for by the USDOE Institute for Education Sciences (WWC, 2017). The exceptions to this were the "Communicating Reasoning" subscore in 3rd, 5th, and 7th grade mathematics assessments; Olelo, and Mele Oli in 6th and 7th grade and Mele Oli in 8th grade; and Halawai and Luna in grade 8 science. The reason for these low values might be attributed to a small number of items (between 6 and 14) or to items that might be reducing reliability. The psychometric team identified items that could be removed in future administrations to improve reliability and will work with the UH team to add items to claims and domains.

Table 9.5: Reliability by Subscale

	# Points Possible	Scale Mean (SD)	Alpha
Mathematics			
3rd			
Concepts and Procedures	28	14.21 (4.38)	0.74
Problem Solving, Modelling/Data Analysis	16	5.24 (3.08)	0.71
Communicating Reasoning	12	2.42 (2.67)	0.46
4th			
Concepts and Procedures	27	10.85 (4.48)	0.76

Problem Solving, Modelling/Data Analysis	18	6.44 (2.72)	0.59
Communicating Reasoning	15	5.82 (2.58)	0.50
5th			
Concepts and Procedures	30	10.78 (4.52)	0.72
Problem Solving, Modelling/Data Analysis	20	5.15 (3.01)	0.60
Communicating Reasoning	15	3.70 (2.38)	0.42
6th			
Concepts and Procedures	27	8.29 (15.72)	0.70
Problem Solving, Modelling/Data Analysis	22	5.27 (2.88)	0.67
Communicating Reasoning	23	5.60 (3.62)	0.60
7th			
Concepts and Procedures	30	7.62 (3.28)	0.55
Problem Solving, Modelling/Data Analysis	21	3.79 (2.12)	0.63
Communicating Reasoning	15	1.47 (1.35)	0.33
8th			
Concepts and Procedures	28	6.97 (3.70)	0.67
Problem Solving, Modelling/Data Analysis	22	3.69 (2.14)	0.37
Communicating Reasoning	13	2.81 (1.95)	0.54
Hawaiian Language Arts			
3rd grade			
Ka Heluhelu	20	8.02 (3.32)	0.67
Ka Olelo	11	5.75 (2.71)	0.75
Ke Kekau	22	7.00 (3.92)	0.70
Ke Mele Oli	11	5.34 (7.00)	0.73
4th grade			
Ka Heluhelu	27	11.75 (5.49)	0.80
Ka Olelo	8	5.04 (1.88)	0.67
Ke Kekau	23	9.73 (4.31)	0.72
Ke Mele Oli	9	6.33 (2.18)	0.73
5th			
Ka Heluhelu	25	9.23 (5.42)	0.83
Ka Olelo	9	4.62 (2.00)	0.60
Ke Kekau	25	9.38 (4.18)	0.63
Ke Mele Oli	9	4.28 (1.95)	0.55
6th			
Ka Heluhelu	27	8.97 (4.24)	0.73
Ka Olelo	7	4.22 (1.54)	0.47
Ke Kekau	33	13.56 (6.44)	0.78
Ke Mele Oli	9	4.05 (2.00)	0.44

7th			
Ka Heluhelu	31	10.46 (4.99)	0.70
Ka Olelo	7	2.53 (1.56)	0.47
Ke Kekau	30	6.89 (4.13)	0.71
Ke Mele Oli	9	4.38 (1.89)	0.38
8th			
Ka Heluhelu	28	8.68 (5.14)	0.80
Ka Olelo	6	4.44 (1.55)	0.59
Ke Kekau	32	10.11 (5.24)	0.69
Ke Mele Oli	6	3.10 (1.25)	0.43
Science			
4th			
He Lani Ko Luna	13	5.38 (2.97)	0.72
He Honua Ko Lalo	36	17.52 (8.30)	0.90
8th			
Halawai	13	2.85 (1.97)	0.38
He Lani Ko Luna	14	1.47 (1.15)	0.22
He Honua Ko Lalo	39	9.91 (5.23)	0.73

Rasch Statistics

The psychometric team also considered the reliability of the assessments using the Rasch data. The Rasch modeling statistic called the separation index provides reliability information in standard error units. If the instrument has good person separation (i.e., above a 2.0), then it is highly likely the instrument is sufficiently sensitive to differentiate students (Linacre, 2012). For these assessments, person separation ranged from 1.32 to 3.23 (Table 9.6), suggesting that in general, the assessments are reliably measuring student ability. However, there are 4 assessments that the UH content development team will focus on building assessment items to improve separation (mathematics in grades 5, 7, and 9 and grade 8 science). The content development team has been successful in improving separation indices for these grade levels which increased notably from the 2018 field test (on average separation statistics improved by .3 across the grades 5-8 assessments). In addition, the assessments' alpha values range between .63 and .91 and in general exceeded the criteria of .8 (Linacre, 2012). With the exception of the four tests noted above, these statistics indicate good overall test reliability.

In addition, researchers examined the item summary statistics, which provide an indication that there was a sufficient range of item difficulties. Item reliability statistics were between .93 and .99 with separation values between 3.67 and 9.57 (Table 9.6). General criteria suggest that item reliability values below .9 and separation values below 3 might be indicative of the sample size being too small to confirm item difficulties. Good separation indicates that there are sufficient items and students to confirm the Rasch model. The current assessments exceeded these criteria which was crucial because of the small population of students (**Appendix D**).

Table 9.6: Rasch Reliability Statistics

Grade/Content	Person Separation	Person Reliability	Item Separation	Item Reliability
Criteria	Above 2	Above .8	Above 3	Above .9
Math				
3rd grade	2.29	0.84	9.57	0.99
4th grade	2.19	0.83	6.03	0.97
5th grade	1.89	0.78	5.67	0.97
6th grade	2.02	0.80	5.19	0.96
7th grade	1.32	0.63	4.20	0.95
8th grade	1.61	0.72	3.55	0.93
HLA				
3rd grade	2.84	0.89	8.54	0.99
4th grade	3.04	0.90	6.40	0.98
5th grade	2.93	0.90	7.21	0.98
6th grade	2.92	0.89	7.62	0.98
7th grade	2.50	0.86	6.05	0.97
8th grade	2.81	0.89	5.59	0.97
Science				
4th grade	3.23	0.91	6.35	0.98
8th grade	1.79	0.76	3.67	0.93

Precision of Student Performance Score

These analyses examine the degree to which the assessment provides an adequate estimate of student achievement for the range of students taking the test (e.g., high achieving, low achieving). This includes examining the test information function (TIF) which provides important test information associated with students' scores, and the conditional standard error of measurement (CSEM) across students' scores.

Standard Errors

All tests have some degree of error which results in students scoring higher or lower than their "true ability." This error can result from numerous factors such as a student feeling ill on the test day or misunderstanding a test item. These factors are generally termed "measurement error." Tests should have low overall measurement error in order to generate accurate and reliable estimates of student ability. Researchers generated standard error of measurement (SEM) statistics associated with each scale score point (**Appendix G**). These values inform the team about the accuracy of the scale scores. For example, smaller standard errors would be expected at the middle of the distribution with higher values at the extremes. The SEM values

provide an indication of how accurate the student's score is in relationship to his/her ability. An SEM value of 1 at a score of 50 would indicate that we are 68% sure that the student's true ability is between 49 and 51. This is of particular importance when applying cut scores, such as when we are assessing a student to be 'proficient.'

The importance of SEMs is that they should be lower at key points across the distribution of scores. This means that a criterion-referenced testing program should typically have smaller SEMs around the cut scores. For the 2019 assessment, the SEMs ranged from 13 to 29 (see Table 9.7).

Table 9.7: Standard Errors at the Cut Points

Subject	Grade	Level 2 (SE)	Level 3 (SE)	Level 4 (SE)
Math	Grade 3	474 (14)	513 (13)	546 (13)
	Grade 4	487 (20)	535 (20)	557 (20)
	Grade 5	486 (23)	533 (20)	558 (19)
	Grade 6	478 (22)	537 (18)	574 (17)
	Grade 7	489 (29)	533 (26)	558 (25)
	Grade 8	488 (26)	527 (23)	555 (21)
HLA	Grade 3	494 (15)	531 (14)	641 (20)
	Grade 4	499 (15)	520 (15)	577 (16)
	Grade 5	486 (15)	509 (14)	551 (14)
	Grade 6	488 (14)	510 (14)	559 (15)
	Grade 7	484 (17)	515 (16)	560 (15)
	Grade 8	495 (15)	521 (14)	533 (13)
Science	Grade 4	480 (15)	519 (14)	562 (15)
	Grade 8	498 (22)	527 (20)	555 (18)

Test Information Function (TIF)

Upon completion of standards setting, the research team generated Test Information Functions (TIF). These analyses provide data about the information provided by the test across the range of scores (i.e., measure). The important considerations when examining TIF results are not necessarily the values but the shape of the distribution, in that each curve should peak at key points in the distribution (Linacre, 2012). In this case, the peaks should be approximately at the point where the proficiency cut score is located. The TIF graphs show that for each of the four tests, the peak is approximately located at the cut score between level 2 and 3 (i.e., proficiency) (**Appendix I: Test Information Function Graphs**).

In addition, researchers examined the items to ensure they addressed a continuum across the range of student ability. Item difficulty was examined across the range of student ability by reviewing the histograms produced by Winsteps. These show the alignment of the difficulty of items across levels of student ability. The

histograms show that the assessment is slightly difficult relative to students' scores, but there is a range of difficulty in items with no apparent gaps in item difficulty (**Appendix E**). In other words, items are sufficiently spread across the achievement continuum in terms of difficulty.

Classification Consistency and Classification Accuracy

Overview

Student scores from educational assessments are estimates of student ability in the measured domain. These estimates include some random variations, referred to as measure error. Measurement error can lead to errors when student scores are used to classify students into performance levels. For example, a student's true ability may be such that he or she belongs in the Kelakela performance level, but due to measurement error, his or her test score may be below the minimum score needed to be classified as Kelakela. As a result, the student is classified into a lower performance level.

Two measures are commonly used to assess the degree to which measurement error influences student classifications into performance levels. Classification consistency is a measure of how consistently students are classified into performance levels from two independent administrations of the same test or from two parallel forms. Classification accuracy is a measure of agreement between the classification based on students' true scores (a theoretical score without measurement error) and the classification based on students' observed scores (the score on the test).

Repeated administrations of the same test or administration of parallel forms are costly and burdensome. Classification consistency, therefore, is typically estimated from a single administration of a test. Similarly, a student's true score is unobservable, so classification accuracy is also estimated from a single administration of a test.

Analysis examined consistency and accuracy for the four KĀ‘EO performance levels Ho‘omaka, Holomua, Mākaukau, Kelakela and for a dichotomous split between Holomua and Mākaukau. The 2019 operational KĀ‘EO assessments included the following numbers of students.

Table 9.8: Numbers of students assessed by grade level

Grade Level	Number of Students Tested
Grade 3	345
Grade 4	227
Grade 5	280
Grade 6	239
Grade 7	189
Grade 8	135

Method

Classification consistency and classification accuracy were estimated for all grade levels and content areas for the 2019 operational KĀʻEO assessments using the BB-CLASS computer software (Brennan, 2004). Estimates for consistency and accuracy were estimated using the Livingston and Lewis (1995) procedures in BB-CLASS, because the assessments included polytomous items. Classification consistency and classification accuracy were estimated using the four-parameter beta distribution, because Livingston and Lewis (1995) focused their procedure on this distribution.

For each student, BB-CLASS calculates the expected score based on the analytic model. Across the entire sample, expected scores are compared to actual scores in a cross-classification table. Students whose expected and actual performance levels agree are considered accurately classified. With four performance levels, this means that the analysis fills in a 4 by 4 matrix of expected and actual scores (see Table 1 as an example).

Table 9.9: Example of cross-classification table using four performance levels

	Expected Kelakela	Expected Mākaukau	Expected Holomua	Expected Hoʻomaka
Actual Kelakela	Accurate			
Actual Mākaukau		Accurate		
Actual Holomua			Accurate	
Actual Hoʻomaka				Accurate

From the cross-classification table, BB-CLASS calculates the following indexes of consistency: proportion of consistent decisions, chance proportion of consistent decisions (the proportion of consistent decisions that can be expected to occur by chance), kappa (an index of agreement), and the probability of misclassification. For classification accuracy, BB-CLASS provides the following indices: the probability of correct classification, the false positive rate (the percentage of students classified in a performance level higher than expected by their true score), and the false negative rate (the percentage of students classified in a performance level lower than expected by their true score). For ease of interpretation, proportions and probabilities are converted to percentages in the tables below. BB-CLASS also provides two checks that the analytic procedure is functioning. Chi-square values are used to evaluate model fit.

Results

All the analyses ran well and checks of function and fit were well within expected values (Table 9.10). The sum of bivariate probabilities should be 1.00 or very close to 1.00. The chi-square values should not be overly large relative to their degrees of freedom (df). These values are the same for the analysis of four performance levels and the analysis of the proficient/non-proficient split.

Table 9.10: Checks of Functioning and Fit with four performance levels

Test	Sum of bivariate probabilities	Likelihood Ratio Chi-Square (df)	Pearson Chi-Square (df)
Grade 3 Hawaiian Language Arts	1	103.53 (65)	111.20 (65)
Grade 3 Math	1	181.05 (67)	180.69 (67)
Grade 4 Hawaiian Language Arts	1	114.31 (72)	144.14 (72)
Grade 4 Math	1	213.46 (81)	985.34 (81)
Grade 4 Science	1	47.76 (43)	45.64 (43)
Grade 5 Hawaiian Language Arts	1	54.64 (65)	51.10 (65)
Grade 5 Math	1	78.63 (65)	67.68 (65)
Grade 6 Hawaiian Language Arts	1	70.98 (70)	62.55 (70)
Grade 6 Math	1	47.12 (63)	48.69 (63)
Grade 7 Hawaiian Language Arts	1	40.70 (73)	49.27 (73)
Grade 7 Math	1	54.17 (65)	42.60 (65)
Grade 8 Hawaiian Language Arts	1	51.41 (67)	74.88 (67)
Grade 8 Math	1	66.69 (65)	67.38 (65)
Grade 8 Science	1	51.19 (61)	51.67 (61)

Note. df = degrees of freedom

For analysis on four performance levels, classification consistency and accuracy results were reasonable given the small sample size and the number of cells within the cross-classification matrix (Table 9.11 and Table 9.12). The proportion of consistent decisions ranged from 53.10% for grade 7 mathematics to 76.95% for grade 3 Hawaiian Language Arts (HLA). Quite consistently, the proportion of consistent decisions was higher for HLA than for mathematics. And generally, the proportion of consistent decisions was higher in the lower grade levels. The same was true for the probability of misclassification. Kappa values ranged from .2739 for grade 7 mathematics to .6317 for grade 3 HLA.

The results for classification accuracy mirrored those for consistency. The ranged from for grade 7 mathematics had the lowest probability of correct classification (63.10%) and grade 3 HLA had the highest (83.28%). The same was true for the false positive rate: grade 7 mathematics was 28.35%, and grade 3 HLA was 8.86%. The lowest false negative rate was for grade 3 HLA (7.86%), but the highest was for grade 8 HLA (13.27%). In general, correct classification and false positive rates were better for HLA than for mathematics, but the false negative rates tended to be better for mathematics than for HLA.

Table 9.11: Classification Consistency Results for four performance levels

Test	Proportion of consistent decisions	Chance proportion of consistent decisions	Kappa	Probability of misclassification
Grade 3 HLA	76.95%	37.40%	0.6317	23.06%

Grade 3 Math	61.48%	30.89%	0.4426	38.52%
Grade 4 HLA	71.40%	31.21%	0.5843	28.60%
Grade 4 Math	66.21%	30.06%	0.5169	33.79%
Grade 4 Science	67.18%	26.10%	0.5559	32.82%
Grade 5 HLA	67.81%	28.24%	0.5514	32.19%
Grade 5 Math	61.55%	33.25%	0.424	38.45%
Grade 6 HLA	67.33%	29.71%	0.5352	32.67%
Grade 6 Math	62.76%	32.64%	0.4472	37.24%
Grade 7 HLA	61.83%	28.01%	0.4698	38.17%
Grade 7 Math	53.10%	35.41%	0.2739	46.90%
Grade 8 HLA	63.05%	29.20%	0.4781	36.95%
Grade 8 Math	57.45%	33.67%	0.3586	42.55%
Grade 8 Science	61.81%	32.42%	0.4349	38.19%

Table 9.12: Classification Accuracy Results for four performance levels

Test	Probability of correct classification	False positive rate	False negative rate
Grade 3 Hawaiian Language Arts	83.28%	8.86%	7.86%
Grade 3 Math	71.84%	16.20%	11.96%
Grade 4 Hawaiian Language Arts	78.62%	11.21%	10.17%
Grade 4 Math	74.66%	13.93%	11.41%
Grade 4 Science	76.04%	12.45%	11.51%
Grade 5 Hawaiian Language Arts	75.87%	12.52%	11.62%
Grade 5 Math	71.27%	18.92%	9.81%
Grade 6 Hawaiian Language Arts	75.17%	13.05%	11.77%
Grade 6 Math	73.03%	15.87%	11.10%
Grade 7 Hawaiian Language Arts	71.37%	15.88%	12.75%
Grade 7 Math	63.01%	28.35%	8.64%
Grade 8 Hawaiian Language Arts	70.85%	15.88%	13.27%
Grade 8 Math	66.99%	22.31%	10.71%
Grade 8 Science	70.26%	17.24%	12.50%

Analyses were also conducted to estimate classification consistency and accuracy using a proficient/non-proficient split (Table 9.13 and Table 9.14). This split was between the Mākaukau and the Ho‘omaka performance levels. As expected, consistency and accuracy were much higher than those for the classification into four categories.

In terms of consistency, the proportion of consistent decisions ranged from 85.28% for grade 7 HLA to 90.70% for grade 5 mathematics. Probability of misclassification was lowest for grade 5 mathematics (9.30%) and highest for grade 7 HLA (14.72%). Across the tests, results for consistency were mixed but the mathematics tests tended to be slightly more consistent than the HLA tests when classifying students as either proficient or not proficient.

Results for accuracy were also somewhat mixed across all 14 tests, but as with consistency, the mathematics tended to be slightly more accurate than the HLA tests when classifying students as either proficient or not proficient. The probability of correct classification was lowest for grade 7 HLA (89.51%) and highest for grade 5 math (93.48%). The false positive rate ranged from 3.82% for Grade 5 mathematics to 6.02% for grade 3 mathematics. The false negative rate was lowest for grade 7 mathematics (2.56%) and highest for grade 6 HLA (4.87%).

Table 9.13: Classification Consistency Results for a proficient/non-proficient split

Test	Proportion of consistent decisions	Chance proportion of consistent decisions	Kappa	Probability of misclassification
Grade 3 HLA	89.64%	62.21%	0.7259	10.36%
Grade 3 Math	86.32%	58.66%	0.669	13.69%
Grade 4 HLA	87.76%	50.10%	0.7548	12.24%
Grade 4 Math	87.64%	60.00%	0.6911	12.36%
Grade 4 Science	87.62%	50.41%	0.7504	12.38%
Grade 5 HLA	87.71%	50.91%	0.7496	12.29%
Grade 5 Math	90.70%	65.00%	0.7344	9.30%
Grade 6 HLA	86.25%	51.85%	0.7144	13.75%
Grade 6 Math	89.73%	64.97%	0.7069	10.27%
Grade 7 HLA	85.28%	53.98%	0.6801	14.72%
Grade 7 Math	87.75%	66.15%	0.6381	12.25%
Grade 8 HLA	86.56%	55.61%	0.6973	13.44%
Grade 8 Math	88.11%	65.39%	0.6564	11.89%
Grade 8 Science	86.46%	58.82%	0.6711	13.54%

Table 9.14: Classification Accuracy Results for a proficient/non-proficient split

Test	Probability of correct classification	False positive rate	False negative rate
Grade 3 Hawaiian Language Arts	92.66%	4.06%	3.29%
Grade 3 Math	90.23%	6.02%	3.75%

Grade 4 Hawaiian Language Arts	91.30%	4.59%	4.11%
Grade 4 Math	91.21%	5.12%	3.67%
Grade 4 Science	91.20%	4.46%	4.34%
Grade 5 Hawaiian Language Arts	91.27%	4.41%	4.31%
Grade 5 Math	93.48%	3.82%	2.70%
Grade 6 Hawaiian Language Arts	90.21%	4.92%	4.87%
Grade 6 Math	92.75%	4.04%	3.21%
Grade 7 Hawaiian Language Arts	89.51%	5.82%	4.67%
Grade 7 Math	91.94%	5.51%	2.56%
Grade 8 Hawaiian Language Arts	90.43%	5.32%	4.26%
Grade 8 Math	91.76%	5.06%	3.18%
Grade 8 Science	90.38%	5.54%	4.08%

Conclusions

In general, the classification consistency and accuracy of the KĀ‘EO was reasonable and as expected given the number of performance levels and sample size. Classification accuracy was good for the proficient/non-proficient split. All but one test had a probability of correct classification above 90%, and no test had a false negative rate over 5%.

Chapter 10: Fairness

Tests that impinge on the rights and life chances of individuals are inherently disputable. (Cronbach, 1988, p. 6).

Fairness and Accessibility

Fairness and accessibility of the assessment are a critical consideration of any testing program. The Standards for Educational and Psychological Testing emphasize the importance of tests minimizing construct irrelevant variance for all groups of students to allow for valid interpretations to be made from the test scores (AERA/APA/NCME, 2014). Building evidence in support of fairness includes statistical analysis of item functioning for different groups of students (e.g., Differential Item Functioning) and understanding how students are thinking about the items (e.g., cognitive interviews).

The testing program analyzed operational test data fairness as defined by AERA/APA/NCME (2014):

> **Standard 3.0** All steps in the testing process, including test design, validation, development, administration, and scoring procedures, should be designed in such a manner as to minimize construct-irrelevant variance and to promote valid score interpretations for the intended uses for all examinees in the intended population (p. 63).

For the Kaiapuni Assessment of Educational Outcomes (KĀ‘EO), fairness and accessibility were an integral part of the development process. An important factor for this assessment was language. Language is the marker of identity, and has a vision of the past, present and future: "Language not only transmits visions of the past but also expressions of social relationships, individual friendships as well as community knowledge, a wealth of organizing experiences, rules about social relationships plus ideas about art, craft, science, poetry, song, life, death and language itself." (Baker, 2011, p.45) Learning what Skutnabb-Kangas (2009) terms a mother-tongue language, such as the Hawaiian language, is an act of reconnecting with ancestors, understanding one's current place in the world as indigenous peoples, and imagining the future of our language, culture, and community through a Hawaiian-language lens. These benefits and rights have been confirmed by the United Nations Declaration on the Rights of Indigenous Peoples (2008).

The language diversity of the Kaiapuni students represents a range based on their home language and time of entry into the Kaiapuni system. However, all students in 3rd and 4th grade are educated exclusively in Hawaiian. The language acquisition of emerging bilingual students presents a challenge to test development but also an opportunity to explore ways to more appropriately engage and assess students. Research has shown that emerging bilinguals possess "cognitive and linguistic practices that differ from monolinguals" (Menken, Hudson, & Leung, 2014, p. 602) and that these traits and differences should be examined and evaluated independently in order to best understand their unique characteristics (Menken, et al., 2014; Mislevy & Duran, 2014). Further, Solano-Flores & Trumbull (2003) state that these specific and unique mental

processes of bilingual students should be a foremost concern in test development to ensure students are interpreting the items as intended. In addition, research suggests that myriad problems can arise when students are taught in one academic language and tested in another. Therefore, a correspondence should exist between the language of assessment and the language of instruction (Abedi et al., 2004; Keiffer et al., 2009).

Accessibility for students with disabilities as well as students with a variety of Hawaiian language fluency is also a key factor in the development of the KĀ‘EO. Assessment programs can often include items that are composed of complicated text and syntax. Through language and sentence modification, the assessment content can be made more accessible to students (Abedi, Hofstetter, & Lord, 2004). For example, research shows specific language modifications, such as reducing low frequency vocabulary and the use of the passive voice can improve scores for low and average ELL students (Abedi, Hofstetter, & Lord, 2004; Cavanaugh, 2008). This is one of the more effective modifications for emerging bilingual students. There is also little evidence that simplifying or modifying assessment language was a threat to validity (Keiffer et al., 2009). It is important to identify factors that may threaten validity, including students' level of language proficiency, differences in dialect, and differences in the school location if there are geographic differences based on the island.

In addition, it is imperative that students with disabilities have opportunities to fully participate in the assessment. The KĀ‘EO specifies accommodations for students with disabilities that mirror those used by the HIDOE for their statewide assessment programs. Students with a range of disabilities were considered when developing research focused on fairness and accessibility. Fairness and accessibility are monitored by the assessment program in several ways:

- Documentation of item writing and review: The KĀ‘EO development included training in how to evaluate items for potential bias in order to explicitly support and guide educators who wrote and reviewed items. "Teachers can bring important information to the table concerning items and identifying potential sources of cultural and linguistic bias" (Trumbull & Solano Flores, 2011). This is most effective when teachers are trained specifically on what to look for with regard to bias, students with disabilities, and language. These aspects were included in item writing and review training. The training will continue to be revised as we understand more about the items through the validity studies (e.g., cognitive interview, alignment studies).

- Cognitive Interviews: Items are included on an ongoing basis in the assessment programs' cognitive testing analyses to evaluate differences in cognitive processes required by a subset of items. Based on the focus of the interviews, a variety of items are used and students are sampled based on different factors (e.g., different levels of Hawaiian language background, achievement levels) (see Cognitive Interview Chapter 8 in the 2016 and Chapter 10 in the 2018 Technical Reports). These cognitive interviews explore the thought processes that students use to solve complex problems and tasks that comprise the KĀ‘EO. Cognitive interviews were conducted with students in 2015, 2016, and 2018. Cognitive interviews were not conducted in 2017 due to increased levels of item development for

grades 5-8. In 2018, cognitive interviews were conducted in grades 5-8 and will resume in the fall of the 2019/2020 school year.

Differential Item Functioning

The testing program conducted Differential Item Functioning (DIF) analyses to examine the degree to which individual items might have differential response patterns between demographic groups (e.g., boys versus girls). If a pattern emerged, items were examined for potential bias.

The sample size for the tests were notably low relative to statewide accountability assessments. Using Winsteps did allow the psychometric team to conduct DIF, and research supports the use of DIF for instruments of moderate length with the given sample size (Scott, Fayers, Aaronson, Bottomley, de Graeff, Groenvold, Gundy, Koller, Petersen, Sprangers, 2009). However, given the small sample size, we focused on running DIF on only the gender and free or reduced-price lunch status subgroups, which were fairly balanced in terms of numbers of students. Other subgroups were considered but due to the imbalance across the subgroups, the research team deemed that there were insufficient data (i.e., in 2016, approximately 97% of students were not on an IEP or 504 plan, only 1% were migrant, and 85% of students were Hawaiian or Pacific Islander).

DIF was conducted in the Winsteps program using the Mantel-Haenszel (MH) procedure and a DIF contrast (Linacre 2012). The MH procedure calculates the odds that two groups of students who are at the same level of achievement will answer the item correctly. The MH procedure can accommodate polytomous responses and the Winsteps procedures are robust for missing data. However, in the Rasch model, MH can over identify items with DIF and statistical methods should not be used with small sample sizes. Linacre (2012) proposed that the preferable method for identifying DIF is by using the contrast method. The DIF contrast conducted in Winsteps compares the difference between the average measure score for the two groups of interest.

For the current DIF study, the team conducted the analyses for each of the grade and content level tests (Table 10.1). Items were flagged for potential DIF if the DIF contrast exceeded .64 (Linacre, 2012). items were flagged as having a contrast greater than .64 or less than -.64. (Table 10.1).

Any item flagged was reviewed by the UH team with the goal of understanding any context or wording issues that may have caused the differences. Across the items, the team was unable to identify any reasons for the DIF. Several items that were flagged for DIF also had been reviewed during the Rasch and Classical Test Theory analyses and, as part of that process, were identified as candidates to be removed in future administrations.

Table 10.1: DIF Items and Review Results

Grade/ Content	Items identified for DIF (FLR)	Items identified for DIF (gender)
Gr3 MA	219, 226, 233, 217	185, 205, 219, 992, 1289*
Gr4 MA	244, 265, 261, 1010, 154	140, 240, 274, 1306*
Gr5 MA	1128, 413, 1202, 444, 1187	415, 419, 420, 448, 1100
Gr6 MA	1251, 550, 512	476, 484, 495, 568, 1094, 1225, 1249*
Gr7 MA	1247, 1237, 555, 549, 513, 543, 527, 1241, 1264, 508, 525, 1066	477, 479, 483, 501, 513, 519, 525, 527, 543, 549, 555, 559, 1264
Gr8 MA	620, 1273, 576, 591, 1218, 588, 542, 1140	542, 556, 582, 588, 591, 600, 615, 1069*, 1140, 1224*, 1226*, 1268, 1271*
Gr3 HLA	92, 1022	104, 112, 1283
Gr4 HLA	23, 1016	18, 25, 47, 54, 64, 1014, 1297
Gr5 HLA	718, 714	634, 677, 707, 721, 1208, 1215, 1222
Gr6 HLA	649, 674, 685	661, 674, 682, 685, 698, 1170
Gr7 HLA	1175, 1088, 879, 891, 1179, 872, 839, 1104	762, 790, 822, 843, 869, 875, 879, 891, 1090, 1095*
Gr8 HLA	917, 867, 914, 793, 910, 1078, 1201, 920, 766, 778	766, 802, 893, 901, 909, 867, 785, 1129*, 1192, 1195*
Gr4 SC	296, 298, 300	284, 287, 295, 300, 308
Gr8 Sc	951, 1205, 971, 947, 961, 978, 979, 975	946, 947, 952, 955, 969, 971, 975, 980, 983, 1053*, 1056, 1109, 1116*, 1194*, 1205, 1216*, 1240*, 1243*, 1263

* = Embedded field test item

UH staff conducted a review of potential bias of language used as well as content used for the question (i.e., knowledge or activities that traditionally were reserved for a specific gender or might be impacted by socio-economic status). First, this additional review found no apparent reason for gender bias. Two potential reasons for this lack of bias were identified. First, in the Hawaiian language, pronouns are not gender specific. For example, the word ‘o ia can mean he, she, or it and is dependent on the reader’s interpretation or the context. Second, Hawaiian names in general are not gender specific, unless they are transliterations from an English name, and these types of names were not used on these questions. Because of this difference in language and the lack of gender-specificity, questions could potentially not be as prone to gender bias as they would be in English. UH staff will continue to review questions with potential gender bias during the item development process as well as in the analysis of future administrations of the assessment.

UH KĀ‘EO assessment staff also reviewed these items for socio-economic bias and found no apparent reason for socio-economic bias towards non FRL students. In the review of items that were flagged as more difficult for FRL students, two potential reasons for this bias were identified. The first had to do with context, particularly for mathematics questions that were word problems or that had a context that may be unfamiliar for students from lower socio-economic backgrounds. While FRL students may not be as familiar to some of these contexts (i.e., flying in an airplane), these contexts are certainly familiar and should not have an impact

on a student's understanding of a question. The second reason has to do with exposure to language. Many of the questions identified as being more difficult for FRL students included references and analysis of figurative language. Lower socio-economic students may have less exposure to language in general, and more figurative forms of the Hawaiian language in particular. This is not always the case but could be a reason for these items being flagged for this particular group. UH KĀʻEO assessment staff will continue to review questions with potential bias towards FRL students during the item development process, as well as in the analysis of future administrations of the assessment.

Chapter 11: Scaling and Results

Scaling

Based on the results of the 2015 field test, researchers determined that Rasch analyses are appropriate for scaling test scores (e.g., the model converged with few iterations, test statistics were acceptable). The scaling process transforms the initial Rasch logit scale for the items and examinees into units of measurement that are more easily interpreted. The following criteria were used for creating the KĀ‘EO test scales (Yen, 1991):

- Scale scores should be whole numbers.
- Scale scores scales need enough precision to handle the precision of the logit scores.
- Scale score scales need enough range, especially at the high end to allow for increase in difficulty of the tests over administrations and years.
- 3rd and 4th grade scales should be set so it's clear these tests are not on a vertical scale.
- Scales can be the same for the same grade in different content areas to aid in user friendliness, but the scales must meet other criteria.

Discussions between the psychometric staff and the project staff about scaling resulted in each grade level test form being transformed to have a mean of 500 and a standard deviation of 50. Table 11.1 shows the Rasch scaling constants used to place items and examinees on the KĀ‘EO test scales for each year's test data.

Table 11.1: Scaling Constants

Test	Mean	Sd
Grade 3 Math	515.7501	39.4276
Grade 3 HLA	528.7454	50.9541
Grade 4 Math	551.1439	68.0442
Grade 4 HLA	514.1317	56.4491
Grade 4 Science	512.3736	44.3498
Grade 5 Math	565.924	74.9049
Grade 5 HLA	527.8135	52.7446
Grade 6 Math	580.8718	72.1669
Grade 6 HLA	537.5123	56.0902
Grade 7 Math	644.0309	84.5304
Grade 7 HLA	562.559	60.5407
Grade 8 Math	611.5326	72.6965
Grade 8 HLA	535.0402	52.4211
Grade 8 Science	612.6851	67.8289

As part of transforming the test forms to an interpretable scale, lowest obtainable scale scores (LOSS) and highest obtainable scale scores (HOSS) also need to be set. These scores help ensure that students who score very low or very high on the test do not receive scores that are also associated with an extremely large degree of error. The following criteria were taken into account when making recommendations for the LOSS and HOSS for each grade level (Yen 1991):

Setting LOSS

- The LOSS should be low enough that is does not create a floor effect.
- The LOSS should be high enough that the SE for LOSS < 15 x Min (SE); this criterion can be difficult to meet for some tests.
- Usually the LOSS should be lower than the lowest number correct score but can be higher if this results in too high an SE.
- The SE should change smoothly over lower levels of the test.
- The LOSS gap (b/w LOSS and 1 item correct) should be in the same ballpark as the Penultimate Loss gap (b/w 1 item correct and 2 items correct).
- The LOSS gap should change smoothly over levels.

Setting HOSS

- The HOSS should be high enough that is does not create ceiling effects.
- The HOSS should be sufficiently high to allow for a high scale score at 1 item wrong.
- The HOSS should be low enough that the SE for Hoss < 10 x Min (SE).
- The SE should change smoothly over levels.
- The HOSS gap (b/w HOSS and 1 item wrong) should be in the same ballpark as the Penultimate HOSS gap (b/w 1 item wrong and 2 items wrong).
- The HOSS gap should change smoothly over levels; it is more difficult, and less important, to keep the gaps smooth over levels than it is to keep the SE(HOSS) values smooth over levels.

Table 11.2 provides for LOSS and HOSS for each grade level as well as score intervals for the performance levels. Values for LOSS and HOSS were set for the KĀ‘EO test scales and remain constant across test administrations from year to year. The values for the HOSS were specifically set with the consideration that the testing program would need to accommodate potential improvements in performance on future operational administrations and to avoid ceiling effects in later years.

Table 11.2: KĀ‘EO Test Scale LOSS and HOSS

	LOSS (SE)	Level 1	Level 2	Level 3	Level 4	HOSS (SE)
Math						
Grade 3	350 (~30)	LOSS-473	474-512	513-545	546-HOSS	750 (~72)
Grade 4	350 (~35)	LOSS-486	487-534	535-556	557-HOSS	750 (~35)
Grade 5	350 (~40)	LOSS-485	486-532	533-557	558-HOSS	750 (~33)
Grade 6	350 (~43)	LOSS-477	478-536	537-573	574-HOSS	750 (~31)
Grade 7	350 (~51)	LOSS-488	489-532	533-557	558-HOSS	750 (~28)
Grade 8	350 (~53)	LOSS-487	488-526	527-554	555-HOSS	750 (~27)
HLA						
Grade 3	350 (~32)	LOSS-493	494-530	531-640	641-HOSS	750 (~41)
Grade 4	350 (~29)	LOSS-498	499-519	520-576	577-HOSS	750 (~42)
Grade 5	350 (~33)	LOSS-485	486-508	509-550	551-HOSS	750 (~40)
Grade 6	350 (~30)	LOSS-487	488-509	510-558	559-HOSS	750 (~35)
Grade 7	350 (~37)	LOSS-483	484-514	515-559	560-HOSS	750 (~30)
Grade 8	350 (~30)	LOSS-494	495-520	521-532	533-HOSS	750 (~34)
Science						
Grade 4	350 (~36)	LOSS-479	480-518	519-561	562-HOSS	750 (~72)
Grade 8	350 (~49)	LOSS-497	498-526	527-554	555-HOSS	750 (~26)

It should be noted that scaling is sample dependent. When data is scaled from a sample to have a mean of 500, that mean is a local mean. The average score of the sample could be given any value - 500, 1000, 27.50 - but it will always be the average of that particular sample. So transforming a logit scale to a scale score does not mean those test scores are independent of that sample. This means that steps must be taken to ensure that scores from administrations across successive years have equivalent meaning in terms of achievement for the different samples of students who participate in each administration. This process is known as equating.

Grades 3 and 4 Equating

The psychometric team equated scores from the 2019 operational tests in grades 3 and 4 for Hawaiian language arts, mathematics, and science to the KĀ‘EO test scales established in 2016. The equating process places the operational tests onto the established scale for each respective grade and content area and helps ensure consistency in the interpretation of scores from one year to the next. For example, a student scale score of 500 on the 2019 operational test should mean the same in terms of achievement as a student scale score of 500 on the 2016 assessment.

Grade 3 and 4 operational test scores were equated to the established KĀ‘EO test scales using an anchor item procedure—also known as common item linking—through the Rasch model and Winsteps program (Linacre, 2016). Anchor item equating uses known parameter values of items on the established scale to place items from a current administration onto the established scale.

Prior to the 2019 operational administration, all items from the test were used as anchors for the equating. Starting with the 2019 administration, the Hawaiian language arts and mathematics operational tests were updated by removing a selection of items and replacing these items with new items. Thus, anchor parameter estimates were not available for all items on these four operational tests. The 2019 operational tests were equated using a subset of items from the test, known as an anchor set. The grade 4 science test is still equated using all operational items.

The anchor sets for grades 3 and 4 Hawaiian language arts and mathematics will provide the foundation for equating for 2019 and beyond and will remain consistent from year to year. In general, the anchor sets were selected so that they represent a miniature version of the operational test, particularly in terms of the range of item difficulties and range of content. The following specific criteria were used to select the anchor sets.

The anchor sets were selected so that they represent the major content categories of the test (i.e., domains) in the same proportion as they are represented in the operational test. Ideally, this proportion is measured by the number of points rather than the number of items, with an allowable variance of ±10%. The anchor sets also were selected to span the range of difficulty of the operational test. In other words, the items included in the anchor sets varied in difficulty as the operational test items varied, except that the anchor sets do not include any items of extreme difficulty or easiness.

Other criteria for selecting the anchor sets included the following: The anchor sets include items from the different item types included in the operational test and in the same proportion (±10%). Extended response items, however, tend to be easily remembered by teachers and students, so the anchor sets do not include this item format unless this format was the only one assessing a particular domain. If anchor items are associated with a reading passage, the passage will be of average length avoiding extremely long or extremely short passages. The anchor sets also were selected so that they represent approximately 20% of the operational test in terms of the number of points.

In terms of performance characteristics, the anchor sets do not include any items that exhibit poor model fit, bias, DIF, or low discrimination. Anchor items are placed in the same relative position in each operational test administration, with a minimum of being in the same third of the test, but anchor items are placed at the very beginning or end of the test or any session. Finally, no changes are allowed to anchor items once they have been selected and administered. Neither changes in wording nor changes in the way the item is administered are allowed. Either of these could affect the item's performance characteristics.

Prior to the 2019 operational administration of the tests, an equating study was conducted in 2018 to evaluation the anchor sets in terms of content, psychometric properties and the potential impact of their use for equating on student scores (Englert, 2018). The equating study found that the content of the anchor sets for grades 3 and 4 Hawaiian language arts and mathematics was typically within 5% of each content criteria relative to the operational test, with only two exceptions for grade 4 math and only one instance where the content exceeded the 10% criterion by 1%.

Item paramenters (i.e., difficulty and discrimination) from 2016 and 2018 were compared to evaluate stability over time. In general, item parameters were stable, although the analyses revealed some items with poor fit that were eliminated as potential anchor items.

Test statistics and impact on scores of the anchor sets was evaluated by comparing results from the 2018 tests equated using all items (the previous method) and the same tests equated using only the anchor sets. Tests statistics (difficulty, model SE, and reliability) from the two methods of equated were compared for all four tests and found to be similar, especially in terms of the model SE and reliability. The overall test difficulty did change slightly across each test, with grade 3 and 4 HLA becoming slightly more difficult and grade 3 and 4 Math becoming slightly easier. These differences in difficulty were less than .05.

The final analysis focused on the degree to which the use of the selected anchor sets affected the performance level of students by applying cut scores to the data equated using the two methods. In grade 3 math and grade 4 HLA, the two equating methods resulted in all students being placed in the same performance level. Anchor set equating resulted in 11 students in grade 4 math increasing by one performance level, and in 17 students in grade 3 HLA decreasing one performance level. No students in these two tests changed from proficient to not-proficient or vice-versa as a result of the anchor set equating.

For the 2019 operational analyses, anchor items were evaluated to ensure that they are functioning in the same manner across test administrations. For Hawaiian language arts and mathematics, items in the anchor sets were evaluated; for science, all items were used as anchors and evaluated. Evaluations included scatterplots of the best fit line to examine the degree to which the items fit across the two test administrations (see Englert, 2018). Also examined were other item indices, such as the difficulty parameter, p-values, and item correlations to evaluate item stability. If an item differs between its operational parameter estimates and its anchor estimates, it might indicate that the item is not suitable as an anchor item and should be considered for removal from the anchor set. The two administrations also were compared to examine the overall difficulty, test characteristic curves, changes in percentages of students in the performance levels, and estimates of

classification consistency and classification accuracy. These examinations showed that the anchor set equating was functioning sufficiently well.

Using the anchor items for each respective test, and the appropriate scaling constants and LOSS and HOSS described above, each test was placed on to the established KĀʻEO test scale. Score distributions for each grade and content area along with measurement errors are provided in **Appendix G**.

Quality Assurance and Forensic Analysis

After the 2019 data were scaled, the psychometric team conducted a series of checks on the data (See **Appendix K** for additional details). These checks provided greater detail to the HIDOE about the veracity of the results before reporting. The analyses included:

- Examination of proficiency level distributions from 2016, 2017, and 2018;
- Examination of the changes in school level percent proficient results from year to year to understand patterns in growth;
- Forensic analyses that included examining student response patterns by school, person fit statistics.

These results were provided to the HIDOE and UH KĀʻEO assessment staff. While no definitive patterns could be seen in the test scores, these results could be used to inform future test administration training or monitoring.

Standard Setting Results

After the administration of the first operational assessment, the UH KĀʻEO Assessment staff contracted with a leading national expert in standard setting, EdMetric (see Standard Setting report for a full description of the process, participants, and results). The standard setting provided cut scores for each of four achievement levels: Hoʻomaka (Level 1), Holomua (Level 2), Mākaukau (Level 3), and Kelakela (Level 4). The cut score between Holomua and Mākaukau became the equivalent cut score for "proficient" in English language accountability tests. The results are reported below for each test and demographic reporting category for 2019.

Mathematics Grade 3

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		345	497	36	91	26.4%	152	44.1%	68	19.7%	34	9.9%
Language Background												
English		313	496	35	83	26.5%	141	45.0%	59	18.8%	30	9.6%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		27	491	37	8	29.6%	10	37.0%	6	22.2%	3	11.1%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	151	502	40	37	24.5%	58	38.4%	34	22.5%	22	14.6%
	Y	194	492	31	54	27.8%	94	48.5%	34	17.5%	12	6.2%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		193	498	35	49	25.4%	84	43.5%	40	20.7%	20	10.4%
Male		152	495	37	42	27.6%	68	44.7%	28	18.4%	14	9.2%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		75	499	35	18	24.0%	32	42.7%	18	24.0%	7	9.3%
Multiple		42	515	41	8	19.0%	13	31.0%	15	35.7%	6	14.3%
Pacific Is.		218	491	33	63	28.9%	104	47.7%	31	14.2%	20	9.2%
White		□	□	□	□	□	□	□	□	□	□	□

Mathematics Grade 4

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		227	507	51	85	37.4%	79	34.8%	25	11.0%	38	16.7%
Language Background												
English		198	506	52	77	38.9%	69	34.8%	17	8.6%	35	17.7%
Hawaiian		28	513	49	8	28.6%	9	32.1%	8	28.6%	3	10.7%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Samoan		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	210	511	51	73	34.8%	74	35.2%	25	11.9%	38	18.1%
	Y	17	466	33	12	70.6%	5	29.4%	0	0.0%	0	0.0%
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	89	525	53	22	24.7%	30	33.7%	16	18.0%	21	23.6%
	Y	138	496	47	63	45.7%	49	35.5%	9	6.5%	17	12.3%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		130	510	53	46	35.4%	45	34.6%	12	9.2%	27	20.8%
Male		97	504	49	39	40.2%	34	35.1%	13	13.4%	11	11.3%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		46	503	53	18	39.1%	15	32.6%	7	15.2%	6	13.0%
Multiple		22	512	51	7	31.8%	8	36.4%	2	9.1%	5	22.7%
Pacific Is.		154	507	51	59	38.3%	55	35.7%	16	10.4%	24	15.6%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Mathematics Grade 5

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		278	500	50	121	43.5%	94	33.8%	27	9.7%	36	12.9%
Language Background												
English		257	500	50	113	44.0%	87	33.9%	24	9.3%	33	12.8%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		20	506	43	7	35.0%	7	35.0%	3	15.0%	3	15.0%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	128	510	54	44	34.4%	45	35.2%	15	11.7%	24	18.8%
	Y	150	492	45	77	51.3%	49	32.7%	12	8.0%	12	8.0%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		135	501	48	55	40.7%	52	38.5%	12	8.9%	16	11.9%
Male		143	499	52	66	46.2%	42	29.4%	15	10.5%	20	14.0%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		56	488	46	29	51.8%	17	30.4%	6	10.7%	4	7.1%
Multiple		23	518	54	8	34.8%	7	30.4%	2	8.7%	6	26.1%
Pacific Is.		191	501	50	81	42.4%	69	36.1%	17	8.9%	24	12.6%
White		□	□	□	□	□	□	□	□	□	□	□

Mathematics Grade 6

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		238	500	50	97	40.8%	87	36.6%	32	13.4%	22	9.2%
Language Background												
English		210	500	52	91	43.3%	70	33.3%	28	13.3%	21	10.0%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		28	501	38	6	21.4%	17	60.7%	4	14.3%	1	3.6%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	228	501	50	89	39.0%	85	37.3%	32	14.0%	22	9.6%
	Y	10	466	31	8	80.0%	2	20.0%	0	0.0%	0	0.0%
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	102	503	48	45	44.1%	30	29.4%	17	16.7%	10	9.8%
	Y	136	497	51	52	38.2%	57	41.9%	15	11.0%	12	8.8%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		129	502	51	54	41.9%	43	33.3%	18	14.0%	14	10.9%
Male		109	498	49	43	39.4%	44	40.4%	14	12.8%	8	7.3%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		46	509	53	19	41.3%	12	26.1%	9	19.6%	6	13.0%
Multiple		23	526	46	3	13.0%	12	52.2%	4	17.4%	4	17.4%
Pacific Is.		163	492	48	75	46.0%	59	36.2%	18	11.0%	11	6.7%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Mathematics Grade 7

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		189	500	50	90	47.6%	58	30.7%	20	10.6%	21	11.1%
Language Background												
English		153	497	50	76	49.7%	46	30.1%	16	10.5%	15	9.8%
French		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Hawaiian		36	514	49	14	38.9%	12	33.3%	4	11.1%	6	16.7%
Japanese		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Portuguese		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Spanish		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
IEP	N	178	502	50	81	45.5%	57	32.0%	19	10.7%	21	11.8%
	Y	11	462	40	9	81.8%	1	9.1%	1	9.1%	0	0.0%
504 Plan	N	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
	Y	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Lunch Status	N	77	507	51	33	42.9%	23	29.9%	10	13.0%	11	14.3%
	Y	112	495	49	57	50.9%	35	31.3%	10	8.9%	10	8.9%
Migrant	N	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
	Y	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Gender												
Female		96	506	54	43	44.8%	30	31.3%	7	7.3%	16	16.7%
Male		93	493	45	47	50.5%	28	30.1%	13	14.0%	5	5.4%
Federal Ethnicity												
Am. Indian		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Asian		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Black		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Hispanic		33	488	52	16	48.5%	12	36.4%	2	6.1%	3	9.1%
Multiple		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Pacific Is.		142	502	49	67	47.2%	41	28.9%	18	12.7%	16	11.3%
White		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫

Mathematics Grade 8

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		135	500	50	60	44.4%	45	33.3%	12	8.9%	18	13.3%
Language Background												
English		112	501	51	50	44.6%	36	32.1%	11	9.8%	15	13.4%
French		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Hawaiian		23	497	44	10	43.5%	9	39.1%	1	4.3%	3	13.0%
Japanese		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Portuguese		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Spanish		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
IEP	N	125	503	51	52	41.6%	43	34.4%	12	9.6%	18	14.4%
	Y	10	468	25	8	80.0%	2	20.0%	0	0.0%	0	0.0%
504 Plan	N	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
	Y	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Lunch Status	N	66	505	54	27	40.9%	23	34.8%	5	7.6%	11	16.7%
	Y	69	495	46	33	47.8%	22	31.9%	7	10.1%	7	10.1%
Migrant	N	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
	Y	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Gender												
Female		75	505	53	32	42.7%	24	32.0%	7	9.3%	12	16.0%
Male		60	494	46	28	46.7%	21	35.0%	5	8.3%	6	10.0%
Federal Ethnicity												
Am. Indian		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Asian		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Black		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Hispanic		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Multiple		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫
Pacific Is.		122	500	51	56	45.9%	39	32.0%	10	8.2%	17	13.9%
White		▫	▫	▫	▫	▫	▫	▫	▫	▫	▫	▫

* Total for all four achievement levels combined may not equal 100% due to rounding.

▫ Data masked to comply with reporting privacy guidelines.

Hawaiian Language Arts Grade 3

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	n	% of Students in Level 1* Beginning	n	% of Students in Level 2* Developing	n	% of Students in Level 3* Proficient	n	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		344	498	48	171	49.7%	86	25.0%	87	25.3%	0	0.0%
Language Background												
English		312	496	47	158	50.6%	83	26.6%	71	22.8%	0	0.0%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		27	512	54	13	48.1%	2	7.4%	12	44.4%	0	0.0%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	151	505	50	67	44.4%	34	22.5%	50	33.1%	0	0.0%
	Y	193	493	45	104	53.9%	52	26.9%	37	19.2%	0	0.0%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		192	507	46	82	42.7%	49	25.5%	61	31.8%	0	0.0%
Male		152	487	49	89	58.6%	37	24.3%	26	17.1%	0	0.0%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		75	500	49	37	49.3%	19	25.3%	19	25.3%	0	0.0%
Multiple		42	518	49	14	33.3%	10	23.8%	18	42.9%	0	0.0%
Pacific Is.		217	493	47	119	54.8%	51	23.5%	47	21.7%	0	0.0%
White		□	□	□	□	□	□	□	□	□	□	□

Hawaiian Language Arts Grade 4

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	n	% of Students in Level 1* Beginning	n	% of Students in Level 2* Developing	n	% of Students in Level 3* Proficient	n	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		227	515	54	87	38.3%	31	13.7%	84	37.0%	25	11.0%
Language Background												
English		198	515	55	76	38.4%	28	14.1%	71	35.9%	23	11.6%
Hawaiian		28	515	54	11	39.3%	3	10.7%	12	42.9%	2	7.1%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Samoan		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	210	521	51	73	34.8%	29	13.8%	83	39.5%	25	11.9%
	Y	17	449	47	14	82.4%	2	11.8%	1	5.9%	0	0.0%
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	89	535	53	22	24.7%	10	11.2%	40	44.9%	17	19.1%
	Y	138	503	51	65	47.1%	21	15.2%	44	31.9%	8	5.8%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		130	524	56	41	31.5%	17	13.1%	53	40.8%	19	14.6%
Male		97	504	50	46	47.4%	14	14.4%	31	32.0%	6	6.2%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		46	519	65	16	34.8%	10	21.7%	14	30.4%	6	13.0%
Multiple		22	521	44	7	31.8%	3	13.6%	11	50.0%	1	4.5%
Pacific Is.		154	513	52	62	40.3%	18	11.7%	57	37.0%	17	11.0%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Hawaiian Language Arts Grade 5

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		280	500	50	105	37.5%	54	19.3%	79	28.2%	42	15.0%
Language Background												
English		259	501	50	95	36.7%	54	20.8%	71	27.4%	39	15.1%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		20	499	56	9	45.0%	0	0.0%	8	40.0%	3	15.0%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	128	510	52	35	27.3%	26	20.3%	41	32.0%	26	20.3%
	Y	152	492	47	70	46.1%	28	18.4%	38	25.0%	16	10.5%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		135	511	50	38	28.1%	27	20.0%	41	30.4%	29	21.5%
Male		145	490	48	67	46.2%	27	18.6%	38	26.2%	13	9.0%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		57	493	49	26	45.6%	12	21.1%	12	21.1%	7	12.3%
Multiple		24	507	56	8	33.3%	3	12.5%	9	37.5%	4	16.7%
Pacific Is.		191	501	50	68	35.6%	38	19.9%	55	28.8%	30	15.7%
White		□	□	□	□	□	□	□	□	□	□	□

Hawaiian Language Arts Grade 6

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		239	500	50	96	40.2%	48	20.1%	66	27.6%	29	12.1%
Language Background												
English		211	499	50	86	40.8%	42	19.9%	58	27.5%	25	11.8%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		28	505	52	10	35.7%	6	21.4%	8	28.6%	4	14.3%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	103	504	51	40	38.8%	19	18.4%	30	29.1%	14	13.6%
	Y	136	497	49	56	41.2%	29	21.3%	36	26.5%	15	11.0%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		129	511	51	42	32.6%	29	22.5%	34	26.4%	24	18.6%
Male		110	488	46	54	49.1%	19	17.3%	32	29.1%	5	4.5%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		46	510	49	15	32.6%	10	21.7%	14	30.4%	7	15.2%
Multiple		23	514	44	6	26.1%	4	17.4%	11	47.8%	2	8.7%
Pacific Is.		163	494	50	73	44.8%	33	20.2%	40	24.5%	17	10.4%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Hawaiian Language Arts Grade 7

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		189	500	50	64	33.9%	57	30.2%	47	24.9%	21	11.1%
Language Background												
English		152	498	50	52	34.2%	49	32.2%	36	23.7%	15	9.9%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		37	508	49	12	32.4%	8	21.6%	11	29.7%	6	16.2%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	177	503	49	56	31.6%	53	29.9%	47	26.6%	21	11.9%
	Y	12	462	43	8	66.7%	4	33.3%	0	0.0%	0	0.0%
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	76	510	46	19	25.0%	25	32.9%	21	27.6%	11	14.5%
	Y	113	493	52	45	39.8%	32	28.3%	26	23.0%	10	8.8%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		97	515	49	23	23.7%	28	28.9%	28	28.9%	18	18.6%
Male		92	484	47	41	44.6%	29	31.5%	19	20.7%	3	3.3%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		33	493	43	14	42.4%	11	33.3%	5	15.2%	3	9.1%
Multiple		□	□	□	□	□	□	□	□	□	□	□
Pacific Is.		142	500	51	46	32.4%	43	30.3%	38	26.8%	15	10.6%
White		□	□	□	□	□	□	□	□	□	□	□

Hawaiian Language Arts Grade 8

Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		135	500	50	53	39.3%	37	27.4%	18	13.3%	27	20.0%
Language Background												
English		112	497	50	46	41.1%	30	26.8%	15	13.4%	21	18.8%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		23	514	44	7	30.4%	7	30.4%	3	13.0%	6	26.1%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	125	505	48	44	35.2%	36	28.8%	18	14.4%	27	21.6%
	Y	10	446	36	9	90.0%	1	10.0%	0	0.0%	0	0.0%
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	66	506	54	27	40.9%	12	18.2%	8	12.1%	19	28.8%
	Y	69	495	44	26	37.7%	25	36.2%	10	14.5%	8	11.6%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		75	512	51	18	24.0%	25	33.3%	13	17.3%	19	25.3%
Male		60	485	44	35	58.3%	12	20.0%	5	8.3%	8	13.3%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		□	□	□	□	□	□	□	□	□	□	□
Multiple		□	□	□	□	□	□	□	□	□	□	□
Pacific Is.		122	500	51	46	37.7%	36	29.5%	15	12.3%	25	20.5%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Science Grade 4 — Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		226	507	57	66	29.2%	57	25.2%	65	28.8%	38	16.8%
Language Background												
English		197	506	56	58	29.4%	49	24.9%	59	29.9%	31	15.7%
Hawaiian		28	512	66	8	28.6%	8	28.6%	5	17.9%	7	25.0%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Samoan		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	209	512	55	53	25.4%	53	25.4%	65	31.1%	38	18.2%
	Y	17	443	40	13	76.5%	4	23.5%	0	0.0%	0	0.0%
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	88	520	61	19	21.6%	15	17.0%	33	37.5%	21	23.9%
	Y	138	499	53	47	34.1%	42	30.4%	32	23.2%	17	12.3%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		129	516	57	31	24.0%	32	24.8%	39	30.2%	27	20.9%
Male		97	495	55	35	36.1%	25	25.8%	26	26.8%	11	11.3%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		46	504	62	15	32.6%	13	28.3%	10	21.7%	8	17.4%
Multiple		22	509	55	5	22.7%	4	18.2%	10	45.5%	3	13.6%
Pacific Is.		153	508	56	45	29.4%	39	25.5%	43	28.1%	26	17.0%
White		□	□	□	□	□	□	□	□	□	□	□

Science Grade 8 — Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		133	500	50	62	46.6%	32	24.1%	20	15.0%	19	14.3%
Language Background												
English		110	500	52	52	47.3%	25	22.7%	17	15.5%	16	14.5%
French		□	□	□	□	□	□	□	□	□	□	□
Hawaiian		23	502	43	10	43.5%	7	30.4%	3	13.0%	3	13.0%
Japanese		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
Spanish		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	66	505	53	29	43.9%	16	24.2%	9	13.6%	12	18.2%
	Y	67	495	47	33	49.3%	16	23.9%	11	16.4%	7	10.4%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		73	510	49	29	39.7%	17	23.3%	13	17.8%	14	19.2%
Male		60	488	49	33	55.0%	15	25.0%	7	11.7%	5	8.3%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		□	□	□	□	□	□	□	□	□	□	□
Multiple		□	□	□	□	□	□	□	□	□	□	□
Pacific Is.		120	501	51	54	45.0%	30	25.0%	18	15.0%	18	15.0%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Chapter 12. Reporting

Each year, parents, schools, and the community are provided with the results of the assessment via reporting at the student, school, and state levels. Similar procedures have been followed from the first operational test with ongoing improvements, such as schools receiving the reports in a timelier manner (e.g., schools now receive electronic versions of their results in August).

These results were distributed in two ways and in a secure manner to ensure student privacy. First, electronic copies of roster reports (capable of sorting and filtering data) were sent directly to principals via a secure file transfer service. Second, paper copies of school/summary reports, roster reports, and family/student reports were sent directly to principals via FedEx delivery. If additional information was requested, this information was also sent via secure file transfer service. The HIDOE will use existing procedures regarding the security and privacy of information.

Production and distribution of KĀ‘EO score reports follows a standard protocol for both public (family/student reports) and internally released state- and school-level report documents (roster reports and school/summary reports). As a matter of policy, KĀ‘EO reporting protocol follows HIDOE policy, which requires the official approval by the HIDOE Superintendent. Upon approval, actual report production with live data begins; until then, all reporting and data aggregation work is considered preliminary and part of a preparatory stage.

Each year, the key milestones of the KĀ‘EO report distribution protocol:

- delivery of roster reports in Excel format to each school via secure file transfer service;
- physical production of all report types: student/family, roster, and summary reports at the school and state levels;
- delivery, via FedEx, of family/student reports (both English and Hawaiian versions) to each school that participated in the assessment;
- delivery, via FedEx, of class roster and school/summary reports (in English and Hawaiian versions) to each school that participated in the assessment; and
- delivery, via secure electronic means, of state reports with state-level data to UH exclusively, in both redacted and confidential formats (in English and Hawaiian).

Overall Scores

KĀʻEO reports communicate an overall scale score along with a relevant KĀʻEO achievement level. The overall score indicates how the student performed on the entire test in a scale score metric. These scores are then assigned to a performance level as shown in Figure 12.1. These performance levels were established following the 2016 administration of KĀʻEO (grades 3-4 mathematics and HLA), 2017 (grade 4 science), and 2019 (grades 5-8 mathematics and HLA, grade 8 science). Cut score recommendations were made based on the results of standard-setting workshops which takes place during the summer of the first operational field test. Recommended cut scores were approved by the HIDOE Superintendent and remain in place for subsequent years.

This information is communicated using graphics similar to the example shown in Figure 12.1. Both Hawaiian and English versions of the reports use the associated terms for the achievement levels (for example, Hawaiian reports show Hoʻomaka, Holomua, Mākaukau, and Kelakela) and the student's scale score is indicated both numerically and graphically for each content area (Hawaiian language arts, mathematics, and science).

Figure 12.1: Example of Scale Scores on Family/student Reports

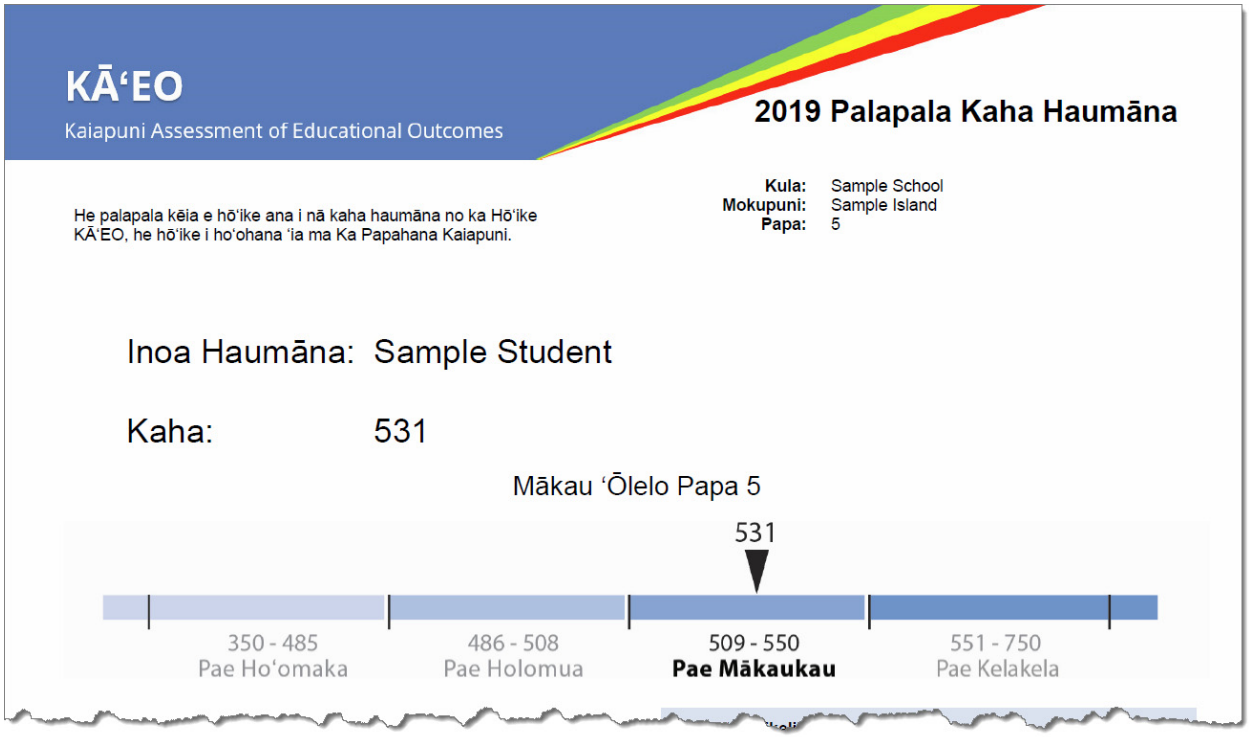


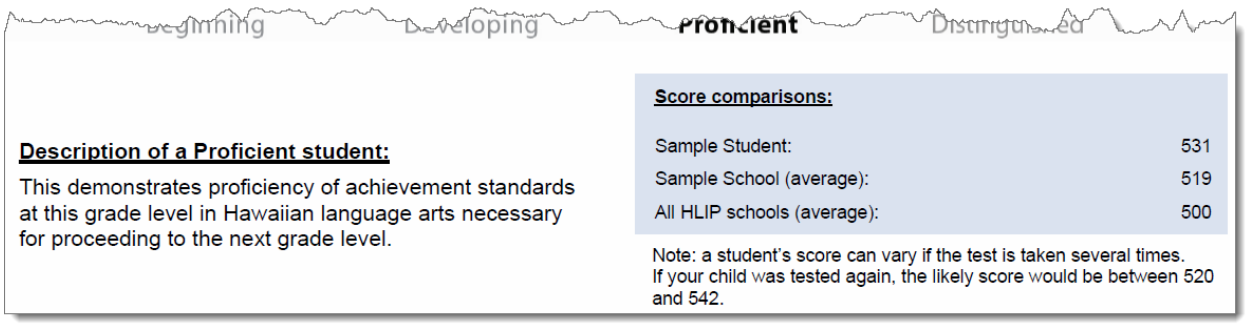
Figure 12.1 illustrates how KĀ‘EO family/student reports show scale scores with a prominent visual indicator in the center of the report. In this example, the overall score is 531, which is in Level 3/Pae Mākaukau.

A text reference to SEM is also represented via text near the bottom of each family/student report, as shown in Figure 12.2. Users are provided with a note of explanation about the potential for variability of student scores (which represents the SEM) with text similar to the following:

> Note: a student's score can vary if the test is taken several times. If your child was tested again, the likely score would be between 520 and 542.

Figure 12.2 shows an example of how this variable text is displayed near the bottom of the KĀ‘EO family/student reports. Figure 12.2 also shows the direct comparison of scores at the student level to scores at both the school and state levels.

Figure 12.2: Example of Achievement Level Description, Comparison Scores, and SEM Text on Student Reports

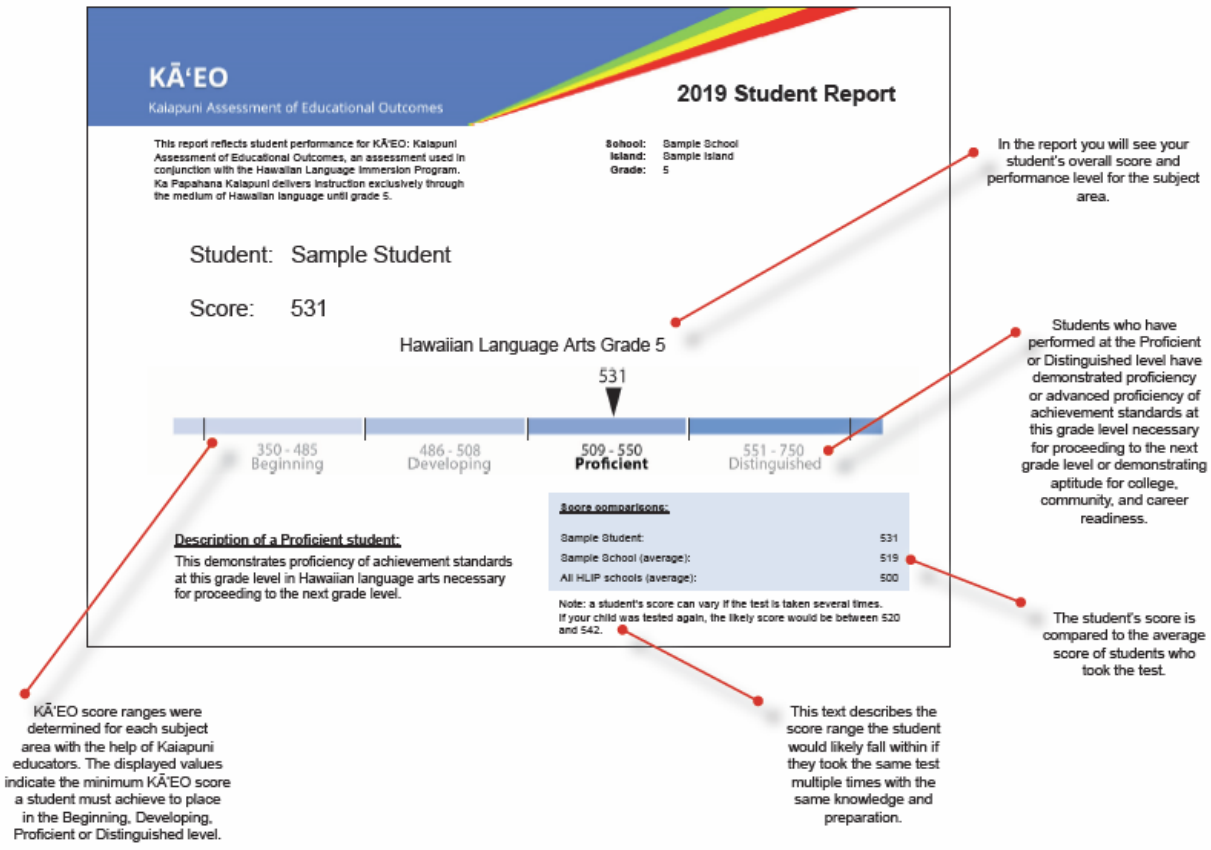


Sub-scores

As of 2019, sub-scores will no longer appear on printed reports. The removal of the sub-scores is due to low reliability in some reporting categories/claims, coupled with high correlations between sub-scores across the content areas (see Chapter 8, section on Validity Based on Relationship with External Variables). To address these issues, UH will focus on identifying and replacing items contributing to low reliability. Also, UH will be refining its content specifications to provide better guidance to item writers. These specifications will include information that further explains key content for each reporting category/claim. The goal is that over time, improved reliability and clearer item writing guidance will allow for greater precision of the sub-scores and reduce the construct overlap between scores.

Teachers and administrators in Kaiapuni schools are encouraged to discuss results with their students' families. Interpretive guides are therefore provided to schools to facilitate these discussions (Figure12.3).

Figure 12.3: Example of Interpretive Guide

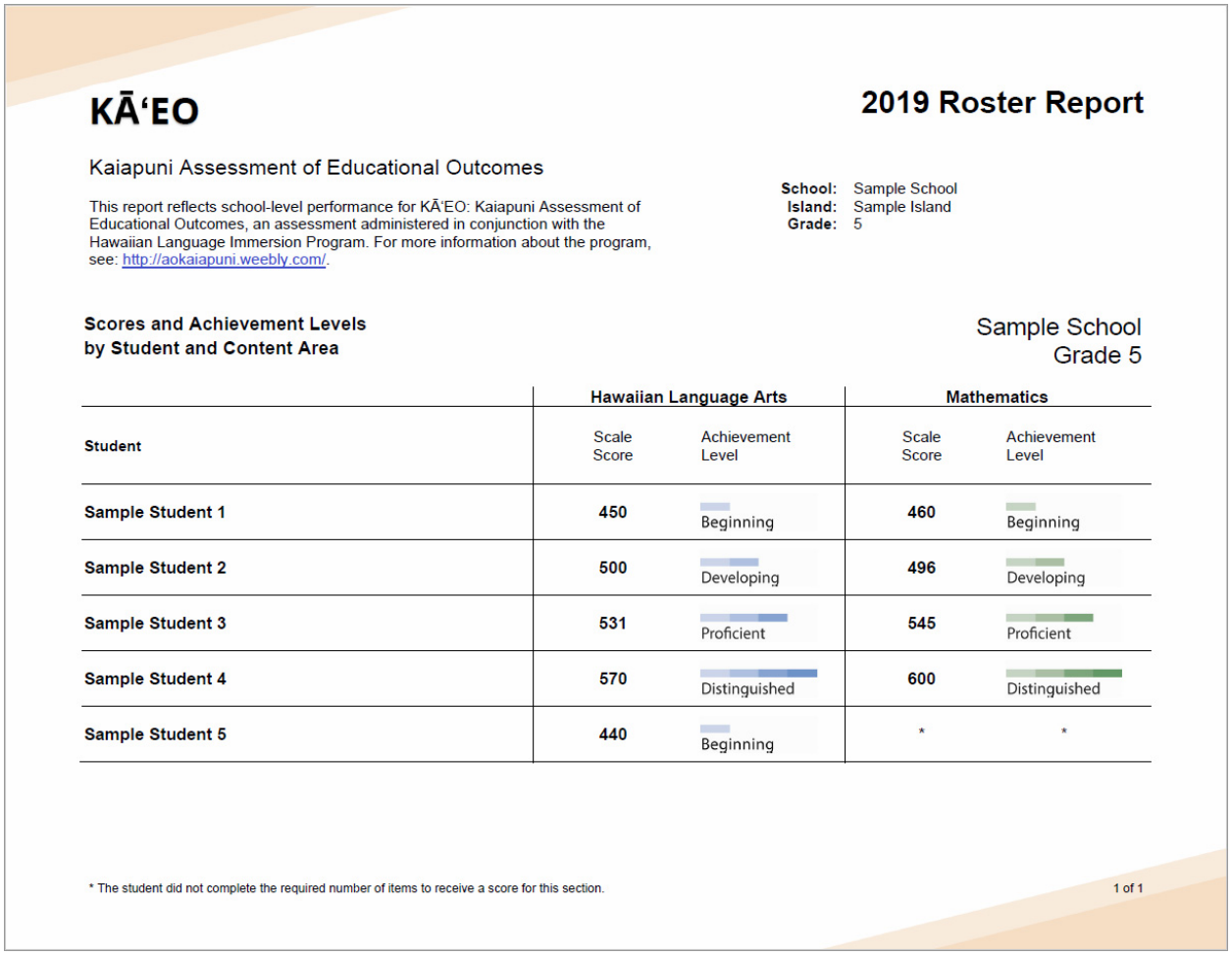


There may be an occasion when students or parents do not agree with their (or their child's) assessment results. In that case, students or parents have the right to protest such scores. The Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) will follow HIDOE's process for protesting assessment scores.

Other Report Types

KĀ‘EO reporting also includes class roster reports, which contain the same essential elements as the family/student report (scale scores) grouped for an entire school/classroom. The graphic representations of the roster reports are similar to those shown in Figure 12.4.

Figure 12.4: Example of a Roster Report



KĀ‘EO

2019 Roster Report

Kaiapuni Assessment of Educational Outcomes

This report reflects school-level performance for KĀ‘EO: Kaiapuni Assessment of Educational Outcomes, an assessment administered in conjunction with the Hawaiian Language Immersion Program. For more information about the program, see: http://aokaiapuni.weebly.com/.

School: Sample School
Island: Sample Island
Grade: 5

Scores and Achievement Levels by Student and Content Area

Sample School
Grade 5

	Hawaiian Language Arts		Mathematics	
Student	Scale Score	Achievement Level	Scale Score	Achievement Level
Sample Student 1	**450**	Beginning	**460**	Beginning
Sample Student 2	**500**	Developing	**496**	Developing
Sample Student 3	**531**	Proficient	**545**	Proficient
Sample Student 4	**570**	Distinguished	**600**	Distinguished
Sample Student 5	**440**	Beginning	*	*

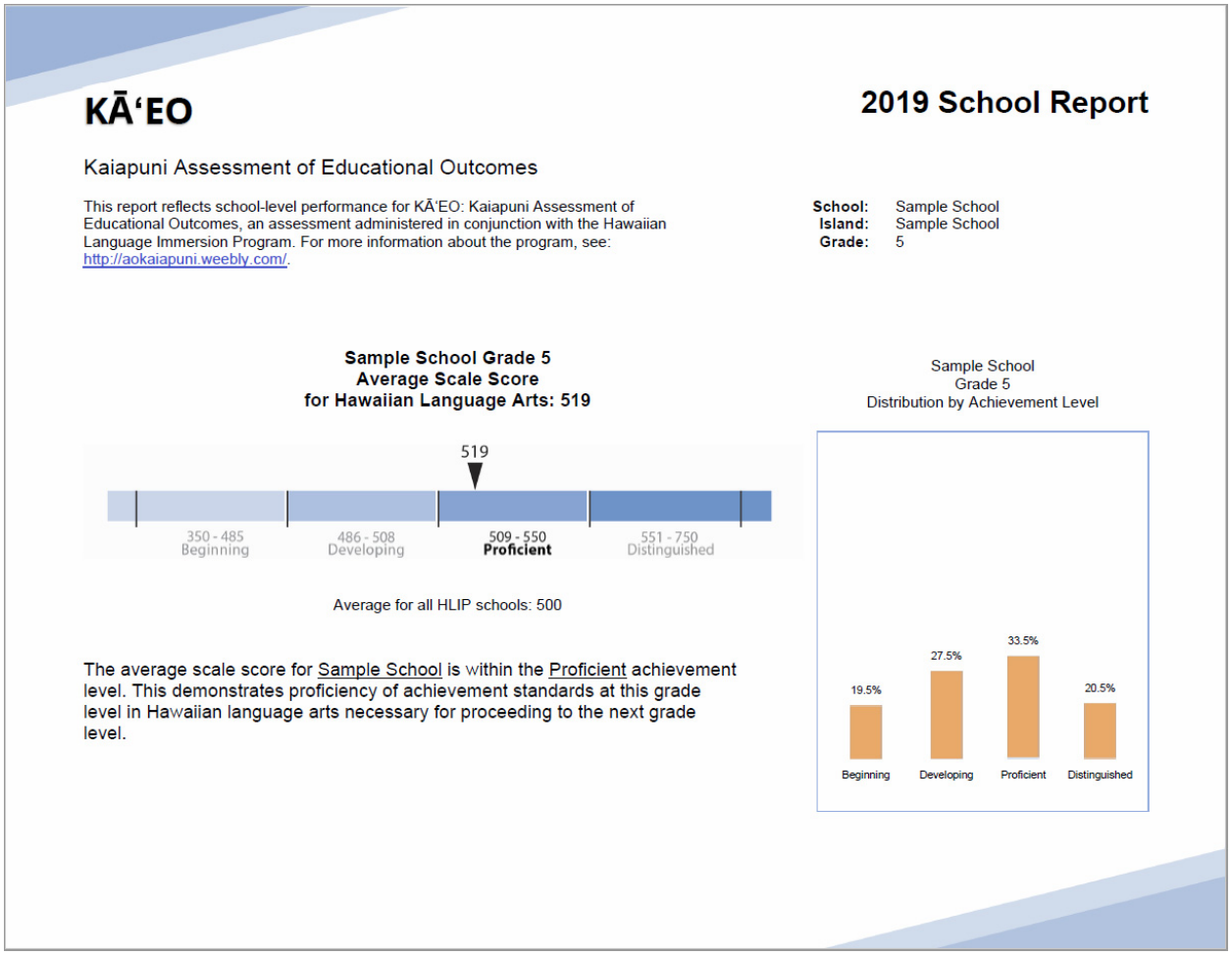
* The student did not complete the required number of items to receive a score for this section.

1 of 1

Roster reports allow schools and/or teachers to make a simultaneous comparison of student scale scores and performance levels for both Hawaiian language arts and mathematics. Separate roster reports for science are provided to make similar comparisons but are produced only for those grade levels in which the science assessment is administered.

School reports for KĀ‘EO display distribution of students by achievement level (as a percentage of 100% total for all four levels) along with an average scale score for the school's students at the relevant grade level. Graphic representations made in school summary reports for KĀ‘EO are similar to those illustrated in Figure 12.5.

Figure 12.5: Example of a School Report



State-level summary reports are also produced as part of the KĀ‘EO reporting package (Figure 12.6). State level data is presented in aggregated groups that include gender, ethnicity, SES, and other categories. Data is reported in standard report tables that include the percentage of students at each performance level. Notes about rounding and the use of the mathematical median are included to help qualify the data presented:

* Total for all four achievement levels combined may not equal 100% due to rounding.

Figure 12.6: Example of a State Report

KĀ‘EO 2019 State Report

Kaiapuni Assessment of Educational Outcomes

This report reflects state-level performance for the 2019 administration of KĀ'EO: Kaiapuni Assessment of Educational Outcomes, an assessment used in conjunction with the Hawaiian Language Immersion Program.

School: All Schools
Island: All Islands
Grade: 3

Hawaiian Language Arts Grade 3 — Summary Data - Spring 2019

		Number of Students Tested	Average Scale Score	Std. Dev.	*n*	% of Students in Level 1* Beginning	*n*	% of Students in Level 2* Developing	*n*	% of Students in Level 3* Proficient	*n*	% of Students in Level 4* Distinguished
Total (All HLIP Schools)		344	498	48	171	49.7%	86	25.0%	87	25.3%	0	0.0%
Language Background												
French		□	□	□	□	□	□	□	□	□	□	□
English		312	496	47	158	50.6%	83	26.6%	71	22.8%	0	0.0%
Hawaiian		27	512	54	13	48.1%	2	7.4%	12	44.4%	0	0.0%
Spanish		□	□	□	□	□	□	□	□	□	□	□
Portuguese		□	□	□	□	□	□	□	□	□	□	□
IEP	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
504 Plan	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Lunch Status	N	151	505	50	67	44.4%	34	22.5%	50	33.1%	0	0.0%
	Y	193	493	45	104	53.9%	52	26.9%	37	19.2%	0	0.0%
Migrant	N	□	□	□	□	□	□	□	□	□	□	□
	Y	□	□	□	□	□	□	□	□	□	□	□
Gender												
Female		192	507	46	82	42.7%	49	25.5%	61	31.8%	0	0.0%
Male		152	487	49	89	58.6%	37	24.3%	26	17.1%	0	0.0%
Federal Ethnicity												
Am. Indian		□	□	□	□	□	□	□	□	□	□	□
Asian		□	□	□	□	□	□	□	□	□	□	□
Black		□	□	□	□	□	□	□	□	□	□	□
Hispanic		75	500	49	37	49.3%	19	25.3%	19	25.3%	0	0.0%
Multiple		42	518	49	14	33.3%	10	23.8%	18	42.9%	0	0.0%
Pacific Is.		217	493	47	119	54.8%	51	23.5%	47	21.7%	0	0.0%
White		□	□	□	□	□	□	□	□	□	□	□

* Total for all four achievement levels combined may not equal 100% due to rounding.

□ Data masked to comply with reporting privacy guidelines.

Chapter 13. Continuous Improvement

The high stakes nature of the assessment program necessitates a careful and thorough analysis and verification process. Each phase of the proposed analyses is critical to build evidence about the assessment. Throughout these analyses, researchers worked in parallel to conduct quality assurance checks to verify accuracy in coding data and to examine any anomalies in the results. Results from the analyses continue to inform improvements to the testing processes.

Assessment programs should be continually monitored for quality and relevance. Kaiapuni Assessment of Educational Outcomes (KĀ‘EO) will consider multiple forms of evidence in an effort to ensure quality and promote continuous improvement throughout the life of the program.

Item Data Reviews

Periodic data reviews are an important part of the continuous improvement process. With each new administration, KĀ‘EO developers gain access to new information about new field test items as well as operational items with a well-established "data history." These reviews are typically conducted shortly after new item data becomes available, and may be conducted in conjunction with or prior to the test form selection process described in Chapter 5.

Feedback Integration Documents

KĀ‘EO developers utilize a continuous improvement process that may be documented in a variety of ways, including the use of a Feedback Integration Plan (FIP). The FIP document(s) allow KĀ‘EO developers to receive feedback or recommended actions in almost any form (e.g., alignment studies, cognitive labs, internal item data reviews, external reviews) and a dedicated plan for tracking the action steps and progress needed to reconcile or fully address the feedback given. Action steps may require any number of specific changes such as blacklisting items, modifying the next round of field test content, modifying or updating item development procedures or processes, and/or making changes to any existing criteria for future KĀ‘EO test form selections.

Inventory Audits and Other Item Quality Measures

Item quality can be a relatively subjective determination which can become a matter of reinterpretation over time. To this end, KĀ‘EO's item bank (referred to internally as "the item inventory") is subject to periodic review and reconsideration from one administrative year to the next. Audits may be conducted as part of this review to identify items which may be subject to content drift due to age, overuse, alignment drift, and/or clarifications or refinements in the way KĀ‘EO Student Learning Objectives are interpreted over time.

Item Refreshing

The KĀʻEO is a relatively new assessment system and, as such, a primary focus of our ongoing work will be to build an item bank. On a yearly basis, we will embed field test items (5-10 items) in the operational assessment. This will ensure that the burden to schools is small while still allowing for increases in the number of items in the item bank.

Assessment programs often provide multiple forms of a test within or between school years. While the KĀʻEO assessment does not use multiple forms, we refresh the assessment by adding in new items. In 2017, we started an embedded field test of items in the operational assessment. Approximately 10% of each operational test form will include embedded field test items. These items were checked for model fit and functionality but were not included in the calculation of student scores. Once items are field tested, they will be available for selection in future operational tests and later administrations. The result will be that each operational test will have a portion of new items every year. This approach will allow for new items to be spiraled in each year in order to help ensure items are not overexposed.

Anchor Set Equating

Spiraling in new items will mean that anchor equating with all items on the test will not be possible without potentially introducing item drift. Anchor equating, therefore, is conducted using a subset of items or an anchor set. The anchor set provides the foundation for the equating moving forward and will remain consistent from year to year. Prior to administering the 2019 KĀʻEO assessments, anchor sets were selected for grades 3 and 4. In 2020, anchor items will be selected for grades 5-8 for the 2021 operational assessments. Waiting several years before selecting the anchor set will allow sufficient data to be collected on the items to ensure the adequacy of the set (e.g., item fit, item difficulty).

Communication with the Technical Advisory Committees (TACs)

The KĀʻEO program works closely with the Hawaiʻi Department of Education (HIDOE) TAC and provides progress reports twice a year. The committees are composed of technical staff who guide and advise the program. Meeting minutes, agendas, PowerPoints, and follow-up actions are documented.

Chapter 13. Conclusions and Next Steps

The core of any assessment project is the development of assessments that will appropriately measure students on a given construct in a manner that is reliable and that will produce scores that are meaningful for their intended use. The Kaiapuni Assessment of Educational Outcomes (KĀʻEO) is no different. The project must, however, consider specific and unique challenges. The KĀʻEO is committed to the development of a rigorous and meaningful assessment that is aligned to college- and career-ready standards. Additionally, the KĀʻEO is attempting to improve the inclusivity and fairness of Hawaiian assessment practices through the explicit integration of native language and cultural priorities.

In order to ensure students are assessed appropriately, research suggests that students should be assessed in their language of instruction. To ensure a well-constructed test, assessments should be constructed using a rigorous cycle of development that is inclusive of field testing, cognitive interviews, pilot testing, and validity studies. Cultural and social relevance should also be assured by writing and reviewing test items to reduce bias and insensitivities, and including community members in test development. These are viable first steps in creating fair assessments for native language immersion students.

Assessment development can be time-consuming and complex, and KĀʻEO represents an extensive commitment of resources and time to developing appropriate assessments for Hawaiian language students. While it is difficult to develop an assessment, it was imperative that KĀʻEO work toward generating an instrument that measures the academic content in a manner that is fair and accessible to the Hawaiian language students. To that end, project staff used the 2015-2016 development cycle to initiate a rigorous development project that followed best practices in the development of assessments (AERA/APA/NCME, 2014).

This technical report demonstrates that commitment by outlining key activities, participants, and findings. In spite of the unique nature of the assessment and multiple challenges (e.g., resources, timelines), this effort has resulted in the successful operational testing of mathematics, HLA, science assessments for grades 3-8. Most notably, this was achieved with substantial community engagement and involvement. Each step of the development was facilitated by a large number of educators and stakeholders from the Hawaiian community. For example, item writing, review, scoring, and standard-setting events were well attended by educators from across the state. Further, all Hawaiian language immersion program schools participated in the operational testing and many provided feedback on the process. This ongoing involvement is critical for the ongoing success of the program.

The rigor of the test development process is also reflected in this technical report. The team was challenged by very tight deadlines to implement the first operational test. However, each step in the process reflects strong test development practices, with a continuous improvement method implemented in each subsequent year of the administration. These practices include developing test blueprints that are aligned to student

learning objectives, and writing and thoroughly reviewing items to ensure they measure the key content in the blueprints. Tests were generated using a customized computer interface to ensure student accessibility. The UH staff also provided training to school staff and wrote test administration guidelines that aligned to the entire Hawaiʻi assessment system, including other assessments administered by HIDOE, to ensure consistency and test security. Once administered, tests were scored using a process that ensured consistency and reliability. The data from the assessments were thoroughly analyzed, both quantitatively and qualitatively, using cognitive interviews, Classical Test Theory Analyses, and Item Response Theory Analyses. These results identified items for revision but, even more importantly, showed that the test overall was functioning and the sample would allow for scale scores to be generated. The assessment processes (e.g., scoring, item writing) and technical characteristics (e.g., item functionality) will continue to be monitored moving into future operational assessments to ensure ongoing quality.

Appendices

Appendix A: Theory of Change

Appendix B: Purpose Statements

Appendix C: Classical Test Theory Statistics

Appendix D: Item Response Theory Summary Statistics

Appendix E: Person By Item Histograms and Item Maps

Appendix F: Item Response Theory Item Statistics

Appendix G: Standard Error Statistics

Appendix H: Differential Item Functioning Statistics

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Appendix J: Dimensionality Tables

Appendix K: Quality Assurance and Forensic Analysis of 2019 Data

Appendix A: Theory of Change

Ka Manaʻo Hoʻoulu:

Mālama i ka ʻike a me ka ʻōlelo Hawaiʻi è Hui pū ke kaiāulu è Hoʻoikaika i ka papahana kaiapuni (ana, hōʻike, haʻawina) è ʻĀmana nā haumāna, kumu, poʻokula, mākua è Haʻi i ko kākou moʻolelo ponoʻī: 1) no ka pono o nā hanauna i hala a me nā hanauna hou, 2) e hōʻike ai i ka ikaika o ke kaiapuni i ke aupuni, 3) e alakaʻi ai i ke ala kūpono no nā kaiāulu Hawaiʻi a me nā kaiāulu ʻōiwi è E kū ana ka papahana kaiapuni i ka naʻauao Hawaiʻi no nā hanauna i hala a me nā hanauna hou.

Theory of Action:

If we:

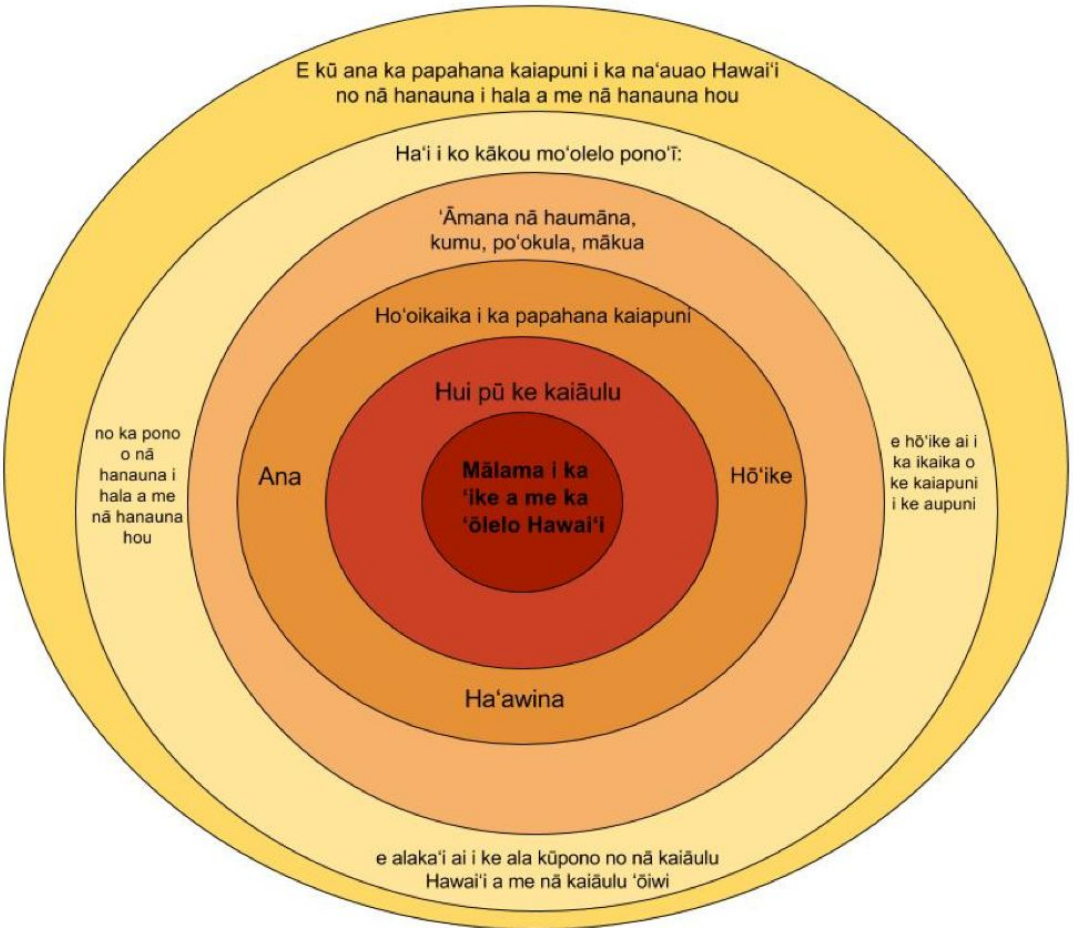
Value and preserve Hawaiian knowledge and language ⇒ Gather and unite the community ⇒ Strengthen the Hawaiian Language Immersion Program in terms of standards, assessment, and curriculum ⇒ Empower Hawaiian immersion students, teachers, administrators, and families

This will enable us to:

Tell our own story: 1) for the well-being of past generations and future generations of Hawaiian immersion students, 2) to illustrate the value of Hawaiian immersion to the state and federal authorities, and 3) to provide a guide for similar assessment projects for the Hawaiian community and other native communities

With the final result being:

The Hawaiian Language Immersion Program will transform to reflect and maintain Hawaiian wisdom and brilliance honoring past and future generations of Hawaiian immersion children.


E kū ana ka papahana kaiapuni i ka naʻauao Hawaiʻi
no nā hanauna i hala a me nā hanauna hou
Haʻi i ko kākou moʻolelo ponoʻī:
ʻĀmana nā haumāna,
kumu, poʻokula, mākua
Hoʻoikaika i ka papahana kaiapuni
Hui pū ke kaiāulu
Ana
Mālama i ka
ʻike a me ka
ʻōlelo Hawaiʻi
Hōʻike
Haʻawina
no ka pono
o nā
hanauna i
hala a me
nā hanauna
hou
e hōʻike ai i
ka ikaika o
ke kaiapuni
i ke aupuni
e alakaʻi ai i ke ala kūpono no nā kaiāulu
Hawaiʻi a me nā kaiāulu ʻōiwi

Appendix B: Purpose Statements

Ka mākia o ka hōʻike:

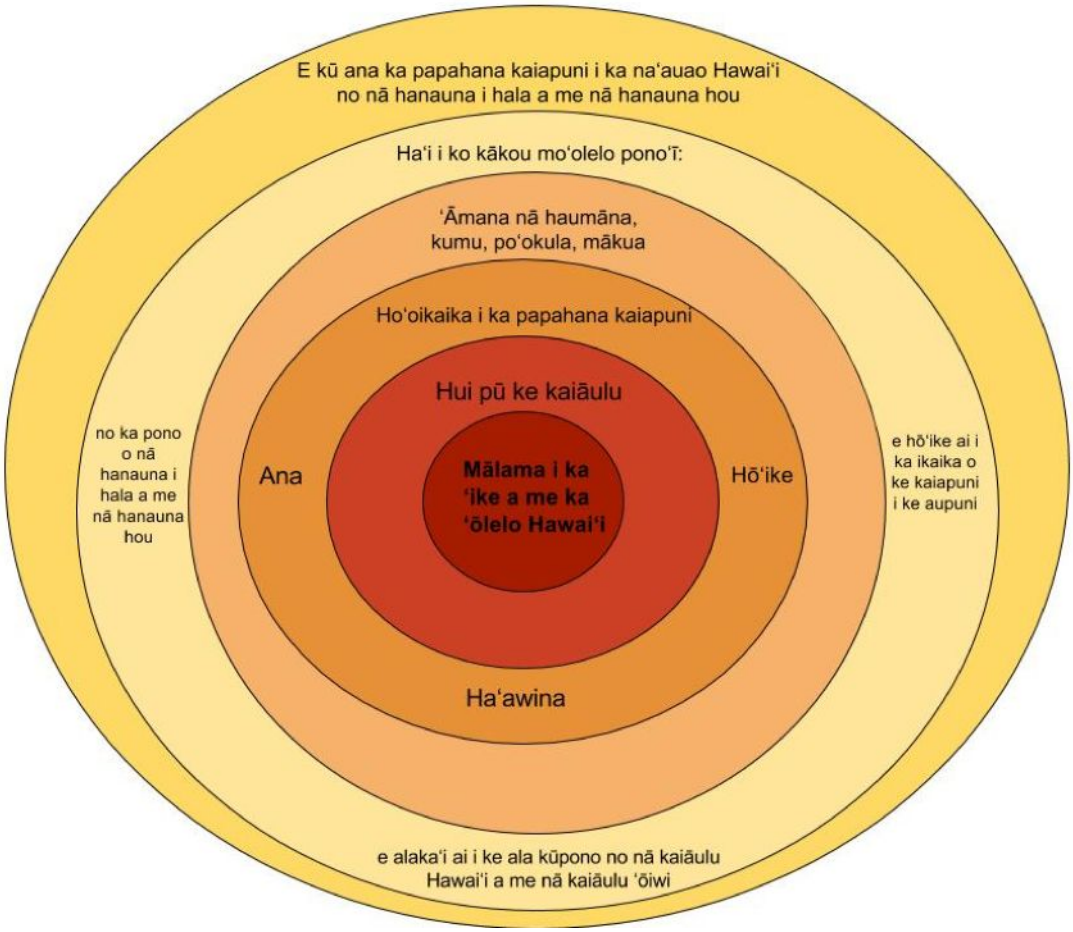
ʻO ka mākia ʻo KĀʻEO ka paepae ʻana i ka loiloi kaiapuni pono e hōʻike ai i:

- ka lei o ka lanakila o nā kula a me nā haumāna ʻōlelo Hawaiʻi i ke kaiāulu a me ke aupuni ma o ka mākau ʻōlelo Hawaiʻi, ka pili helu a me ke akeakamai.
- ke ala kūpono e hoʻomōhala ai i ka papahana kaiapuni ma ka hana ma ka papa, nā kula, nā ʻohana kaiapuni, a me ke kaiāulu.
- ka pono o ke kūkulu ʻana i ke kahua o ka loiloi ma o ka naʻauao Hawaiʻi.

Purpose Statement:

The purpose of the Kaiapuni Assessment of Education Outcomes (KĀʻEO) is to support a fair, valid, and reliable assessment that demonstrates:

- To measure the achievement of Hawaiian language (immersion) schools and individual students in Hawaiian language arts, mathematics, and science for the purpose of community accountability as well as for state and federal accountability.
- An appropriate pathway to grow and improve the Hawaiian language immersion program in classroom curriculum, at the school level, in Hawaiian immersion families, and in the broader community.
- The reliability and validity of building the foundation of an assessment that is informed by Hawaiian knowledge, wisdom, and intelligence.


E kū ana ka papahana kaiapuni i ka naʻauao Hawaiʻi
no nā hanauna i hala a me nā hanauna hou
Haʻi i ko kākou moʻolelo ponoʻī:
ʻĀmana nā haumāna,
kumu, poʻokula, mākua
Hoʻoikaika i ka papahana kaiapuni
Hui pū ke kaiāulu
Mālama i ka
ʻike a me ka
ʻōlelo Hawaiʻi
Ana
Hōʻike
Haʻawina
no ka pono
o nā
hanauna i
hala a me
nā hanauna
hou
e hōʻike ai i
ka ikaika o
ke kaiapuni
i ke aupuni
e alakaʻi ai i ke ala kūpono no nā kaiāulu
Hawaiʻi a me nā kaiāulu ʻōiwi

Appendix C: Classical Test Theory Statistics

Grade 3 Math CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@178	20.96	62.659	0.162	.	0.855
@182	21.38	60.185	0.39	.	0.851
@206	21.19	60.766	0.342	.	0.852
@1303	21.81	63.059	0.094	.	0.855
@225	21.55	62.5	0.101	.	0.856
@215	21	62.102	0.239	.	0.854
@169	21.33	60.104	0.402	.	0.851
@231	21.5	61.999	0.162	.	0.855
@219	21.71	62.284	0.177	.	0.855
@202	21	61.608	0.331	.	0.852
@221	21.58	62.004	0.175	.	0.855
@992	21.84	62.624	0.304	.	0.854
@371	21.59	60.797	0.353	.	0.852
@173	21.48	61.531	0.221	.	0.854
@226	21.71	61.064	0.397	.	0.851
@233	21.83	62.174	0.272	.	0.853
@174	21.38	59.242	0.515	.	0.848
@1036	21.8	62.576	0.199	.	0.854
@210	21.62	62.102	0.171	.	0.855
@207	21.26	60.14	0.408	.	0.85
@212	21.4	59.639	0.463	.	0.849
@172	21.52	59.502	0.507	.	0.848
@198	21.04	61.136	0.37	.	0.852

@368	21.67	60.824	0.396	.	0.851
@191	21.51	59.987	0.435	.	0.85
@193	21.35	60.8	0.309	.	0.852
@189	21.08	61.993	0.203	.	0.854
@995	21.6	62.603	0.095	.	0.856
@229	21.41	60.57	0.34	.	0.852
@374	21.59	62.436	0.115	.	0.856
@234	21.78	61.485	0.36	.	0.852
@184	21.1	61.973	0.199	.	0.854
@186	21.45	61.131	0.27	.	0.853
@1035	21.52	61.174	0.276	.	0.853
@201	21.16	60.617	0.372	.	0.851
@211	21.61	61.911	0.196	.	0.855
@216	21.35	60.637	0.331	.	0.852
@209	21.6	60.632	0.38	.	0.851
@213	21.59	60.22	0.433	.	0.85
@224	21.52	62.022	0.161	.	0.855
@204	21.34	59.821	0.439	.	0.85
@230	21.64	62.674	0.092	.	0.856
@190	21.16	61.25	0.284	.	0.853
@235	21.79	61.668	0.375	.	0.852
@180	21.46	61.243	0.256	.	0.854
@188	21.24	60.668	0.341	.	0.852
@214	21.41	60.307	0.375	.	0.851
@223	21.49	62.005	0.159	.	0.856
@205	21.52	61.572	0.222	.	0.854
@217	21.7	61.683	0.278	.	0.853
@1305	21.79	62.293	0.258	.	0.854
@187	21.13	61.286	0.287	.	0.853
@208	21.55	59.389	0.532	.	0.848
@218	21.65	62.485	0.123	.	0.856
@185	21.81	62.563	0.222	.	0.854

Item Statistics			
Item	Mean	Std. Deviation	N
@178	0.91	0.283	343
@182	0.49	0.501	343
@206	0.69	0.465	343
@1303	0.06	0.235	343
@225	0.32	0.467	343
@215	0.87	0.332	343
@169	0.55	0.499	343
@231	0.37	0.484	343
@219	0.17	0.373	343
@202	0.87	0.335	343
@221	0.29	0.454	343
@992	0.03	0.168	343
@371	0.28	0.448	343
@173	0.39	0.489	343
@226	0.16	0.365	343
@233	0.05	0.282	343
@174	0.49	0.501	343
@1036	0.07	0.26	343
@210	0.25	0.434	343
@207	0.61	0.488	343
@212	0.47	0.5	343
@172	0.35	0.478	343
@198	0.83	0.378	343
@368	0.2	0.401	343
@191	0.36	0.481	343
@193	0.52	0.5	343
@189	0.79	0.408	343
@995	0.27	0.444	343

@229	0.46	0.499	343
@374	0.29	0.452	343
@234	0.09	0.331	343
@184	0.77	0.42	343
@186	0.42	0.495	343
@1035	0.35	0.477	343
@201	0.71	0.455	343
@211	0.26	0.441	343
@216	0.52	0.5	343
@209	0.27	0.445	343
@213	0.29	0.452	343
@224	0.35	0.478	343
@204	0.53	0.5	343
@230	0.23	0.42	343
@190	0.71	0.452	343
@235	0.08	0.291	343
@180	0.41	0.493	343
@188	0.63	0.483	343
@214	0.46	0.499	343
@223	0.38	0.487	343
@205	0.35	0.477	343
@217	0.17	0.375	343
@1305	0.08	0.27	343
@187	0.74	0.441	343
@208	0.33	0.47	343
@218	0.22	0.414	343
@185	0.06	0.24	343

Grade 4 Math CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@135	22.44	66.38	0.419	.	0.833
@140	22.51	66.879	0.337	.	0.835
@109	22.52	66.481	0.385	.	0.834
@257	22.79	66.979	0.346	.	0.835
@157	22.63	66.713	0.35	.	0.834
@236	22.67	66.125	0.428	.	0.833
@170	22.69	69.25	0.041	.	0.841
@1009	22.78	67.88	0.223	.	0.837
@262	21.91	64.178	0.365	.	0.834
@238	22.79	68.315	0.169	.	0.838
@268	22.44	68.982	0.079	.	0.84
@264	22.81	68.163	0.193	.	0.838
@276	22.81	67.081	0.341	.	0.835
@244	23.09	69.674	0.063	.	0.839
@166	22.81	67.414	0.293	.	0.836
@247	22.72	66.431	0.398	.	0.833
@171	22.71	66.773	0.351	.	0.834
@1005	22.31	66.621	0.463	.	0.833
@254	22.74	69.66	-0.008	.	0.842
@239	23.06	68.793	0.292	.	0.837
@165	22.71	66.657	0.367	.	0.834
@265	22.62	69.397	0.022	.	0.842
@259	22.86	68.791	0.12	.	0.839
@256	22.78	67.807	0.234	.	0.837
@250	22.63	66.047	0.434	.	0.833
@164	22.8	68.95	0.087	.	0.84

@263	22.59	67.393	0.266	.	0.836
@261	22.85	68.331	0.181	.	0.838
@1006	22.85	69.402	0.032	.	0.841
@168	22.72	66.37	0.406	.	0.833
@163	22.41	67.871	0.23	.	0.837
@103	22.71	66.48	0.39	.	0.834
@245	22.77	66.204	0.442	.	0.833
@167	22.63	68.305	0.154	.	0.839
@1010	23.1	69.468	0.226	.	0.838
@277	22.66	66.163	0.422	.	0.833
@240	23.02	68.261	0.325	.	0.836
@154	22.56	65.902	0.454	.	0.832
@271	22.53	67.905	0.206	.	0.838
@253	22.8	70.452	-0.108	.	0.844
@375	22.39	65.584	0.345	.	0.834
@267	22.47	65.878	0.476	.	0.832
@242	22.26	67.363	0.388	.	0.834
@274	22.73	67.87	0.216	.	0.837
@246	22.89	67.337	0.343	.	0.835
@272	22.48	66.401	0.404	.	0.833
@373	22.79	68.705	0.118	.	0.839
@278	22.77	67.551	0.263	.	0.836
@1007	22.88	68.495	0.168	.	0.838
@377	22.64	66.584	0.367	.	0.834
@243	22.84	68.196	0.197	.	0.838
@378	22.58	65.82	0.463	.	0.832
@241	22.87	68.599	0.15	.	0.838
@252	23.04	68.321	0.351	.	0.836
@258	22.64	68.108	0.178	.	0.838
@249	22.67	67.362	0.273	.	0.836

Item Statistics			
	Mean	Std. Deviation	N
@135	0.67	0.473	227
@140	0.59	0.492	227
@109	0.58	0.494	227
@257	0.31	0.465	227
@157	0.48	0.501	227
@236	0.44	0.497	227
@170	0.41	0.494	227
@1009	0.33	0.47	227
@262	1.19	0.845	227
@238	0.31	0.465	227
@268	0.67	0.473	227
@264	0.3	0.457	227
@276	0.29	0.455	227
@244	0.02	0.132	227
@166	0.3	0.459	227
@247	0.38	0.487	227
@171	0.4	0.49	227
@1005	0.8	0.403	227
@254	0.36	0.481	227
@239	0.04	0.206	227
@165	0.39	0.489	227
@265	0.49	0.501	227
@259	0.24	0.429	227
@256	0.32	0.468	227
@250	0.47	0.5	227
@164	0.31	0.463	227
@263	0.52	0.501	227
@261	0.26	0.437	227
@1006	0.26	0.437	227

@168	0.38	0.487	227
@163	0.7	0.461	227
@103	0.39	0.489	227
@245	0.33	0.473	227
@167	0.48	0.501	227
@1010	0.01	0.094	227
@277	0.44	0.498	227
@240	0.08	0.278	227
@154	0.55	0.499	227
@271	0.58	0.495	227
@253	0.3	0.461	227
@375	0.72	0.678	227
@267	0.64	0.481	227
@242	0.84	0.366	227
@274	0.37	0.485	227
@246	0.22	0.412	227
@272	0.63	0.485	227
@373	0.31	0.465	227
@278	0.34	0.474	227
@1007	0.22	0.418	227
@377	0.46	0.5	227
@243	0.26	0.442	227
@378	0.52	0.501	227
@241	0.23	0.424	227
@252	0.07	0.249	227
@258	0.47	0.5	227
@249	0.43	0.496	227

Grade 5 Math CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@422	19.14	68.451	0.459	.	0.819
@1128	19.08	70.961	0.154	.	0.826
@459	19.31	70.324	0.252	.	0.824
@455	19.26	70.96	0.161	.	0.826
@1217	19.49	71.854	0.092	.	0.827
@434	19.15	69.346	0.349	.	0.822
@432	19.45	72.025	0.051	.	0.828
@417	19.51	70.865	0.281	.	0.824
@424	19.13	69.74	0.3	.	0.823
@441	19.01	70.931	0.163	.	0.826
@1136	19.27	71.643	0.078	.	0.828
@431	19.24	69.83	0.299	.	0.823
@1223	19.45	70.761	0.251	.	0.824
@463	19.51	69.673	0.39	.	0.822
@413	19.05	68.817	0.419	.	0.82
@442	19.35	71.26	0.137	.	0.826
@450	19.32	69.945	0.305	.	0.823
@1202	19.4	69.605	0.386	.	0.822
@1130	19.18	68.384	0.47	.	0.819
@414	18.88	65.725	0.269	.	0.83
@444	19.38	72.122	0.027	.	0.828
@460	18.91	70.819	0.195	.	0.825
@1232	19.44	69.987	0.359	.	0.822
@420	19.57	71.459	0.259	.	0.825
@462	19.41	71.462	0.124	.	0.827
@436	19.37	69.952	0.321	.	0.823

@1229	19.47	70.272	0.342	.	0.823
@439	19.3	71.43	0.107	.	0.827
@440	19.47	71.347	0.165	.	0.826
@415	19.29	69.801	0.313	.	0.823
@429	19.33	70.394	0.247	.	0.824
@445	19.35	69.036	0.436	.	0.82
@412	19.39	68.99	0.473	.	0.82
@426	19.32	69.928	0.305	.	0.823
@448	19.27	69.485	0.349	.	0.822
@421	19.09	71.299	0.113	.	0.827
@446	19.23	71.844	0.05	.	0.829
@1093	19.51	70.186	0.314	.	0.823
@443	19.43	70.326	0.304	.	0.823
@454	19.29	70.07	0.279	.	0.823
@425	19.26	71.508	0.093	.	0.828
@419	19.32	71.649	0.082	.	0.828
@433	19.2	69.627	0.318	.	0.823
@458	18.85	71.544	0.111	.	0.827
@416	19.17	69.072	0.383	.	0.821
@456	19.19	69.717	0.306	.	0.823
@449	19.5	72.294	0.017	.	0.828
@435	18.92	63.127	0.528	.	0.815
@452	19.19	70.987	0.152	.	0.826
@1187	19.23	68.779	0.429	.	0.82
@451	19.2	69.538	0.329	.	0.822
@1058	19.34	70.37	0.254	.	0.824
@464	19.29	67.736	0.473	.	0.818
@437	19.35	70.732	0.207	.	0.825
@1121	19.21	70.457	0.218	.	0.825
@453	19.49	70.193	0.375	.	0.822
@428	19.36	72.599	-0.039	.	0.83

Item Statistics			
	Mean	Std. Deviation	N
@422	0.49	0.501	278
@1128	0.55	0.499	278
@459	0.31	0.465	278
@455	0.36	0.482	278
@1217	0.13	0.34	278
@434	0.48	0.5	278
@432	0.18	0.382	278
@417	0.12	0.324	278
@424	0.49	0.501	278
@441	0.62	0.487	278
@1136	0.35	0.479	278
@431	0.38	0.487	278
@1223	0.17	0.379	278
@463	0.12	0.409	278
@413	0.58	0.495	278
@442	0.28	0.448	278
@450	0.3	0.46	278
@1202	0.23	0.422	278
@1130	0.45	0.498	278
@414	0.75	1.214	278
@444	0.24	0.428	278
@460	0.72	0.452	278
@1232	0.19	0.394	278
@420	0.05	0.226	278
@462	0.22	0.415	278
@436	0.26	0.439	278
@1229	0.16	0.366	278
@439	0.33	0.47	278
@440	0.16	0.366	278
@415	0.34	0.474	278

@429	0.3	0.458	278
@445	0.28	0.45	278
@412	0.23	0.424	278
@426	0.31	0.463	278
@448	0.35	0.479	278
@421	0.54	0.499	278
@446	0.4	0.491	278
@1093	0.12	0.409	278
@443	0.19	0.396	278
@454	0.33	0.473	278
@425	0.36	0.482	278
@419	0.3	0.46	278
@433	0.42	0.495	278
@458	0.78	0.417	278
@416	0.46	0.499	278
@456	0.43	0.496	278
@449	0.13	0.336	278
@435	0.71	0.998	278
@452	0.43	0.496	278
@1187	0.39	0.489	278
@451	0.43	0.496	278
@1058	0.28	0.452	278
@464	0.34	0.571	278
@437	0.28	0.45	278
@1121	0.41	0.493	278
@453	0.14	0.348	278
@428	0.27	0.443	278

Grade 6 Math CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@581	18.95	81.211	0.251	.	0.832
@568	18.71	82.094	0.105	.	0.835
@579	18.73	79.618	0.385	.	0.83
@470	18.99	82.619	0.072	.	0.835
@468	18.75	78.445	0.524	.	0.827
@1200	18.73	79.669	0.379	.	0.83
@551	18.94	82.017	0.14	.	0.834
@480	18.93	83.021	0.011	.	0.837
@469	17.85	69.529	0.543	.	0.824
@585	19.09	81.837	0.272	.	0.833
@578	18.91	80.463	0.333	.	0.831
@1251	19.12	81.96	0.297	.	0.833
@490	18.79	82.408	0.073	.	0.836
@1256	18.96	82.208	0.122	.	0.835
@502	18.67	76.06	0.512	.	0.825
@484	18.93	81.589	0.193	.	0.833
@1131	18.24	68.336	0.62	.	0.82
@1062	18.87	76.816	0.499	.	0.826
@537	18.77	79.432	0.413	.	0.829
@567	18.83	80.526	0.296	.	0.831
@577	19.08	83.827	-0.114	.	0.837
@1142	18.76	81.276	0.199	.	0.833
@487	18.95	83.72	-0.079	.	0.838
@580	18.94	82.146	0.126	.	0.835
@526	18.81	82.438	0.071	.	0.836
@1253	18.94	81.564	0.199	.	0.833

@534	19.03	82.845	0.048	.	0.836
@1225	19.11	82.933	0.062	.	0.835
@520	18.86	79.902	0.378	.	0.83
@472	18.78	78.931	0.455	.	0.828
@535	18.59	80.927	0.24	.	0.833
@571	18.42	80.262	0.37	.	0.83
@553	18.87	79.525	0.429	.	0.829
@563	18.72	80.605	0.272	.	0.832
@550	18.71	79.265	0.425	.	0.829
@515	18.8	80.565	0.285	.	0.832
@509	18.79	82.484	0.064	.	0.836
@495	18.79	81.337	0.195	.	0.833
@574	18.91	80.723	0.297	.	0.832
@478	18.9	80.571	0.312	.	0.831
@575	19.07	80.568	0.465	.	0.83
@491	18.62	75.125	0.507	.	0.825
@512	18.94	81.449	0.216	.	0.833
@521	19.02	83	0.023	.	0.836
@1101	18.76	80.902	0.241	.	0.833
@572	18.87	81.582	0.179	.	0.834
@476	19.05	82.985	0.031	.	0.836
@1203	18.81	80.267	0.322	.	0.831
@524	19.11	82.239	0.224	.	0.833
@514	18.82	81.592	0.169	.	0.834
@1063	18.78	80.712	0.265	.	0.832
@570	19.05	80.681	0.416	.	0.83
@545	18.97	81.41	0.236	.	0.833
@517	18.87	81.149	0.231	.	0.833
@466	19.03	82.94	0.034	.	0.836
@482	19.13	83.445	-0.05	.	0.836
@1254	18.61	80.342	0.304	.	0.831

Item Statistics			
	Mean	Std. Deviation	N
@581	0.23	0.422	235
@568	0.46	0.5	235
@579	0.45	0.499	235
@470	0.19	0.394	235
@468	0.43	0.496	235
@1200	0.45	0.499	235
@551	0.24	0.43	235
@480	0.25	0.432	235
@469	1.33	1.327	235
@585	0.09	0.28	235
@578	0.26	0.442	235
@1251	0.06	0.237	235
@490	0.39	0.489	235
@1256	0.22	0.413	235
@502	0.51	0.747	235
@484	0.25	0.435	235
@1131	0.94	1.296	235
@1062	0.31	0.687	235
@537	0.4	0.492	235
@567	0.35	0.478	235
@577	0.1	0.298	235
@1142	0.42	0.494	235
@487	0.23	0.419	235
@580	0.23	0.424	235
@526	0.37	0.484	235
@1253	0.24	0.43	235
@534	0.15	0.361	235
@1225	0.07	0.26	235
@520	0.32	0.469	235
@472	0.4	0.507	235

@535	0.59	0.493	235
@571	0.76	0.43	235
@553	0.31	0.464	235
@563	0.46	0.499	235
@550	0.46	0.5	235
@515	0.38	0.487	235
@509	0.39	0.489	235
@495	0.39	0.488	235
@574	0.27	0.444	235
@478	0.28	0.45	235
@575	0.11	0.314	235
@491	0.56	0.847	235
@512	0.24	0.427	235
@521	0.16	0.369	235
@1101	0.42	0.495	235
@572	0.31	0.462	235
@476	0.13	0.339	235
@1203	0.37	0.484	235
@524	0.06	0.245	235
@514	0.36	0.48	235
@1063	0.4	0.491	235
@570	0.13	0.334	235
@545	0.2	0.404	235
@517	0.31	0.464	235
@466	0.15	0.361	235
@482	0.05	0.221	235
@1254	0.57	0.496	235

Grade 7 Math CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@616	12.33	30.85	0.001	.	0.712
@562	12.19	27.689	0.334	.	0.691
@533	12.51	29.149	0.332	.	0.694
@467	12.72	29.881	0.262	.	0.699
@471	12.83	30.381	0.306	.	0.701
@543	12.76	30.822	0.052	.	0.707
@474	12.72	30.691	0.07	.	0.707
@565	12.53	28.445	0.479	.	0.686
@522	12.73	29.787	0.316	.	0.697
@489	12.52	29.84	0.198	.	0.701
@540	12.57	29.749	0.229	.	0.7
@523	12.41	29.908	0.174	.	0.703
@527	12.7	29.539	0.352	.	0.695
@1241	12.4	29.095	0.326	.	0.694
@1244	12.69	31.262	-0.07	.	0.713
@1264	12.85	31.004	0.051	.	0.706
@1259	12.6	29.776	0.234	.	0.7
@1065	12.37	29.121	0.321	.	0.694
@475	12.66	29.479	0.33	.	0.695
@564	12.6	30.134	0.158	.	0.703
@505	12.54	30.617	0.051	.	0.709
@516	12.73	30.351	0.162	.	0.703
@508	12.38	30.171	0.124	.	0.706
@525	12.79	30.383	0.216	.	0.702
@1066	12.85	31.102	-0.009	.	0.707
@488	12.69	31.124	-0.038	.	0.712

@477	12.73	31.011	-0.007	.	0.71
@494	12.58	29.705	0.239	.	0.699
@506	12.68	31.418	-0.106	.	0.715
@496	12.6	30.446	0.095	.	0.707
@538	12.85	31.098	-0.004	.	0.707
@479	12.74	29.557	0.385	.	0.694
@483	12.72	30.821	0.038	.	0.708
@559	12.63	30.601	0.069	.	0.708
@486	12.66	31.587	-0.141	.	0.717
@1234	12.7	30.687	0.066	.	0.707
@1247	12.85	30.914	0.126	.	0.705
@481	12.47	27.332	0.449	.	0.682
@519	12.82	30.449	0.258	.	0.702
@498	12.61	29.267	0.344	.	0.694
@485	12.55	29.859	0.202	.	0.701
@1237	12.75	30.676	0.088	.	0.706
@555	12.83	30.096	0.404	.	0.698
@557	12.52	30.565	0.059	.	0.709
@552	12.84	30.687	0.198	.	0.704
@536	12.46	29.353	0.283	.	0.697
@549	12.6	30.761	0.03	.	0.71
@541	12.54	29.072	0.356	.	0.693
@501	12.8	30.733	0.109	.	0.705
@547	12.72	28.94	0.355	.	0.692
@513	12.87	31.003	0.121	.	0.706
@503	12.55	30.573	0.061	.	0.709
@1252	12.84	30.817	0.132	.	0.705
@493	12.56	30.853	0.008	.	0.711
@561	12.68	29.396	0.367	.	0.694
@492	12.71	30.11	0.213	.	0.701
@511	12.67	31.692	-0.165	.	0.718

Item Statistics			
	Mean	Std. Deviation	N
@616	0.54	0.5	186
@562	0.68	0.793	186
@533	0.36	0.481	186
@467	0.16	0.378	186
@471	0.04	0.203	186
@543	0.11	0.317	186
@474	0.16	0.364	186
@565	0.34	0.476	186
@522	0.14	0.348	186
@489	0.35	0.48	186
@540	0.3	0.46	186
@523	0.46	0.5	186
@527	0.17	0.374	186
@1241	0.47	0.501	186
@1244	0.18	0.383	186
@1264	0.02	0.145	186
@1259	0.27	0.445	186
@1065	0.5	0.501	186
@475	0.21	0.408	186
@564	0.27	0.447	186
@505	0.33	0.473	186
@516	0.15	0.353	186
@508	0.49	0.501	186
@525	0.08	0.273	186
@1066	0.02	0.145	186
@488	0.18	0.388	186
@477	0.15	0.353	186
@494	0.3	0.458	186
@506	0.19	0.392	186
@496	0.27	0.445	186

@538	0.02	0.126	186
@479	0.13	0.342	186
@483	0.16	0.364	186
@559	0.24	0.426	186
@486	0.21	0.408	186
@1234	0.17	0.378	186
@1247	0.02	0.126	186
@481	0.4	0.7	186
@519	0.05	0.215	186
@498	0.26	0.442	186
@485	0.32	0.467	186
@1237	0.12	0.33	186
@555	0.04	0.217	186
@557	0.35	0.48	186
@552	0.03	0.177	186
@536	0.41	0.493	186
@549	0.27	0.447	186
@541	0.33	0.473	186
@501	0.07	0.256	186
@547	0.16	0.501	186
@513	0.01	0.073	186
@503	0.32	0.469	186
@1252	0.03	0.177	186
@493	0.31	0.462	186
@561	0.19	0.392	186
@492	0.16	0.369	186
@511	0.2	0.4	186

Grade 8 Math CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@602	13.27	43.409	0.197	.	0.792
@594	13.1	43.362	0.157	.	0.793
@593	13.19	43.256	0.191	.	0.792
@583	13.04	40.67	0.451	.	0.782
@544	13.25	44.16	0.048	.	0.796
@604	13.25	43.951	0.087	.	0.795
@597	13.33	44.236	0.051	.	0.795
@1236	13.23	43.074	0.239	.	0.791
@569	13.21	41.946	0.436	.	0.785
@1230	13.18	43.192	0.2	.	0.792
@1135	13.32	41.726	0.441	.	0.784
@590	13.33	42.744	0.379	.	0.788
@573	13.32	43.92	0.116	.	0.794
@596	13.05	43.751	0.091	.	0.796
@615	13.35	44.93	-0.101	.	0.798
@531	13.3	43.747	0.141	.	0.793
@601	13.29	44.55	-0.02	.	0.797
@618	12.82	42.207	0.345	.	0.787
@1138	13.34	42.167	0.383	.	0.786
@620	13.44	44.263	0.133	.	0.793
@607	13.18	42.192	0.371	.	0.787
@1270	13.21	42.498	0.336	.	0.788
@1273	13.28	42.278	0.427	.	0.786
@576	13.35	45.109	-0.142	.	0.799
@1269	13.07	41.645	0.427	.	0.784
@582	13.35	42.527	0.431	.	0.786

@548	13.43	44.351	0.082	.	0.794
@598	13.19	44.515	-0.02	.	0.799
@617	13.29	43.819	0.124	.	0.794
@591	13.41	43.528	0.346	.	0.79
@613	13.15	40.545	0.417	.	0.783
@592	12.99	42.172	0.334	.	0.788
@621	13.16	42.192	0.362	.	0.787
@1218	13.37	43.384	0.288	.	0.79
@529	13.21	43.588	0.142	.	0.794
@1141	13.13	42.191	0.355	.	0.787
@584	13.21	42.225	0.381	.	0.786
@566	13.24	43.018	0.252	.	0.79
@1268	13.39	43.987	0.154	.	0.793
@1228	13.13	43.31	0.17	.	0.793
@588	13.42	44.47	0.03	.	0.795
@612	13.24	41.843	0.477	.	0.784
@542	13.44	44.74	-0.077	.	0.796
@1274	13.23	42.119	0.414	.	0.786
@600	12.93	42.719	0.248	.	0.79
@614	12.96	41.812	0.39	.	0.786
@586	13.2	43.445	0.163	.	0.793
@608	13.04	42.872	0.227	.	0.791
@611	13.1	43.326	0.162	.	0.793
@556	13.23	43.969	0.078	.	0.795
@532	13.16	43.346	0.17	.	0.793
@530	13.13	44.618	-0.039	.	0.8
@603	13.39	44.671	-0.042	.	0.796
@599	13.29	42.058	0.48	.	0.784
@589	13.1	43.073	0.202	.	0.792
@1140	13.46	44.474	0.098	.	0.794

Item Statistics			
	Mean	Std. Deviation	N
@602	0.19	0.396	135
@594	0.36	0.483	135
@593	0.28	0.451	135
@583	0.42	0.617	135
@544	0.21	0.412	135
@604	0.21	0.412	135
@597	0.14	0.349	135
@1236	0.24	0.427	135
@569	0.25	0.436	135
@1230	0.29	0.455	135
@1135	0.15	0.466	135
@590	0.14	0.349	135
@573	0.15	0.357	135
@596	0.41	0.495	135
@615	0.12	0.324	135
@531	0.17	0.377	135
@601	0.18	0.384	135
@618	0.64	0.48	135
@1138	0.13	0.448	135
@620	0.03	0.17	135
@607	0.29	0.455	135
@1270	0.25	0.436	135
@1273	0.19	0.39	135
@576	0.12	0.324	135
@1269	0.4	0.492	135
@582	0.12	0.347	135
@548	0.04	0.19	135
@598	0.27	0.448	135
@617	0.18	0.384	135
@591	0.05	0.223	135

@613	0.32	0.676	135
@592	0.47	0.501	135
@621	0.31	0.465	135
@1218	0.1	0.296	135
@529	0.25	0.436	135
@1141	0.33	0.473	135
@584	0.26	0.44	135
@566	0.23	0.422	135
@1268	0.07	0.263	135
@1228	0.33	0.473	135
@588	0.04	0.207	135
@612	0.22	0.417	135
@542	0.03	0.17	135
@1274	0.24	0.427	135
@600	0.53	0.501	135
@614	0.5	0.502	135
@586	0.27	0.444	135
@608	0.43	0.497	135
@611	0.37	0.485	135
@556	0.24	0.427	135
@532	0.3	0.462	135
@530	0.34	0.476	135
@603	0.08	0.275	135
@599	0.18	0.384	135
@589	0.37	0.485	135
@1140	0.01	0.086	135

Grade 3 Hawaiian Language Arts CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@93	25.43	113.643	0.36	.	0.893
@101	25.81	111.309	0.508	.	0.891
@381	25.78	111.234	0.51	.	0.891
@108	25.77	111.857	0.449	.	0.892
@94	25.43	114.312	0.28	.	0.894
@99	25.73	112.005	0.433	.	0.892
@89	25.71	112.241	0.411	.	0.892
@1026	25.89	111.332	0.528	.	0.891
@84	25.52	112.034	0.482	.	0.892
@88	25.84	112.026	0.443	.	0.892
@90	25.38	114.081	0.345	.	0.893
@91	25.41	113.76	0.366	.	0.893
@87	25.95	112.573	0.427	.	0.892
@92	25.72	111.146	0.516	.	0.891
@1023	25.98	113.783	0.307	.	0.894
@95	25.89	112.765	0.382	.	0.893
@97	25.77	111.824	0.452	.	0.892
@96	25.96	113.004	0.383	.	0.893
@107	25.71	112.712	0.366	.	0.893
@104	26.04	112.248	0.528	.	0.892
@383	25.65	114.511	0.198	.	0.895
@161	25.65	112.621	0.381	.	0.893
@162	25.6	111.849	0.467	.	0.892
@1025	26.05	114.606	0.25	.	0.894
@110	25.87	113.543	0.299	.	0.894
@113	26.11	115	0.244	.	0.894

@1024	25.52	104.274	0.585	.	0.89
@117	25.6	113.03	0.35	.	0.893
@1020	25.83	109.69	0.487	.	0.891
@114	25.83	113.883	0.26	.	0.894
@112	26.14	114.387	0.382	.	0.893
@1022	25.84	118.351	-0.164	.	0.899
@119	25.8	113.334	0.309	.	0.894
@379	26.06	113.686	0.314	.	0.894
@130	25.83	114.787	0.173	.	0.895
@125	25.67	112.173	0.421	.	0.892
@143	25.99	114.738	0.209	.	0.895
@123	25.8	113.908	0.254	.	0.894
@137	25.74	112.502	0.386	.	0.893
@127	26.2	115.424	0.346	.	0.894
@158	25.86	114.351	0.218	.	0.895
@1021	25.6	114.114	0.243	.	0.894
@384	25.62	115.259	0.129	.	0.896
@156	25.88	113.333	0.323	.	0.893
@150	25.49	113.516	0.336	.	0.893
@138	25.88	111.389	0.431	.	0.892
@145	25.56	111.825	0.483	.	0.892
@152	25.67	113.463	0.297	.	0.894
@122	25.69	113.065	0.333	.	0.893
@141	25.54	114.316	0.236	.	0.894
@155	25.91	112.97	0.366	.	0.893
@159	25.97	115.65	0.106	.	0.896
@134	25.94	114.747	0.194	.	0.895
@139	26.12	115.281	0.214	.	0.894
@394	24.41	97.688	0.653	.	0.89

Item Statistics			

	Mean	Std. Deviation	N
@93	0.8	0.397	333
@101	0.42	0.494	333
@381	0.46	0.499	333
@108	0.46	0.499	333
@94	0.8	0.397	333
@99	0.5	0.501	333
@89	0.52	0.5	333
@1026	0.34	0.475	333
@84	0.71	0.452	333
@88	0.39	0.489	333
@90	0.85	0.358	333
@91	0.83	0.377	333
@87	0.28	0.449	333
@92	0.51	0.501	333
@1023	0.26	0.438	333
@95	0.34	0.475	333
@97	0.47	0.5	333
@96	0.28	0.448	333
@107	0.52	0.5	333
@104	0.2	0.397	333
@383	0.58	0.494	333
@161	0.59	0.493	333
@162	0.63	0.483	333
@1025	0.19	0.39	333
@110	0.37	0.483	333
@113	0.13	0.332	333
@1024	0.71	0.973	333
@117	0.63	0.483	333
@1020	0.41	0.659	333
@114	0.41	0.492	333
@112	0.09	0.291	333
@1022	0.39	0.489	333

@119	0.43	0.496	333
@379	0.17	0.443	333
@130	0.41	0.492	333
@125	0.56	0.497	333
@143	0.24	0.43	333
@123	0.44	0.497	333
@137	0.5	0.501	333
@127	0.04	0.187	333
@158	0.38	0.485	333
@1021	0.63	0.483	333
@384	0.61	0.489	333
@156	0.35	0.478	333
@150	0.74	0.438	333
@138	0.35	0.566	333
@145	0.67	0.47	333
@152	0.56	0.497	333
@122	0.55	0.499	333
@141	0.7	0.46	333
@155	0.33	0.47	333
@159	0.26	0.442	333
@134	0.29	0.455	333
@139	0.11	0.318	333
@394	1.83	1.344	333

Grade 4 Hawaiian Language Arts CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@18	32.36	142.159	0.196	.	0.904
@389	32.3	140.365	0.421	.	0.902
@21	32.64	139.987	0.348	.	0.902
@7	32.28	140.757	0.395	.	0.902
@12	32.38	139.782	0.42	.	0.902
@64	32.27	140.46	0.445	.	0.902
@8	32.42	138.518	0.519	.	0.901
@9	32.64	139.923	0.353	.	0.902
@13	32.24	141.683	0.329	.	0.903
@11	32.9	141.357	0.286	.	0.903
@1019	32.73	138.206	0.516	.	0.901
@14	32.33	139.769	0.452	.	0.902
@16	32.38	140.409	0.359	.	0.902
@15	32.35	138.728	0.548	.	0.901
@17	32.71	140.341	0.324	.	0.903
@65	32.28	140.401	0.441	.	0.902
@20	32.29	139.17	0.565	.	0.901
@22	32.7	139.994	0.352	.	0.902
@23	32.69	143.359	0.064	.	0.905
@30	32.65	142.246	0.156	.	0.904
@34	32.5	139.233	0.425	.	0.902
@35	32.78	136.316	0.479	.	0.901
@24	32.66	137.59	0.556	.	0.9
@28	32.9	139.623	0.471	.	0.901
@39	32.39	138.422	0.544	.	0.901
@36	32.63	142.216	0.158	.	0.904

@25	32.89	145.034	-0.084	.	0.906
@26	32.62	140.063	0.341	.	0.902
@27	32.49	139.069	0.443	.	0.902
@37	32.56	139.166	0.421	.	0.902
@38	32.37	140.461	0.361	.	0.902
@31	32.56	140.384	0.316	.	0.903
@54	32.51	140.542	0.308	.	0.903
@40	32.66	142.227	0.158	.	0.904
@55	32.77	142.785	0.118	.	0.904
@41	32.8	141.299	0.255	.	0.903
@56	32.84	142.779	0.129	.	0.904
@57	32.85	142.685	0.138	.	0.904
@42	32.33	133.869	0.451	.	0.902
@387	32.62	141.117	0.251	.	0.903
@46	32.66	140.116	0.338	.	0.902
@47	32.62	139.326	0.404	.	0.902
@48	32.38	138.229	0.569	.	0.901
@50	32.67	137.268	0.586	.	0.9
@49	32.35	138.72	0.545	.	0.901
@51	32.71	141.587	0.216	.	0.904
@62	32.67	140.596	0.297	.	0.903
@60	32.42	139.418	0.435	.	0.902
@61	32.61	140.266	0.324	.	0.903
@63	32.86	143.739	0.041	.	0.905
@1016	32.73	141.397	0.235	.	0.903
@1015	32.57	140.555	0.301	.	0.903
@1014	32.83	142.64	0.14	.	0.904
@1011	32.74	140.31	0.332	.	0.903
@1012	32.76	138.274	0.518	.	0.901
@1017	32.86	138.281	0.574	.	0.901
@1013	31.92	125.757	0.738	.	0.896
@395	31.04	121.248	0.637	.	0.901

Item Statistics			
	Mean	Std. Deviation	N
@18	0.76	0.431	221
@389	0.82	0.386	221
@21	0.48	0.501	221
@7	0.84	0.37	221
@12	0.74	0.441	221
@64	0.85	0.357	221
@8	0.7	0.461	221
@9	0.48	0.501	221
@13	0.88	0.328	221
@11	0.22	0.416	221
@1019	0.38	0.488	221
@14	0.78	0.413	221
@16	0.74	0.441	221
@15	0.77	0.422	221
@17	0.4	0.492	221
@65	0.84	0.366	221
@20	0.83	0.378	221
@22	0.42	0.495	221
@23	0.43	0.496	221
@30	0.47	0.5	221
@34	0.62	0.488	221
@35	0.33	0.678	221
@24	0.46	0.5	221
@28	0.21	0.41	221
@39	0.72	0.448	221
@36	0.49	0.501	221
@25	0.23	0.419	221
@26	0.49	0.501	221
@27	0.63	0.484	221

@37	0.56	0.497	221
@38	0.75	0.433	221
@31	0.56	0.498	221
@54	0.61	0.49	221
@40	0.46	0.5	221
@55	0.34	0.476	221
@41	0.32	0.468	221
@56	0.28	0.448	221
@57	0.27	0.446	221
@42	0.78	0.923	221
@387	0.49	0.501	221
@46	0.46	0.499	221
@47	0.49	0.501	221
@48	0.73	0.443	221
@50	0.45	0.498	221
@49	0.76	0.425	221
@51	0.4	0.492	221
@62	0.45	0.499	221
@60	0.7	0.461	221
@61	0.51	0.501	221
@63	0.26	0.438	221
@1016	0.38	0.488	221
@1015	0.55	0.499	221
@1014	0.29	0.452	221
@1011	0.38	0.485	221
@1012	0.36	0.48	221
@1017	0.25	0.436	221
@1013	1.2	1.056	221
@395	2.08	1.489	221

Grade 5 Hawaiian Language Arts CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@642	27.26	138.201	0.461	.	0.893
@644	26.77	141.106	0.365	.	0.895
@636	27.11	138.903	0.394	.	0.894
@716	27.35	142.762	0.072	.	0.897
@717	27.65	143.638	0.034	.	0.896
@633	27.2	140.275	0.274	.	0.895
@723	27.33	138.784	0.427	.	0.894
@1072	27.33	139.856	0.329	.	0.895
@711	27.36	141.588	0.179	.	0.896
@690	27.23	138.623	0.419	.	0.894
@1074	26.79	143.291	0.049	.	0.897
@713	27.31	138.797	0.418	.	0.894
@721	26.98	138.445	0.47	.	0.893
@726	27.26	140.88	0.227	.	0.896
@724	27.23	139.861	0.312	.	0.895
@725	27.16	138.354	0.439	.	0.893
@627	27.15	140.444	0.26	.	0.895
@722	26.6	130.123	0.566	.	0.891
@1215	27.34	142.138	0.126	.	0.897
@672	27.23	141.891	0.138	.	0.897
@1183	27.28	140.598	0.254	.	0.895
@681	27.44	140.459	0.317	.	0.895
@673	27.5	140.769	0.323	.	0.895
@729	27.03	142.368	0.102	.	0.897
@640	27.4	138.758	0.458	.	0.893
@718	27.47	143.002	0.063	.	0.897

@1193	27.25	138.459	0.436	.	0.893
@689	26.96	139.922	0.339	.	0.895
@631	27.21	138.014	0.47	.	0.893
@648	27.11	139.363	0.355	.	0.894
@1222	27.48	142.966	0.069	.	0.897
@629	27.27	138.27	0.456	.	0.893
@728	27.11	139.443	0.348	.	0.894
@693	27.45	140.409	0.324	.	0.895
@677	27.63	143.146	0.133	.	0.896
@625	27.1	139.68	0.329	.	0.895
@702	27.4	140.387	0.303	.	0.895
@730	27.3	140.409	0.274	.	0.895
@709	27.09	139.509	0.344	.	0.894
@646	27.12	138.361	0.441	.	0.893
@696	27.03	136.937	0.589	.	0.892
@637	27.41	138.25	0.515	.	0.893
@708	27.35	137.358	0.564	.	0.892
@712	26.68	123.891	0.631	.	0.891
@720	27.3	138.261	0.464	.	0.893
@714	27.29	137.988	0.487	.	0.893
@630	27.26	140.048	0.299	.	0.895
@727	27.43	139.538	0.401	.	0.894
@684	27.28	136.794	0.59	.	0.892
@699	27.04	138.962	0.401	.	0.894
@707	27.49	142.149	0.162	.	0.896
@706	27.45	138.811	0.422	.	0.894
@626	26.99	139.35	0.38	.	0.894
@634	26.99	138.723	0.438	.	0.894
@719	27.33	136.266	0.658	.	0.891
@1208	27.49	142.506	0.123	.	0.896
@1030	24.42	116.851	0.608	.	0.897

Item Statistics			
	Mean	Std. Deviation	N
@642	0.41	0.492	275
@644	0.9	0.298	275
@636	0.56	0.498	275
@716	0.32	0.466	275
@717	0.02	0.146	275
@633	0.47	0.5	275
@723	0.34	0.474	275
@1072	0.34	0.475	275
@711	0.31	0.464	275
@690	0.44	0.497	275
@1074	0.88	0.326	275
@713	0.36	0.482	275
@721	0.69	0.463	275
@726	0.41	0.492	275
@724	0.44	0.498	275
@725	0.51	0.501	275
@627	0.52	0.501	275
@722	1.07	0.983	275
@1215	0.33	0.47	275
@672	0.44	0.498	275
@1183	0.39	0.488	275
@681	0.23	0.419	275
@673	0.17	0.374	275
@729	0.64	0.482	275
@640	0.27	0.446	275
@718	0.2	0.403	275
@1193	0.42	0.494	275
@689	0.71	0.455	275
@631	0.46	0.499	275
@648	0.56	0.498	275

@1222	0.19	0.395	275
@629	0.4	0.491	275
@728	0.56	0.498	275
@693	0.22	0.416	275
@677	0.04	0.188	275
@625	0.57	0.496	275
@702	0.27	0.444	275
@730	0.37	0.483	275
@709	0.57	0.495	275
@646	0.55	0.498	275
@696	0.64	0.48	275
@637	0.26	0.44	275
@708	0.32	0.469	275
@712	0.99	1.296	275
@720	0.37	0.484	275
@714	0.38	0.486	275
@630	0.41	0.492	275
@727	0.24	0.428	275
@684	0.39	0.488	275
@699	0.63	0.485	275
@707	0.18	0.383	275
@706	0.21	0.477	275
@626	0.68	0.469	275
@634	0.68	0.469	275
@719	0.34	0.474	275
@1208	0.18	0.383	275
@1030	3.25	1.801	275

Grade 6 Hawaiian Language Arts CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@624	30.27	149.746	0.32	.	0.885
@635	30.12	152.319	0.127	.	0.887
@638	30.14	152.417	0.11	.	0.887
@641	30.53	148.267	0.418	.	0.884
@704	30.32	148.765	0.392	.	0.884
@703	30.36	151.232	0.175	.	0.886
@628	30.28	150.338	0.266	.	0.886
@645	30.5	150.277	0.249	.	0.886
@660	30.92	152.374	0.222	.	0.886
@1171	30.61	149.214	0.352	.	0.885
@661	30.6	151.524	0.153	.	0.887
@659	30.48	148.755	0.374	.	0.884
@643	29.32	138.408	0.526	.	0.882
@665	30.6	146.881	0.554	.	0.883
@678	30.4	146.48	0.57	.	0.882
@652	30.4	148.95	0.362	.	0.884
@639	30.61	150.144	0.273	.	0.885
@1075	30.51	151.507	0.148	.	0.887
@662	30.44	149.452	0.317	.	0.885
@664	29.94	137.651	0.598	.	0.88
@647	30.58	148.201	0.433	.	0.884
@691	30.94	153.128	0.1	.	0.887
@688	30.63	148.601	0.413	.	0.884
@687	30.83	151.45	0.238	.	0.886
@1309	30.68	148.835	0.409	.	0.884
@651	30.81	150.751	0.304	.	0.885

@683	30.19	149.685	0.363	.	0.885
@649	30.54	150.745	0.213	.	0.886
@1173	29.97	138.73	0.587	.	0.88
@1083	30.53	150.216	0.256	.	0.886
@653	30.25	148.93	0.405	.	0.884
@682	30.57	153.819	-0.039	.	0.889
@698	30.89	153.232	0.044	.	0.887
@1172	30.26	150.11	0.29	.	0.885
@632	30.56	148.589	0.396	.	0.884
@657	30.38	149.219	0.342	.	0.885
@680	28.77	136.65	0.553	.	0.881
@675	30.7	149.93	0.318	.	0.885
@674	30.91	152.625	0.166	.	0.886
@667	30.27	149.276	0.362	.	0.885
@1170	30.89	152.099	0.215	.	0.886
@692	30.71	150.164	0.301	.	0.885
@679	30.69	148.478	0.451	.	0.884
@685	30.92	152.49	0.21	.	0.886
@666	29.71	136.96	0.473	.	0.884
@701	30.89	151.577	0.294	.	0.886
@700	30.33	146.855	0.555	.	0.883
@697	30.51	148.918	0.362	.	0.884
@694	30.56	145.419	0.505	.	0.882
@676	30.92	153.177	0.068	.	0.887
@668	30.81	150.631	0.318	.	0.885
@650	30.71	148.743	0.439	.	0.884
@1169	30.71	151.02	0.219	.	0.886
@669	30.61	149.529	0.326	.	0.885
@663	30.87	150.876	0.358	.	0.885
@656	30.56	151.341	0.165	.	0.887
@655	30.2	150.013	0.328	.	0.885
@1031	27.85	124.529	0.643	.	0.883

Item Statistics			
	Mean	Std. Deviation	N
@624	0.69	0.462	235
@635	0.85	0.361	235
@638	0.83	0.377	235
@641	0.44	0.497	235
@704	0.65	0.479	235
@703	0.6	0.49	235
@628	0.69	0.464	235
@645	0.47	0.5	235
@660	0.05	0.212	235
@1171	0.36	0.48	235
@661	0.37	0.484	235
@659	0.49	0.501	235
@643	1.64	1.125	235
@665	0.36	0.482	235
@678	0.57	0.497	235
@652	0.57	0.496	235
@639	0.35	0.479	235
@1075	0.46	0.499	235
@662	0.53	0.5	235
@664	1.02	1.056	235
@647	0.38	0.487	235
@691	0.03	0.17	235
@688	0.33	0.472	235
@687	0.14	0.344	235
@1309	0.29	0.454	235
@651	0.15	0.361	235
@683	0.77	0.419	235
@649	0.43	0.495	235
@1173	1	1.002	235

@1083	0.43	0.497	235
@653	0.72	0.45	235
@682	0.4	0.49	235
@698	0.07	0.26	235
@1172	0.7	0.458	235
@632	0.4	0.492	235
@657	0.59	0.493	235
@680	2.2	1.198	235
@675	0.27	0.444	235
@674	0.05	0.221	235
@667	0.69	0.462	235
@1170	0.08	0.267	235
@692	0.26	0.437	235
@679	0.27	0.446	235
@685	0.04	0.202	235
@666	1.26	1.338	235
@701	0.08	0.267	235
@700	0.63	0.483	235
@697	0.46	0.499	235
@694	0.41	0.636	235
@676	0.05	0.212	235
@668	0.15	0.361	235
@650	0.25	0.435	235
@1169	0.26	0.439	235
@669	0.35	0.479	235
@663	0.1	0.298	235
@656	0.4	0.492	235
@655	0.77	0.422	235
@1031	3.11	1.8	235

Grade 7 Hawaiian Language Arts CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@1118	23.55	111.832	0.147	.	0.864
@784	23.85	110.163	0.263	.	0.862
@888	23.56	111.677	0.162	.	0.863
@883	24.16	111.31	0.198	.	0.863
@885	23.61	109.843	0.348	.	0.861
@886	24.27	112.057	0.168	.	0.863
@882	23.67	110.672	0.236	.	0.863
@763	23.8	111.39	0.147	.	0.864
@762	24.14	110.976	0.228	.	0.863
@1098	24.03	110.532	0.243	.	0.862
@1175	23.98	107.824	0.504	.	0.859
@871	23.65	110.734	0.235	.	0.863
@790	23.73	109.551	0.337	.	0.861
@774	24.17	110.497	0.305	.	0.862
@1097	23.21	100.089	0.603	.	0.854
@1099	23.91	108.601	0.416	.	0.86
@1089	24.27	111.859	0.201	.	0.863
@892	24.14	110.767	0.252	.	0.862
@843	24.3	111.858	0.23	.	0.863
@1178	24.25	111.725	0.195	.	0.863
@806	24.04	110.949	0.202	.	0.863
@878	23.97	104.142	0.549	.	0.856
@808	23.14	96.54	0.594	.	0.855
@1088	24.13	110.235	0.309	.	0.862
@769	23.76	110.865	0.201	.	0.863
@803	24.02	108.961	0.4	.	0.86

@877	23.89	110.45	0.235	.	0.863
@1185	24.2	113.73	-0.086	.	0.866
@777	24.02	111.478	0.146	.	0.864
@903	24.33	112.727	0.101	.	0.864
@887	23.73	108.505	0.441	.	0.86
@930	23.97	110.449	0.241	.	0.862
@880	24.19	111.079	0.243	.	0.862
@1096	23.2	100.379	0.507	.	0.857
@875	23.99	108.967	0.392	.	0.86
@811	24.05	111.025	0.197	.	0.863
@869	24.34	112.425	0.235	.	0.863
@879	24.08	113.12	-0.015	.	0.866
@897	23.98	109.181	0.369	.	0.861
@1182	24.11	109.098	0.425	.	0.86
@891	24.06	109.87	0.319	.	0.861
@874	24.26	111.118	0.305	.	0.862
@1179	24.25	111.384	0.245	.	0.863
@870	24.31	111.304	0.379	.	0.862
@872	24.16	107.354	0.423	.	0.859
@889	23.98	103.654	0.584	.	0.855
@829	23.78	112.161	0.074	.	0.865
@839	24.16	110.013	0.352	.	0.861
@899	24.07	109.165	0.398	.	0.86
@876	24.19	113.178	-0.018	.	0.865
@770	23.9	105.962	0.528	.	0.857
@834	24.18	110.237	0.341	.	0.861
@884	24.24	111.832	0.176	.	0.863
@902	24.15	109.302	0.427	.	0.86
@1104	24.1	111.891	0.116	.	0.864
@822	24.31	112.774	0.069	.	0.864
@1032	21.05	92.487	0.565	.	0.86

Item Statistics			
	Mean	Std. Deviation	N
@1118	0.82	0.386	183
@784	0.52	0.501	183
@888	0.81	0.394	183
@883	0.21	0.407	183
@885	0.75	0.432	183
@886	0.09	0.291	183
@882	0.69	0.462	183
@763	0.56	0.497	183
@762	0.23	0.422	183
@1098	0.34	0.475	183
@1175	0.39	0.489	183
@871	0.72	0.452	183
@790	0.64	0.482	183
@774	0.19	0.394	183
@1097	1.16	1.001	183
@1099	0.46	0.5	183
@1089	0.09	0.291	183
@892	0.23	0.422	183
@843	0.07	0.258	183
@1178	0.12	0.326	183
@806	0.33	0.471	183
@878	0.4	0.755	183
@808	1.22	1.283	183
@1088	0.23	0.425	183
@769	0.61	0.49	183
@803	0.35	0.478	183
@877	0.48	0.501	183
@1185	0.17	0.376	183
@777	0.35	0.478	183
@903	0.04	0.192	183

@887	0.63	0.483	183
@930	0.4	0.491	183
@880	0.17	0.381	183
@1096	1.17	1.133	183
@875	0.38	0.486	183
@811	0.32	0.467	183
@869	0.02	0.147	183
@879	0.28	0.452	183
@897	0.38	0.487	183
@1182	0.26	0.438	183
@891	0.31	0.462	183
@874	0.1	0.306	183
@1179	0.12	0.326	183
@870	0.05	0.228	183
@872	0.21	0.621	183
@889	0.38	0.753	183
@829	0.58	0.494	183
@839	0.21	0.407	183
@899	0.3	0.457	183
@876	0.17	0.381	183
@770	0.47	0.627	183
@834	0.19	0.39	183
@884	0.13	0.332	183
@902	0.22	0.414	183
@1104	0.27	0.444	183
@822	0.06	0.238	183
@1032	3.32	1.654	183

Grade 8 Hawaiian Language Arts CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@909	25.61	127.793	0.41	.	0.878
@917	25.52	129.713	0.284	.	0.88
@894	26.03	127.138	0.331	.	0.878
@867	26.16	129.136	0.166	.	0.88
@913	26.32	128.635	0.287	.	0.879
@929	25.6	127.72	0.442	.	0.878
@904	25.7	128.457	0.259	.	0.879
@927	25.69	127.491	0.366	.	0.878
@1127	26.3	127.795	0.367	.	0.878
@855	26.01	127.085	0.335	.	0.878
@1126	25.63	127.713	0.401	.	0.878
@848	25.74	126.84	0.407	.	0.878
@802	26.46	130.727	0.132	.	0.88
@771	26.18	125.551	0.525	.	0.876
@785	25.97	126.399	0.395	.	0.878
@767	25.52	119.313	0.577	.	0.874
@914	26.11	131.342	-0.042	.	0.883
@921	25.95	127.159	0.328	.	0.878
@911	25.56	118.187	0.721	.	0.871
@833	25.89	126.056	0.434	.	0.877
@912	26.08	127.678	0.289	.	0.879
@916	26.18	129.182	0.166	.	0.88
@796	26.04	128.714	0.19	.	0.88
@793	26.45	130.096	0.29	.	0.88
@772	26.28	127.65	0.371	.	0.878
@810	26.44	130.387	0.176	.	0.88

@1079	26.1	126.567	0.394	.	0.878
@761	26.13	125.421	0.512	.	0.876
@910	25.93	125.526	0.476	.	0.877
@906	26.1	126.675	0.384	.	0.878
@922	26.01	125.9	0.442	.	0.877
@1190	26.01	125.531	0.475	.	0.877
@1105	26.23	129.132	0.183	.	0.88
@893	26.24	130.555	0.039	.	0.882
@1078	26.24	130.228	0.072	.	0.881
@926	26.18	129.73	0.112	.	0.881
@1210	26.1	127.121	0.343	.	0.878
@820	25.69	115.094	0.621	.	0.872
@780	25.6	115.381	0.637	.	0.872
@1212	26.05	127.082	0.339	.	0.878
@925	25.97	126.968	0.344	.	0.878
@905	26.1	129.752	0.102	.	0.881
@1214	25.72	115.789	0.495	.	0.877
@1192	25.88	127.185	0.332	.	0.878
@1201	26.3	126.549	0.514	.	0.877
@901	26.36	127.709	0.457	.	0.878
@764	26.3	129.041	0.222	.	0.88
@924	26.21	129.334	0.157	.	0.88
@805	26.01	128.192	0.235	.	0.88
@1092	26.17	132.049	-0.108	.	0.883
@920	26.23	126.547	0.451	.	0.877
@766	26.4	130.503	0.088	.	0.881
@826	26.1	128.905	0.179	.	0.88
@778	26.11	128.558	0.212	.	0.88
@1034	23.72	105.773	0.611	.	0.878

Item Statistics			

	Mean	Std. Deviation	N
@909	0.86	0.346	131
@917	0.95	0.21	131
@894	0.44	0.499	131
@867	0.31	0.465	131
@913	0.15	0.361	131
@929	0.88	0.329	131
@904	0.77	0.422	131
@927	0.78	0.417	131
@1127	0.18	0.382	131
@855	0.47	0.501	131
@1126	0.85	0.361	131
@848	0.73	0.444	131
@802	0.02	0.123	131
@771	0.29	0.456	131
@785	0.5	0.502	131
@767	0.95	0.876	131
@914	0.37	0.484	131
@921	0.53	0.501	131
@911	0.92	0.785	131
@833	0.59	0.494	131
@912	0.39	0.489	131
@916	0.29	0.456	131
@796	0.44	0.498	131
@793	0.02	0.15	131
@772	0.19	0.394	131
@810	0.03	0.173	131
@1079	0.37	0.486	131
@761	0.34	0.477	131
@910	0.54	0.5	131
@906	0.37	0.486	131
@922	0.47	0.501	131
@1190	0.47	0.501	131

@1105	0.24	0.431	131
@893	0.23	0.422	131
@1078	0.24	0.427	131
@926	0.3	0.459	131
@1210	0.37	0.486	131
@820	0.79	1.109	131
@780	0.88	1.067	131
@1212	0.42	0.495	131
@925	0.5	0.502	131
@905	0.37	0.486	131
@1214	0.76	1.284	131
@1192	0.6	0.493	131
@1201	0.18	0.382	131
@901	0.11	0.32	131
@764	0.18	0.382	131
@924	0.27	0.444	131
@805	0.47	0.501	131
@1092	0.31	0.462	131
@920	0.24	0.431	131
@766	0.08	0.267	131
@826	0.37	0.486	131
@778	0.37	0.484	131
@1034	2.76	1.768	131

Grade 4 Science CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@287	22.56	114.926	0.271	.	0.919
@284	22.14	113.816	0.427	.	0.918
@286	22.31	113.063	0.437	.	0.918
@296	22.38	115.584	0.191	.	0.92
@292	22.48	112.438	0.498	.	0.917
@313	22.28	112.685	0.481	.	0.917
@305	22.35	113.577	0.383	.	0.918
@283	22.37	112.512	0.483	.	0.917
@314	22.18	112.897	0.502	.	0.917
@307	22.31	112.517	0.491	.	0.917
@309	22.36	113.402	0.398	.	0.918
@289	22.12	113.859	0.431	.	0.918
@285	22.25	112.929	0.466	.	0.917
@288	22.22	113.457	0.424	.	0.918
@290	22.61	112.81	0.497	.	0.917
@297	22.2	113.795	0.396	.	0.918
@299	22.47	112.188	0.52	.	0.917
@294	22.68	113.693	0.453	.	0.918
@301	22.06	104.394	0.638	.	0.915
@304	22.57	113.014	0.465	.	0.917
@324	21.71	103.626	0.658	.	0.915
@310	22.34	113.573	0.384	.	0.918
@315	22.54	115.91	0.169	.	0.92
@291	22.31	112.49	0.494	.	0.917
@293	22.25	112.25	0.534	.	0.917
@295	22.34	111.76	0.56	.	0.916

@298	22.29	111.322	0.614	.	0.916
@317	22.36	112.909	0.446	.	0.918
@320	22.36	112.812	0.455	.	0.918
@321	22.39	111.605	0.57	.	0.916
@322	22.73	116.652	0.138	.	0.92
@316	22.25	112.342	0.523	.	0.917
@318	21.81	108.137	0.507	.	0.917
@323	22.72	115.272	0.304	.	0.919
@300	22.7	114.756	0.347	.	0.919
@306	22.42	112.432	0.491	.	0.917
@308	22.4	114.054	0.336	.	0.919
@365	22.01	107.955	0.618	.	0.915
@367	21.83	102.626	0.651	.	0.916
@363	22.36	112.205	0.514	.	0.917

Item Statistics			
	Mean	Std. Deviation	N
@287	0.33	0.472	225
@284	0.76	0.428	225
@286	0.59	0.494	225
@296	0.52	0.501	225
@292	0.41	0.494	225
@313	0.62	0.487	225
@305	0.55	0.499	225
@283	0.52	0.501	225
@314	0.72	0.45	225
@307	0.59	0.493	225
@309	0.53	0.5	225
@289	0.77	0.42	225
@285	0.65	0.478	225
@288	0.68	0.468	225

@290	0.28	0.462	225
@297	0.7	0.46	225
@299	0.43	0.496	225
@294	0.22	0.417	225
@301	0.84	0.964	225
@304	0.33	0.471	225
@324	1.19	0.991	225
@310	0.56	0.497	225
@315	0.36	0.481	225
@291	0.59	0.493	225
@293	0.65	0.478	225
@295	0.56	0.497	225
@298	0.61	0.489	225
@317	0.54	0.499	225
@320	0.54	0.5	225
@321	0.51	0.501	225
@322	0.16	0.372	225
@316	0.64	0.48	225
@318	1.09	0.856	225
@323	0.17	0.379	225
@300	0.2	0.401	225
@306	0.48	0.501	225
@308	0.5	0.501	225
@365	0.89	0.733	225
@367	1.07	1.071	225
@363	0.54	0.5	225

Grade 8 Science CTT Statistics

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
@983	14.2	53.421	0.116	.	0.801
@962	13.67	50.481	0.426	.	0.793
@952	13.92	52.085	0.215	.	0.799
@951	14.08	52.464	0.216	.	0.799
@977	13.85	52.053	0.206	.	0.799
@1109	13.85	52.462	0.147	.	0.801
@956	13.83	52.669	0.116	.	0.802
@955	14.13	54.082	-0.096	.	0.805
@1238	14	52.485	0.175	.	0.8
@1205	14.22	53.702	0.013	.	0.802
@1257	13.68	51.793	0.236	.	0.798
@932	14.14	52.557	0.253	.	0.798
@1111	14.06	53.284	0.056	.	0.802
@1260	14.1	51.937	0.341	.	0.796
@1265	13.95	52.823	0.108	.	0.802
@953	13.95	52.983	0.085	.	0.802
@954	13.98	52.659	0.14	.	0.801
@942	13.68	51.748	0.243	.	0.798
@936	13.92	51.434	0.315	.	0.796
@964	14.1	52.422	0.241	.	0.798
@937	13.15	44.008	0.474	.	0.792
@971	14.23	53.752	-0.015	.	0.802
@972	14.19	53.169	0.174	.	0.8
@1258	14.11	52.707	0.196	.	0.799
@947	14.06	53.708	-0.02	.	0.804
@1114	13.75	47.264	0.474	.	0.788

@984	14.18	53.27	0.128	.	0.801
@948	14.05	52.596	0.178	.	0.8
@950	13.89	51.292	0.327	.	0.796
@961	14.21	53.592	0.058	.	0.801
@987	14.06	51.208	0.44	.	0.794
@970	13.79	53.531	-0.005	.	0.805
@985	13.74	52.192	0.179	.	0.8
@949	13.83	52.72	0.109	.	0.802
@981	14	51.758	0.295	.	0.797
@946	13.84	50.619	0.413	.	0.793
@1266	13.92	51.555	0.296	.	0.797
@944	14.08	50.925	0.525	.	0.792
@978	14.18	52.376	0.405	.	0.797
@945	13.8	47.193	0.494	.	0.787
@986	14.12	52.637	0.218	.	0.799
@967	14.13	53.234	0.092	.	0.801
@969	13.97	52.045	0.235	.	0.798
@980	14.21	53.97	-0.115	.	0.803
@1267	13.86	51.29	0.318	.	0.796
@965	13.92	51.176	0.354	.	0.795
@960	14.07	53.533	0.013	.	0.803
@958	14.17	53.22	0.133	.	0.8
@938	13.95	50.543	0.468	.	0.792
@979	14.14	52.487	0.281	.	0.798
@939	13.95	50.414	0.485	.	0.791
@974	14.14	51.769	0.439	.	0.795
@1056	14.15	53.901	-0.058	.	0.804
@1110	13.92	53.183	0.05	.	0.803
@1263	14.06	51.299	0.422	.	0.794
@975	14.14	52.36	0.299	.	0.798
@1054	13.77	51.135	0.329	.	0.795

Item Statistics			
	Mean	Std. Deviation	N
@983	0.03	0.171	133
@962	0.56	0.498	133
@952	0.31	0.464	133
@951	0.16	0.366	133
@977	0.38	0.488	133
@1109	0.38	0.488	133
@956	0.4	0.491	133
@955	0.11	0.308	133
@1238	0.23	0.424	133
@1205	0.02	0.122	133
@1257	0.55	0.499	133
@932	0.1	0.298	133
@1111	0.17	0.38	133
@1260	0.14	0.343	133
@1265	0.29	0.453	133
@953	0.28	0.45	133
@954	0.26	0.438	133
@942	0.55	0.499	133
@936	0.31	0.464	133
@964	0.14	0.343	133
@937	1.08	1.285	133
@971	0.01	0.087	133
@972	0.05	0.208	133
@1258	0.12	0.327	133
@947	0.17	0.38	133
@1114	0.48	0.876	133
@984	0.05	0.224	133
@948	0.18	0.386	133
@950	0.34	0.475	133
@961	0.02	0.149	133

@987	0.17	0.38	133
@970	0.44	0.499	133
@985	0.49	0.502	133
@949	0.41	0.493	133
@981	0.23	0.424	133
@946	0.39	0.49	133
@1266	0.31	0.464	133
@944	0.15	0.359	133
@978	0.05	0.224	133
@945	0.44	0.856	133
@986	0.11	0.318	133
@967	0.11	0.308	133
@969	0.26	0.442	133
@980	0.02	0.149	133
@1267	0.38	0.486	133
@965	0.31	0.464	133
@960	0.17	0.373	133
@958	0.06	0.239	133
@938	0.28	0.45	133
@979	0.09	0.288	133
@939	0.29	0.453	133
@974	0.1	0.298	133
@1056	0.08	0.276	133
@1110	0.32	0.467	133
@1263	0.17	0.38	133
@975	0.1	0.298	133
@1054	0.47	0.501	133

Appendix D: Item Response Theory Summary Statistics

Grade 3 Math Summary Statistics

```
TABLE 3.1 20190611_GR3MA_OT.sav ZOU851WS.TXT Jul 15 2019 10:34
INPUT: 345 PERSON 55 ITEM REPORTED: 345 PERSON 55 ITEM 113 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 345 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 21.8 54.8 -.621397 .341174 1.00 -.03 1.01 .01 |
| SEM .4 .1 .048089 .002054 .01 .06 .02 .05 |
| P.SD 8.0 2.5 .891911 .038103 .19 1.03 .43 .87 |
| S.SD 8.0 2.5 .893206 .038158 .19 1.04 .43 .87 |
| MAX. 53.0 55.0 3.226634 .764569 1.74 3.30 3.59 4.55 |
| MIN. 4.0 12.0 -3.357443 .316986 .47 -2.92 .32 -1.98 |
|------------------------------------------------------------------------------|
| REAL RMSE.357365 TRUE SD .817187 SEPARATION 2.29 PERSON RELIABILITY .84 |
|MODEL RMSE.343295 TRUE SD .823197 SEPARATION 2.40 PERSON RELIABILITY .85 |
| S.E. OF PERSON MEAN = .048089 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .86 SEM = 3.03

SUMMARY OF 55 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 136.8 343.9 .000000 .144882 1.00 -.14 1.01 .08 |
```

| SEM 11.1 .1 .200493 .005635 .01 .24 .03 .27 |
| P.SD 81.8 .7 1.473318 .041410 .10 1.78 .23 1.95 |
| S.SD 82.5 .7 1.486897 .041791 .10 1.80 .23 1.97 |
| MAX. 315.0 345.0 3.307946 .330562 1.18 3.11 1.67 4.08 |
MIN. 10.0 343.0 -3.259058 .116054 .81 -4.91 .52 -3.97
REAL RMSE.153094 TRUE SD1.465342 SEPARATION 9.57 ITEM RELIABILITY .99
MODEL RMSE.150683 TRUE SD1.465592 SEPARATION 9.73 ITEM RELIABILITY .99
S.E. OF ITEM MEAN = .200493

ITEM RAW SCORE-TO-MEASURE CORRELATION = -.98

Global statistics: please see Table 44.

UMEAN=.0000 USCALE=1.0000

Grade 4 Math Summary Statistics

```
TABLE 3.1 20190611_2019_GR4_MA_OT.sav ZOU056WS.TXT Jul 8 2019 13:18
INPUT: 227 PERSON 56 ITEM REPORTED: 227 PERSON 56 ITEM 114 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 227 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 23.1 56.0 -.625970 .307364 1.01 -.02 .99 -.03 |
| SEM .6 .0 .051261 .002385 .01 .06 .02 .05 |
| P.SD 8.3 .0 .770619 .035862 .14 .97 .28 .69 |
| S.SD 8.4 .0 .772322 .035941 .14 .98 .28 .69 |
| MAX. 45.0 56.0 1.436829 .733502 1.82 3.08 2.74 3.36 |
| MIN. 2.0 56.0 -3.798900 .287231 .71 -2.78 .61 -1.41 |
|------------------------------------------------------------------------------|
| REAL RMSE.319487 TRUE SD .701272 SEPARATION 2.19 PERSON RELIABILITY .83 |
|MODEL RMSE.309449 TRUE SD .705759 SEPARATION 2.28 PERSON RELIABILITY .84 |
| S.E. OF PERSON MEAN = .051261 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .84 SEM = 3.35

SUMMARY OF 56 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 93.7 227.0 .000000 .171775 1.00 -.08 .99 .00 |
| SEM 6.5 .0 .162912 .012564 .01 .24 .03 .26 |
| P.SD 48.1 .0 1.208189 .093178 .10 1.77 .22 1.91 |
```

```
| S.SD 48.5 .0 1.219123 .094022 .10 1.78 .22 1.93 |
| MAX. 271.0 227.0 4.401548 .713417 1.28 4.23 1.56 4.07 |
| MIN. 2.0 227.0 -2.476019 .089729 .83 -3.35 .20 -3.12 |
|-------------------------------------------------------------------------------|
| REAL RMSE.197749 TRUE SD1.191896 SEPARATION 6.03 ITEM RELIABILITY .97 |
|MODEL RMSE.195420 TRUE SD1.192280 SEPARATION 6.10 ITEM RELIABILITY .97 |
| S.E. OF ITEM MEAN = .162912 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.85
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 5 Math Summary Statistics

```
TABLE 3.1 20190613_2019_GR5MA_OT.sav ZOU555WS.TXT Jun 24 2019 7:40
INPUT: 278 PERSON 57 ITEM REPORTED: 278 PERSON 57 ITEM 122 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 278 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 19.6 57.0 -.880103 .298852 1.02 .12 1.00 .03 |
| SEM .5 .0 .040107 .002229 .01 .05 .01 .05 |
| P.SD 8.5 .0 .667513 .037097 .20 .89 .22 .82 |
| S.SD 8.5 .0 .668717 .037164 .21 .90 .22 .82 |
| MAX. 49.0 57.0 1.290219 .447039 2.06 4.21 2.79 3.78 |
| MIN. 6.0 57.0 -2.394915 .254201 .72 -1.88 .69 -1.90 |
|------------------------------------------------------------------------------|
| REAL RMSE.312604 TRUE SD .589791 SEPARATION 1.89 PERSON RELIABILITY .78 |
|MODEL RMSE.301146 TRUE SD .595722 SEPARATION 1.98 PERSON RELIABILITY .80 |
| S.E. OF PERSON MEAN = .040107 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .83 SEM = 3.54

SUMMARY OF 57 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 95.7 278.0 .000000 .141399 1.00 -.09 1.00 -.08 |
| SEM 6.2 .0 .112704 .003703 .01 .22 .02 .22 |
| P.SD 46.4 .0 .843400 .027711 .11 1.64 .15 1.65 |
```

```
| S.SD 46.8 .0 .850897 .027958 .11 1.66 .15 1.66 |
| MAX. 216.0 278.0 2.198844 .270207 1.50 4.24 1.67 2.96 |
| MIN. 15.0 278.0 -2.245469 .063789 .86 -4.26 .77 -4.02 |
|------------------------------------------------------------------------------|
| REAL RMSE.146394 TRUE SD .830598 SEPARATION 5.67 ITEM RELIABILITY .97 |
|MODEL RMSE.144089 TRUE SD .831001 SEPARATION 5.77 ITEM RELIABILITY .97 |
| S.E. OF ITEM MEAN = .112704 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.88
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 6 Math Summary Statistics

```
TABLE 3.1 20190624_2019_GR6MA_OT.sav ZOU883WS.TXT Jun 26 2019 15: 3
INPUT: 238 PERSON 57 ITEM REPORTED: 238 PERSON 57 ITEM 128 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 238 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 19.1 56.9 -1.120621 .295910 .98 -.06 1.01 .01 |
| SEM .6 .1 .045005 .003284 .01 .05 .01 .05 |
| P.SD 9.1 1.2 .692838 .050559 .17 .71 .22 .80 |
| S.SD 9.1 1.2 .694298 .050665 .17 .71 .22 .80 |
| MAX. 46.0 57.0 .637782 .601980 1.86 2.99 2.11 2.86 |
| MIN. 3.0 42.0 -3.264349 .240982 .60 -2.20 .59 -2.39 |
|------------------------------------------------------------------------------|
| REAL RMSE.306801 TRUE SD .621207 SEPARATION 2.02 PERSON RELIABILITY .80 |
|MODEL RMSE.300198 TRUE SD .624424 SEPARATION 2.08 PERSON RELIABILITY .81 |
| S.E. OF PERSON MEAN = .045005 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .98
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .83 SEM = 3.70

SUMMARY OF 57 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 79.9 237.5 .000000 .158891 1.00 -.03 1.01 .01 |
| SEM 6.8 .1 .118858 .005967 .01 .18 .03 .21 |
| P.SD 51.2 .5 .889452 .044652 .09 1.35 .21 1.60 |
```

```
| S.SD 51.7 .5 .897358 .045049 .09 1.36 .21 1.62 |
| MAX. 316.0 238.0 2.029048 .300415 1.20 2.69 1.67 2.57 |
| MIN. 12.0 236.0 -2.346602 .062577 .82 -4.21 .57 -3.91 |
|------------------------------------------------------------------------------|
| REAL RMSE.168372 TRUE SD .873370 SEPARATION 5.19 ITEM RELIABILITY .96 |
|MODEL RMSE.165046 TRUE SD .874005 SEPARATION 5.30 ITEM RELIABILITY .97 |
| S.E. OF ITEM MEAN = .118858 |
------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.67
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 7 Math Summary Statistics

```
TABLE 3.1 20190611_2019_GR7_MA_OT.sav ZOU235WS.TXT Jun 25 2019 7:33
INPUT: 189 PERSON 58 ITEM REPORTED: 189 PERSON 57 ITEM 120 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 189 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 12.9 57.9 -1.703895 .348057 .99 .02 .98 .06 |
| SEM .4 .1 .043140 .003530 .01 .04 .03 .05 |
| P.SD 5.6 1.4 .591503 .048399 .12 .59 .39 .71 |
| S.SD 5.7 1.4 .593074 .048528 .12 .59 .40 .71 |
| MAX. 34.0 58.0 .137947 .528067 1.53 2.90 3.34 4.28 |
| MIN. 4.0 39.0 -3.061674 .274382 .77 -1.32 .52 -1.06 |
|------------------------------------------------------------------------------|
| REAL RMSE.357853 TRUE SD .470974 SEPARATION 1.32 PERSON RELIABILITY .63 |
|MODEL RMSE.351406 TRUE SD .475804 SEPARATION 1.35 PERSON RELIABILITY .65 |
| S.E. OF PERSON MEAN = .043140 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .98
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .71 SEM = 3.01

SUMMARY OF 57 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 42.7 188.6 .000000 .238341 1.00 .03 .98 .00 |
| SEM 3.8 .1 .163646 .020050 .01 .13 .02 .15 |
| P.SD 28.6 .5 1.224613 .150041 .08 .97 .18 1.13 |
```

```
| S.SD 28.8 .5 1.235499 .151375 .08 .97 .18 1.14 |
| MAX. 130.0 189.0 3.723114 1.00483 1.19 2.06 1.33 2.21 |
| MIN. 1.0 188.0 -1.861151 .100838 .84 -2.84 .45 -2.56 |
|------------------------------------------------------------------------------|
| REAL RMSE.283915 TRUE SD1.191247 SEPARATION 4.20 ITEM RELIABILITY .95 |
|MODEL RMSE.281636 TRUE SD1.191788 SEPARATION 4.23 ITEM RELIABILITY .95 |
| S.E. OF ITEM MEAN = .163646 |
-------------------------------------------------------------------------------
LACKING RESPONSES: 1 ITEM
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.88
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 8 Math Summary Statistics

```
TABLE 3.1 20190613_2019_GR8_MA_OT.sav ZOU981WS.TXT Jun 25 2019 7:51
INPUT: 135 PERSON 56 ITEM REPORTED: 135 PERSON 56 ITEM 119 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 135 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 13.5 56.0 -1.534222 .350314 1.00 .03 1.00 .06 |
| SEM .6 .0 .059416 .005065 .01 .05 .03 .06 |
| P.SD 6.7 .0 .687791 .058635 .13 .63 .31 .73 |
| S.SD 6.7 .0 .690353 .058853 .13 .63 .32 .73 |
| MAX. 41.0 56.0 .723455 .605639 1.51 2.45 2.67 3.66 |
| MIN. 3.0 56.0 -3.276527 .262520 .74 -1.55 .58 -1.72 |
|------------------------------------------------------------------------------|
| REAL RMSE.363580 TRUE SD .583838 SEPARATION 1.61 PERSON RELIABILITY .72 |
|MODEL RMSE.355188 TRUE SD .588981 SEPARATION 1.66 PERSON RELIABILITY .73 |
| S.E. OF PERSON MEAN = .059416 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .98
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .79 SEM = 3.02

SUMMARY OF 56 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 32.5 135.0 .000000 .252072 1.00 .00 1.00 .01 |
| SEM 2.5 .0 .143269 .017449 .01 .13 .03 .15 |
| P.SD 18.5 .0 1.062515 .129408 .09 .94 .24 1.09 |
```

```
| S.SD 18.6 .0 1.072130 .130579 .09 .95 .24 1.10 |
| MAX. 87.0 135.0 3.625495 1.00726 1.19 2.39 1.89 2.80 |
| MIN. 1.0 135.0 -2.198602 .148274 .85 -2.65 .54 -2.31 |
|------------------------------------------------------------------------------|
| REAL RMSE.287861 TRUE SD1.022777 SEPARATION 3.55 ITEM RELIABILITY .93 |
|MODEL RMSE.283349 TRUE SD1.024037 SEPARATION 3.61 ITEM RELIABILITY .93 |
| S.E. OF ITEM MEAN = .143269 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.91
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 3 Hawaiian Language Arts Summary Statistics

```
TABLE 3.1 20190613_GR3HLA_OT.sav ZOU817WS.TXT Jul 5 2019 10: 6
INPUT: 344 PERSON 55 ITEM REPORTED: 344 PERSON 55 ITEM 119 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 344 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 26.1 55.0 -.392614 .304696 1.00 -.02 .99 -.06 |
| SEM .6 .0 .051561 .001777 .01 .05 .01 .04 |
| P.SD 10.9 .4 .954921 .032916 .17 .88 .24 .81 |
| S.SD 10.9 .4 .956312 .032964 .17 .88 .24 .81 |
| MAX. 52.0 55.0 1.904969 .612068 1.59 2.55 2.46 2.59 |
| MIN. 3.0 48.0 -3.412088 .279754 .65 -2.13 .49 -1.95 |
|------------------------------------------------------------------------------|
| REAL RMSE.316768 TRUE SD .900851 SEPARATION 2.84 PERSON RELIABILITY .89 |
|MODEL RMSE.306469 TRUE SD .904406 SEPARATION 2.95 PERSON RELIABILITY .90 |
| S.E. OF PERSON MEAN = .051561 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = 1.00
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .90 SEM = 3.49

SUMMARY OF 55 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 163.1 343.7 .000000 .129143 1.00 -.03 .99 .03 |
| SEM 12.4 .2 .158015 .004063 .02 .31 .03 .32 |
| P.SD 90.9 1.2 1.161172 .029856 .12 2.26 .22 2.33 |
```

```
| S.SD 91.8 1.3 1.171874 .030132 .12 2.28 .22 2.35 |
| MAX. 613.0 344.0 3.257116 .288273 1.52 9.36 1.65 8.37 |
| MIN. 13.0 335.0 -2.428583 .056233 .82 -3.79 .30 -3.74 |
|-------------------------------------------------------------------------------|
| REAL RMSE.135061 TRUE SD1.153290 SEPARATION 8.54 ITEM RELIABILITY .99 |
|MODEL RMSE.132549 TRUE SD1.153582 SEPARATION 8.70 ITEM RELIABILITY .99 |
| S.E. OF ITEM MEAN = .158015 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.66
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 4 Hawaiian Language Arts Summary Statistics

```
TABLE 3.1 20190613_2019_GR4HLA_OT.sav ZOU832WS.TXT Jul 9 2019 11:59
INPUT: 227 PERSON 58 ITEM REPORTED: 227 PERSON 58 ITEM 125 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 227 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 32.6 57.8 .083609 .289517 1.00 .00 1.00 -.12 |
| SEM .8 .2 .064836 .002239 .01 .07 .02 .08 |
| P.SD 12.2 2.4 .974699 .033656 .22 1.09 .30 1.16 |
| S.SD 12.2 2.4 .976854 .033731 .22 1.09 .30 1.16 |
| MAX. 63.0 58.0 3.121487 .518011 1.88 3.59 2.29 3.41 |
| MIN. 8.0 22.0 -2.253817 .267053 .63 -2.18 .47 -2.70 |
|------------------------------------------------------------------------------|
| REAL RMSE.304743 TRUE SD .925835 SEPARATION 3.04 PERSON RELIABILITY .90 |
|MODEL RMSE.291466 TRUE SD .930100 SEPARATION 3.19 PERSON RELIABILITY .91 |
| S.E. OF PERSON MEAN = .064836 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = 1.00
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .91 SEM = 3.71

SUMMARY OF 58 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 127.8 226.3 .000000 .153705 .99 .01 1.00 .07 |
| SEM 8.5 .1 .136885 .003080 .02 .28 .04 .31 |
| P.SD 64.4 .7 1.033458 .023256 .15 2.13 .29 2.31 |
```

```
| S.SD 65.0 .7 1.042484 .023459 .15 2.15 .29 2.33 |
| MAX. 460.0 227.0 1.671694 .206427 1.32 4.64 1.86 4.63 |
| MIN. 47.0 222.0 -2.118755 .064284 .66 -4.52 .51 -3.69 |
|-------------------------------------------------------------------------------|
| REAL RMSE.159631 TRUE SD1.021055 SEPARATION 6.40 ITEM RELIABILITY .98 |
|MODEL RMSE.155454 TRUE SD1.021699 SEPARATION 6.57 ITEM RELIABILITY .98 |
| S.E. OF ITEM MEAN = .136885 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.57
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 5 Hawaiian Language Arts Summary Statistics

```
TABLE 3.1 20190615_2019_GR5HLA_OT.sav ZOU638WS.TXT Jun 20 2019 13:28
INPUT: 280 PERSON 57 ITEM REPORTED: 280 PERSON 57 ITEM 125 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 280 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 27.4 56.9 -.527323 .290672 1.01 .05 1.03 .08 |
| SEM .7 .1 .056753 .002425 .01 .06 .02 .06 |
| P.SD 12.1 1.0 .947964 .040512 .24 .99 .35 .92 |
| S.SD 12.1 1.0 .949662 .040584 .24 1.00 .35 .93 |
| MAX. 57.0 57.0 1.930490 .541525 2.23 4.47 3.57 5.17 |
| MIN. 4.0 41.0 -3.162047 .257881 .63 -2.25 .51 -1.66 |
|------------------------------------------------------------------------------|
| REAL RMSE.306571 TRUE SD .897023 SEPARATION 2.93 PERSON RELIABILITY .90 |
|MODEL RMSE.293481 TRUE SD .901391 SEPARATION 3.07 PERSON RELIABILITY .90 |
| S.E. OF PERSON MEAN = .056753 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .90 SEM = 3.85

SUMMARY OF 57 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 134.6 279.6 .000000 .145800 1.00 -.13 1.04 .04 |
| SEM 15.7 .1 .153006 .006618 .02 .26 .03 .29 |
| P.SD 117.5 .8 1.144992 .049522 .12 1.96 .26 2.17 |
```

```
| S.SD 118.6 .8 1.155170 .049962 .12 1.98 .26 2.19 |
| MAX. 893.0 280.0 3.707216 .417548 1.23 4.10 1.75 5.23 |
| MIN. 6.0 275.0 -2.977189 .051209 .72 -5.32 .53 -4.63 |
|-------------------------------------------------------------------------------|
| REAL RMSE.157282 TRUE SD1.134138 SEPARATION 7.21 ITEM RELIABILITY .98 |
|MODEL RMSE.153980 TRUE SD1.134591 SEPARATION 7.37 ITEM RELIABILITY .98 |
| S.E. OF ITEM MEAN = .153006 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.47
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 6 Hawaiian Language Arts Summary Statistics

```
TABLE 3.1 20190616_2019_GR6HLA_OT.sav ZOU099WS.TXT Jun 20 2019 11:39
INPUT: 239 PERSON 58 ITEM REPORTED: 239 PERSON 58 ITEM 134 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 239 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 30.7 58.0 -.668785 .272583 1.01 .05 1.00 .05 |
| SEM .8 .0 .057782 .002360 .02 .07 .02 .06 |
| P.SD 12.5 .3 .891421 .036401 .28 1.05 .30 .87 |
| S.SD 12.6 .3 .893291 .036478 .28 1.06 .30 .88 |
| MAX. 61.0 58.0 1.602298 .481147 2.13 3.53 2.55 3.23 |
| MIN. 5.0 54.0 -3.142570 .247514 .57 -1.97 .49 -1.69 |
|------------------------------------------------------------------------------|
| REAL RMSE.289147 TRUE SD .843223 SEPARATION 2.92 PERSON RELIABILITY .89 |
|MODEL RMSE.275003 TRUE SD .847941 SEPARATION 3.08 PERSON RELIABILITY .90 |
| S.E. OF PERSON MEAN = .057782 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .89 SEM = 4.16

SUMMARY OF 58 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 126.4 238.9 .000000 .164999 1.00 .04 1.00 .08 |
| SEM 16.1 .1 .183189 .008557 .01 .21 .02 .22 |
| P.SD 121.4 .5 1.383045 .064606 .10 1.62 .17 1.69 |
```

```
| S.SD 122.4 .5 1.395124 .065170 .10 1.63 .17 1.70 |
| MAX. 736.0 239.0 3.195221 .389177 1.32 5.39 1.44 5.07 |
| MIN. 7.0 236.0 -2.618430 .053173 .79 -4.46 .69 -4.05 |
|------------------------------------------------------------------------------|
| REAL RMSE.180032 TRUE SD1.371277 SEPARATION 7.62 ITEM RELIABILITY .98 |
|MODEL RMSE.177197 TRUE SD1.371647 SEPARATION 7.74 ITEM RELIABILITY .98 |
| S.E. OF ITEM MEAN = .183189 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.52
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 7 Hawaiian Language Arts Summary Statistics

```
TABLE 3.1 20190614_2019_GR7_HLA_OT.sav ZOU784WS.TXT Jun 20 2019 15: 4
INPUT: 189 PERSON 57 ITEM REPORTED: 189 PERSON 57 ITEM 134 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 189 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 24.1 56.7 -1.033338 .289388 .98 -.06 1.02 .04 |
| SEM .8 .2 .060234 .003859 .02 .06 .03 .07 |
| P.SD 10.7 2.9 .825891 .052910 .24 .88 .36 .99 |
| S.SD 10.7 2.9 .828084 .053051 .24 .88 .36 .99 |
| MAX. 58.0 57.0 1.228905 .605577 1.70 2.54 2.71 2.80 |
| MIN. 3.0 19.0 -3.655435 .246598 .55 -2.13 .35 -1.73 |
|------------------------------------------------------------------------------|
| REAL RMSE.306880 TRUE SD .766760 SEPARATION 2.50 PERSON RELIABILITY .86 |
|MODEL RMSE.294185 TRUE SD .771719 SEPARATION 2.62 PERSON RELIABILITY .87 |
| S.E. OF PERSON MEAN = .060234 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .98
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .87 SEM = 3.90

SUMMARY OF 57 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 79.8 187.9 .000000 .187756 1.00 .03 1.02 .18 |
| SEM 11.8 .1 .167034 .009445 .01 .16 .03 .20 |
| P.SD 88.2 1.1 1.249969 .070679 .10 1.21 .23 1.49 |
```

```
| S.SD 89.0 1.1 1.261080 .071308 .10 1.22 .23 1.50 |
| MAX. 614.0 189.0 3.119319 .510462 1.25 3.91 1.81 4.60 |
| MIN. 4.0 185.0 -2.747266 .062163 .76 -2.94 .51 -2.92 |
|-------------------------------------------------------------------------------|
| REAL RMSE.203886 TRUE SD1.233228 SEPARATION 6.05 ITEM RELIABILITY .97 |
|MODEL RMSE.200618 TRUE SD1.233764 SEPARATION 6.15 ITEM RELIABILITY .97 |
| S.E. OF ITEM MEAN = .167034 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.55
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 8 Hawaiian Language Arts Summary Statistics

```
TABLE 3.1 20190612_2019_GR8_HLA_OT.sav ZOU884WS.TXT Jun 21 2019 16:13
INPUT: 135 PERSON 55 ITEM REPORTED: 135 PERSON 55 ITEM 127 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 135 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 26.3 54.9 -.668437 .293828 1.02 .05 1.00 -.02 |
| SEM 1.0 .1 .082397 .005582 .02 .08 .03 .07 |
| P.SD 11.4 1.4 .953814 .064614 .27 .95 .35 .77 |
| S.SD 11.5 1.4 .957366 .064855 .27 .96 .35 .77 |
| MAX. 60.0 55.0 1.965609 .653030 2.21 3.59 2.51 2.28 |
| MIN. 3.0 39.0 -3.783712 .247634 .52 -2.06 .51 -1.50 |
|------------------------------------------------------------------------------|
| REAL RMSE.320085 TRUE SD .898502 SEPARATION 2.81 PERSON RELIABILITY .89 |
|MODEL RMSE.300848 TRUE SD .905125 SEPARATION 3.01 PERSON RELIABILITY .90 |
| S.E. OF PERSON MEAN = .082397 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .98
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .88 SEM = 3.94

SUMMARY OF 55 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 64.6 134.6 .000000 .225705 1.00 .03 1.01 .20 |
| SEM 7.3 .1 .197346 .014856 .02 .20 .04 .23 |
| P.SD 53.6 .6 1.450191 .109166 .14 1.49 .32 1.70 |
```

```
| S.SD 54.1 .6 1.463557 .110172 .15 1.51 .32 1.72 |
| MAX. 369.0 135.0 3.942176 .719643 1.37 4.21 1.74 4.36 |
| MIN. 2.0 133.0 -4.177530 .072019 .67 -2.96 .36 -3.11 |
|------------------------------------------------------------------------------|
| REAL RMSE.255255 TRUE SD1.427550 SEPARATION 5.59 ITEM RELIABILITY .97 |
|MODEL RMSE.250719 TRUE SD1.428354 SEPARATION 5.70 ITEM RELIABILITY .97 |
| S.E. OF ITEM MEAN = .197346 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.52
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Grade 4 Science Summary Statistics

```
TABLE 3.1 201906156_2019_GR4SC_OTEFT.sav ZOU557WS.TXT Jun 17 2019 7: 8
INPUT: 226 PERSON 40 ITEM REPORTED: 226 PERSON 40 ITEM 89 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 226 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 22.8 40.0 -.121060 .360886 .99 -.01 1.01 .05 |
| SEM .7 .0 .085610 .005512 .01 .05 .02 .06 |
| P.SD 10.8 .6 1.284151 .082675 .17 .78 .28 .85 |
| S.SD 10.9 .6 1.287002 .082858 .17 .78 .28 .85 |
| MAX. 45.0 40.0 3.020181 1.01780 1.54 2.11 2.52 2.81 |
| MIN. 1.0 31.0 -4.127590 .310531 .58 -2.43 .33 -2.65 |
|------------------------------------------------------------------------------|
| REAL RMSE.380305 TRUE SD1.226545 SEPARATION 3.23 PERSON RELIABILITY .91 |
|MODEL RMSE.370235 TRUE SD1.229622 SEPARATION 3.32 PERSON RELIABILITY .92 |
| S.E. OF PERSON MEAN = .085610 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .92 SEM = 3.07

SUMMARY OF 40 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 129.0 225.8 .000000 .153774 1.00 -.02 1.01 -.05 |
| SEM 8.3 .1 .164185 .003847 .02 .27 .04 .27 |
| P.SD 51.9 .4 1.025334 .024021 .12 1.67 .25 1.68 |
```

```
| S.SD 52.5 .4 1.038396 .024328 .13 1.69 .26 1.70 |
| MAX. 268.0 226.0 3.237846 .195622 1.35 5.00 1.71 4.37 |
| MIN. 37.0 225.0 -1.718165 .086636 .79 -3.15 .73 -2.52 |
|-------------------------------------------------------------------------------|
| REAL RMSE.159603 TRUE SD1.012836 SEPARATION 6.35 ITEM RELIABILITY .98 |
|MODEL RMSE.155639 TRUE SD1.013453 SEPARATION 6.51 ITEM RELIABILITY .98 |
| S.E. OF ITEM MEAN = .164185 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.51
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

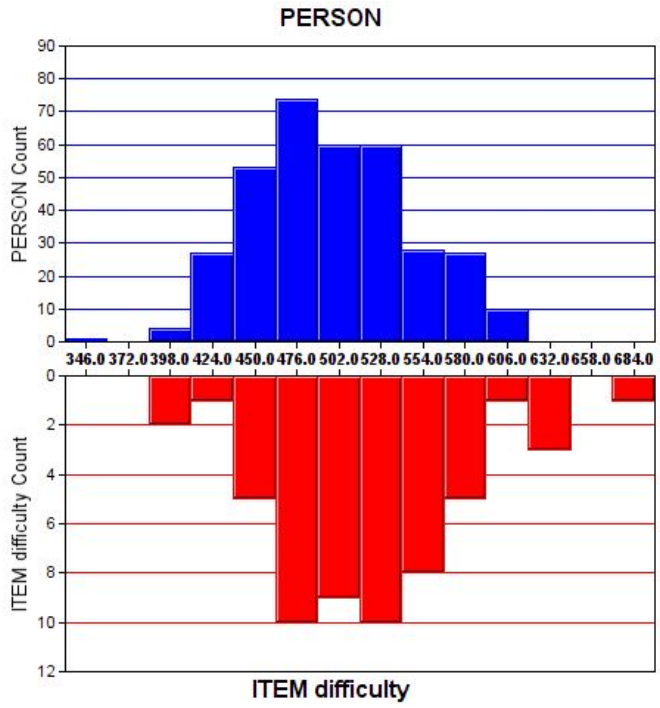
Grade 8 Science Summary Statistics

```
TABLE 3.1 20190612_2019_GR8_HLA_OT.sav ZOU884WS.TXT Jun 21 2019 16:13
INPUT: 135 PERSON 55 ITEM REPORTED: 135 PERSON 55 ITEM 127 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

SUMMARY OF 135 MEASURED PERSON
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 26.3 54.9 -.668437 .293828 1.02 .05 1.00 -.02 |
| SEM 1.0 .1 .082397 .005582 .02 .08 .03 .07 |
| P.SD 11.4 1.4 .953814 .064614 .27 .95 .35 .77 |
| S.SD 11.5 1.4 .957366 .064855 .27 .96 .35 .77 |
| MAX. 60.0 55.0 1.965609 .653030 2.21 3.59 2.51 2.28 |
| MIN. 3.0 39.0 -3.783712 .247634 .52 -2.06 .51 -1.50 |
|------------------------------------------------------------------------------|
| REAL RMSE.320085 TRUE SD .898502 SEPARATION 2.81 PERSON RELIABILITY .89 |
|MODEL RMSE.300848 TRUE SD .905125 SEPARATION 3.01 PERSON RELIABILITY .90 |
| S.E. OF PERSON MEAN = .082397 |
-------------------------------------------------------------------------------
PERSON RAW SCORE-TO-MEASURE CORRELATION = .98
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .88 SEM = 3.94

SUMMARY OF 55 MEASURED ITEM
-------------------------------------------------------------------------------
| TOTAL MODEL INFIT OUTFIT |
| SCORE COUNT MEASURE S.E. MNSQ ZSTD MNSQ ZSTD |
|------------------------------------------------------------------------------|
| MEAN 64.6 134.6 .000000 .225705 1.00 .03 1.01 .20 |
| SEM 7.3 .1 .197346 .014856 .02 .20 .04 .23 |
| P.SD 53.6 .6 1.450191 .109166 .14 1.49 .32 1.70 |
```

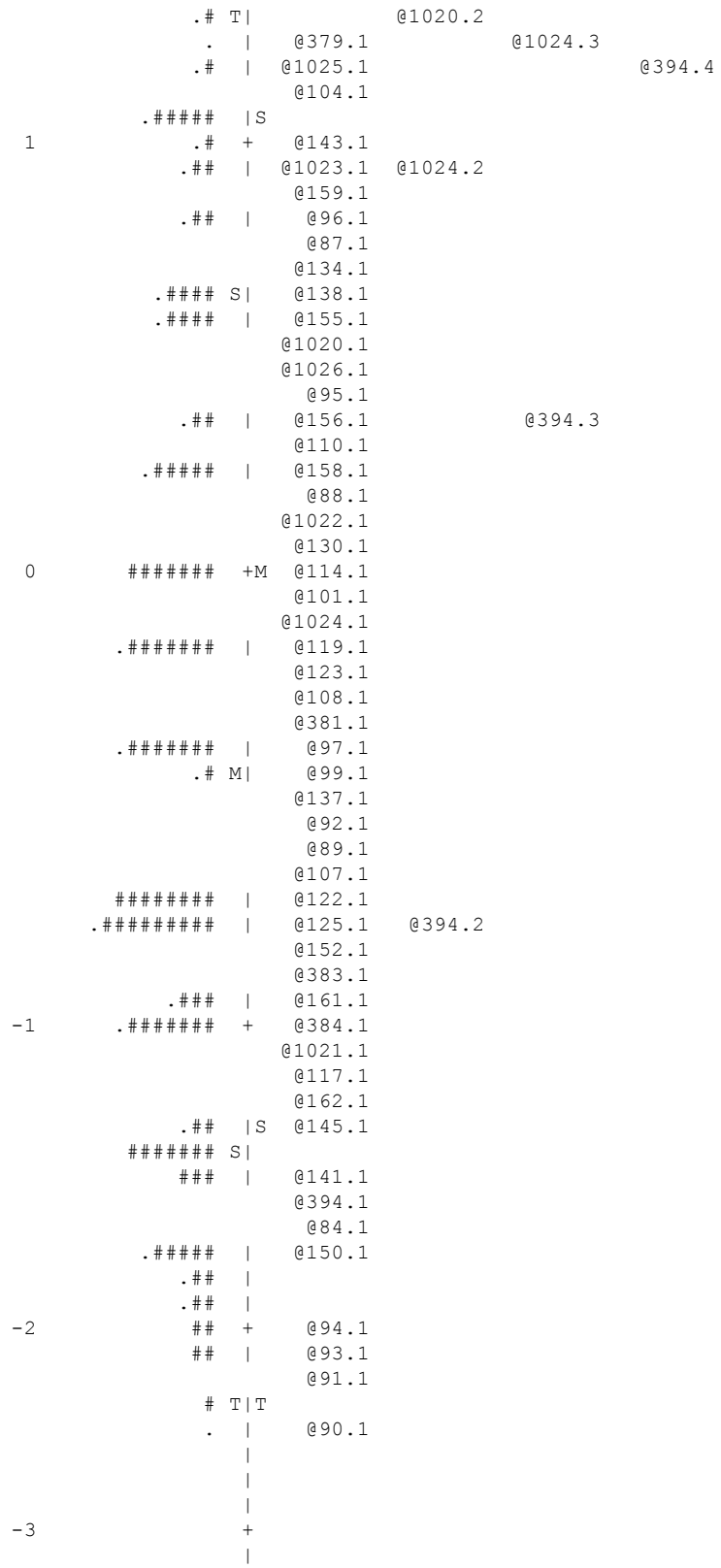
```
| S.SD 54.1 .6 1.463557 .110172 .15 1.51 .32 1.72 |
| MAX. 369.0 135.0 3.942176 .719643 1.37 4.21 1.74 4.36 |
| MIN. 2.0 133.0 -4.177530 .072019 .67 -2.96 .36 -3.11 |
|------------------------------------------------------------------------------|
| REAL RMSE.255255 TRUE SD1.427550 SEPARATION 5.59 ITEM RELIABILITY .97 |
|MODEL RMSE.250719 TRUE SD1.428354 SEPARATION 5.70 ITEM RELIABILITY .97 |
| S.E. OF ITEM MEAN = .197346 |
-------------------------------------------------------------------------------
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.52
Global statistics: please see Table 44.
UMEAN=.0000 USCALE=1.0000
```

Appendix E: Person By Item Histograms and Item Maps

GR3HLA




```
TABLE 12.6 20190613_GR3HLA_OT.sav                ZOU476WS.TXT  Aug 26 2019 13:40
INPUT: 344 PERSON  55 ITEM  REPORTED: 344 PERSON  55 ITEM  119 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - 50% Cumulative probabilities (Rasch-Thurstone thresholds)
             <more>|<rare> 1        2        3        4        5
    4              +
                   |
                   |
                   |
                   |
                   |   @127.1
                   |
    3              +                                          @394.5
                   |
                   |
                   |            @379.2
                   |            @138.2
                   |T  @112.1
                   |
    2              +   @139.1
                 .     |   @113.1
                .#     |
```


.# T|
. |
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1 .# +
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####### S|
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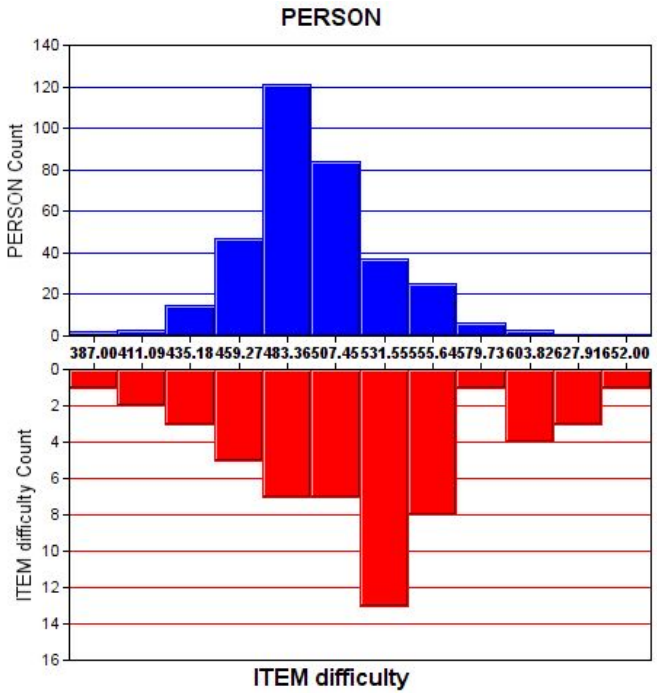
|
|
-3 +
|
@1020.2
@379.1
@1025.1
@104.1
@143.1
@1023.1 @1024.2
@159.1
@96.1
@87.1
@134.1
@138.1
@155.1
@1020.1
@1026.1
@95.1
@156.1
@110.1
@158.1
@88.1
@1022.1
@130.1
@114.1
@101.1
@1024.1
@119.1
@123.1
@108.1
@381.1
@97.1
@99.1
@137.1
@92.1
@89.1
@107.1
@122.1
@125.1
@152.1
@383.1
@161.1
@384.1
@1021.1
@117.1
@162.1
@145.1
@141.1
@394.1
@84.1
@150.1
@94.1
@93.1
@91.1
@90.1
@1024.3
@394.4
@394.3
@394.2

```
                    |
                  . |
                    |
                    |
                    |
  -4                +
              <less>|<freq> 0        1        2        3        4
EACH "#" IS 3: EACH "." IS 1 TO 2
```

GR3MA

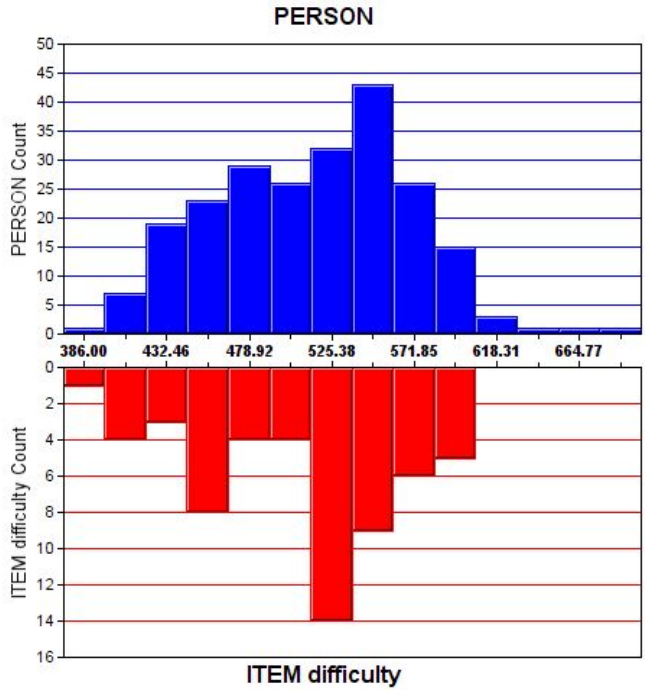



```
TABLE 12.5 20190611_GR3MA_OT.sav                ZOU087WS.TXT  Aug 26 2019 14:10
INPUT: 345 PERSON  55 ITEM  REPORTED: 345 PERSON  55 ITEM  113 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
               <more>|<rare>  1         2
  670                +             @235.15
                     |
  660                +
                     |
  650             .  +   @992.05
                     |
  640                +T            @234.15
                     |
  630                +             @233.15
                     |
  620                +  @1303.05
                  .  |   @185.05
  610                +  @1036.05
                     |  @1305.05
                  .  |
  600             .  +
                  .  |   @235.05
  590                +   @233.05
                     |
  580             #  +S  @234.05
                     |
  570             # T+   @219.05
                     |
  560            .#  +   @217.05
```

```
                          @368.05
                          @224.05
                          @218.05
              .####  |    @226.05
                          @230.05
 550            ##  +    @221.05
                 .  |    @210.05
                          @211.05
                          @223.05
                          @995.05
 540           .##  +    @209.05
                          @371.05
                          @374.05
                          @213.05
               .##  |    @191.05
                          @180.05
 530            ## S+    @205.05
                          @225.05
             .#####  |    @169.05
                         @1035.05
 520           .###  +M
             ######  |    @208.05
                          @172.05
 510           .###  +    @186.05
              .####  |    @231.05
 500   .##########  +    @212.05
                          @214.05
                          @182.05
             .##### M|    @173.05
                          @229.05
 490       .######  +    @204.05
          ########  |    @216.05
 480       .######  +    @174.05
                          @193.05
           .######  |    @207.05
 470      ########  +    @188.05
              ####  |
 460         .#### S+S
             .####  |    @201.05
               ###  |    @190.05
                          @206.05
 450                +    @187.05
                .#  |    @184.05
 440             #  +    @189.05
                .#  |
 430                +
                 . T|    @198.05
 420             .  +
                    |
 410             .  +    @202.05
                    |T
 400             .  +    @215.05
                    |
 390                +    @178.05
                 .  |
 380                +
             <less>|<freq>  0         1
EACH "#" IS 3: EACH "." IS 1 TO 2
```

GR4HLA



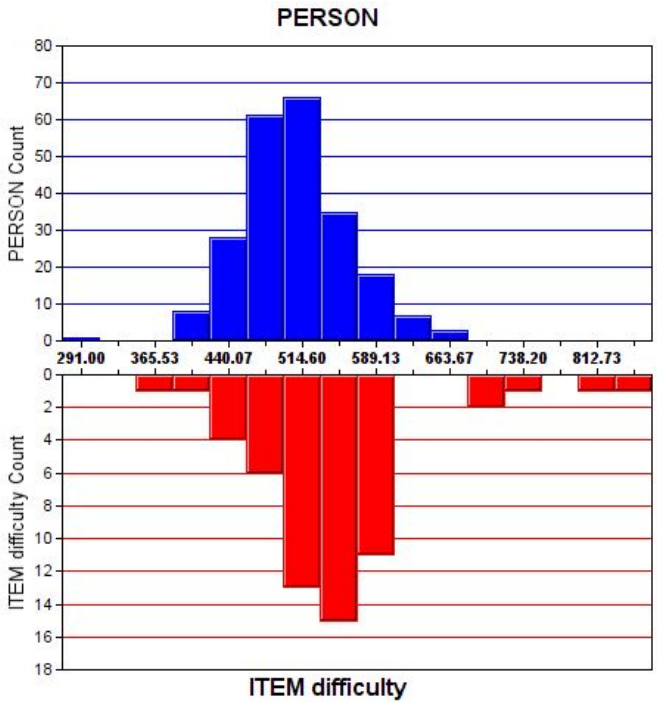

```
TABLE 12.5 20190613_2019_GR4HLA_OT.sav           ZOU078WS.TXT  Aug 26 2019 14:21
INPUT: 227 PERSON  58 ITEM  REPORTED: 227 PERSON  58 ITEM  125 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
               <more>|<rare>  1         2         3         4         5
  690                +
                   .  |
  680                +
                   .  |
  670                +
                      |
  660                +                        @42.25
                      |
  650                +
                      |              @35.15
  640                +                                          @395.45
                   .  |
  630              .  +
                     T|
  620              .  +T                    @1013.25
                   .  |
  610                +
                  .#  |    @28.05
  600            ###  +    @25.05
                  .#  |
  590              #  +  @1017.05
                   .  |    @11.05
```

```
580            ##  +    @57.05    @42.15             @395.35
                       @56.05
                     @1014.05
               ##  |    @24.05
570             # S+    @41.05
            #####  |S
560        .#####  +    @50.05
            .####  |    @55.05
                     @1012.05
                       @63.05
550         .####  +  @1011.05
                     @1016.05
                     @1019.05
              ###  |
540       #######  +    @35.05  @1013.15   @395.25
                       @46.05
             .#  |
530           ###  +    @22.05
                       @23.05
                       @17.05
                       @40.05
               ##  |    @62.05
                       @21.05
                        @9.05
520        ######  +    @51.05
                       @36.05
                       @26.05
             .### M|   @387.05
                       @61.05
                       @30.05
                       @47.05
510          .###  +M
               ##  |  @1015.05
                       @31.05
                       @42.05
500       #######  +    @37.05
                .  |             @395.15
490         .####  +
               .#  |    @54.05
480         .####  +    @27.05
                       @34.05
                       @48.05
               .#  |
470           .##  +
              .##  |  @1013.05
                       @49.05
                       @60.05
460           ### S+     @8.05
                       @16.05
                       @15.05
             .###  |S
450            ##  +    @39.05
                .  |    @12.05
                       @38.05
                       @18.05
440           .#  +
              .###  |    @64.05
430           .##  +    @14.05
               ##  |
420             .  +   @395.05
                       @20.05
                #  |   @389.05
```

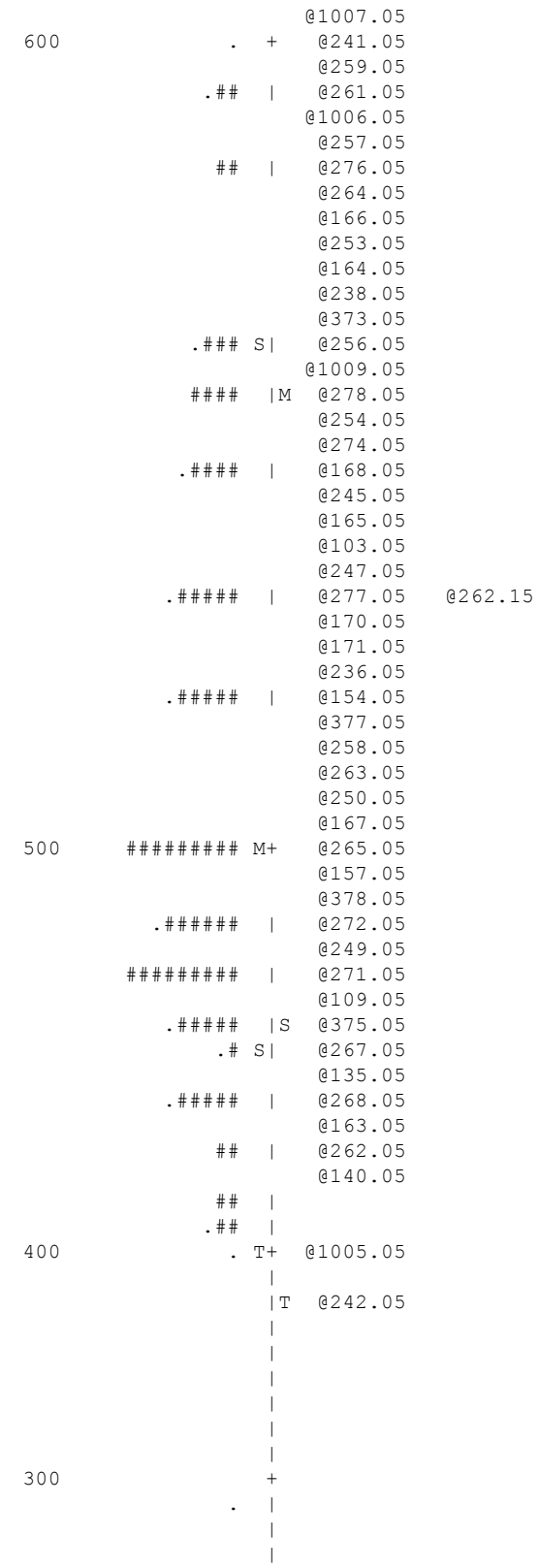
```
                          @65.05
  410              #  +     @7.05
                   # T|
  400                 +T
                      |
  390                 +    @13.05
                   .  |
  380                 +
                <less>|<freq>  0         1         2         3         4
EACH "#" IS 2: EACH "." IS 1
```

GR4MA



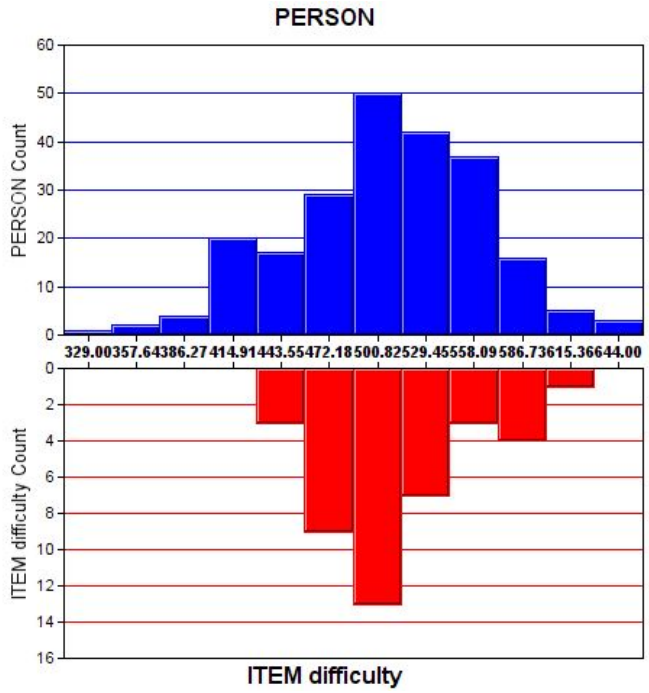

```
TABLE 12.5 20190611_2019_GR4_MA_OT.sav           ZOU849WS.TXT  Aug 26 2019 14:35
INPUT: 227 PERSON  56 ITEM  REPORTED: 227 PERSON  56 ITEM  114 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare>  1         2
                    |  @1010.05
                    |
                    |
                    |
  800               +   @244.05
                    |
                    |
                    |
                    |
                    |
                    |   @239.05
                    |T
                    |   @252.05
  700               +
                    |   @240.05
                    |
                    |
                  #   |
                      |             @375.15
                   .  |S
                   .  |
                 ## T|   @246.05
                        @243.05
```


@1007.05
600 . + @241.05
@259.05
.## | @261.05
@1006.05
@257.05
| @276.05
@264.05
@166.05
@253.05
@164.05
@238.05
@373.05
.### S| @256.05
@1009.05
|M @278.05
@254.05
@274.05
.#### | @168.05
@245.05
@165.05
@103.05
@247.05
.##### | @277.05 @262.15
@170.05
@171.05
@236.05
.##### | @154.05
@377.05
@258.05
@263.05
@250.05
@167.05
500 ######### M+ @265.05
@157.05
@378.05
.###### | @272.05
@249.05
######### | @271.05
@109.05
.##### |S @375.05
.# S| @267.05
@135.05
.##### | @268.05
@163.05
| @262.05
@140.05
|
.## |
400 . T+ @1005.05
|
|T @242.05
|
|
|
|
|
|
300 +
. |
|
|

```
                    |
                    |
                    |
                    |
                    |
 200                +
              <less>|<freq>  0         1
EACH "#" IS 3: EACH "." IS 1 TO 2
```

GR4SC

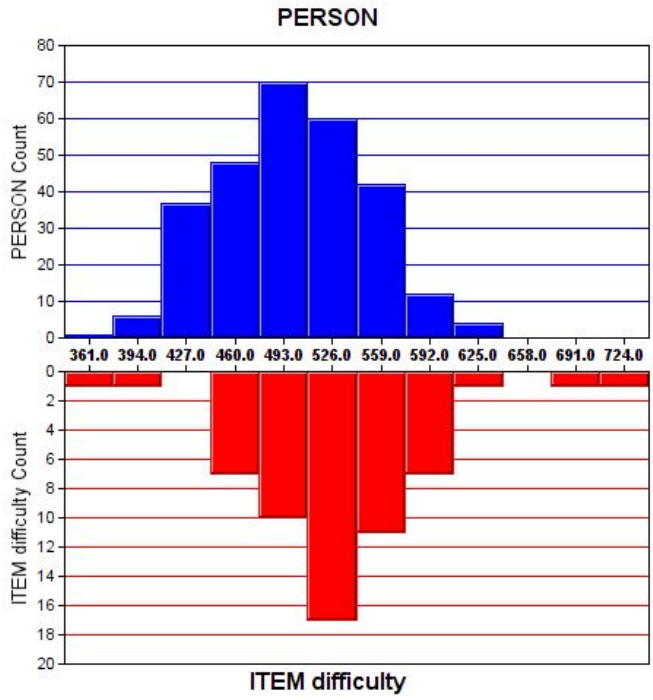



```
TABLE 12.5 201906156_2019_GR4SC_OTEFT.sav        ZOU798WS.TXT  Aug 26 2019 14:28
INPUT: 226 PERSON  40 ITEM  REPORTED: 226 PERSON  40 ITEM  89 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
               <more>|<rare>  1         2         3
  670                 +             @290.15
                      |
  660                 +
                      |
  650                 +
  640              .  +                       @301.25
                      |
  630              #  +
                      |
  620              . T+
                  .#  |   @300.05
  610                 +
  600              .  +                       @324.25
                                              @367.25
                  ##  |T  @323.05
  590            .##  +   @322.05
                  .#  |             @301.15
  580             ##  +             @365.15
                      |
  570        #######  +   @304.05
  560           #### S+   @294.05
                  ##  |
  550              #  +S
               .####  |   @292.05   @318.15
  540          #####  +             @367.15
```

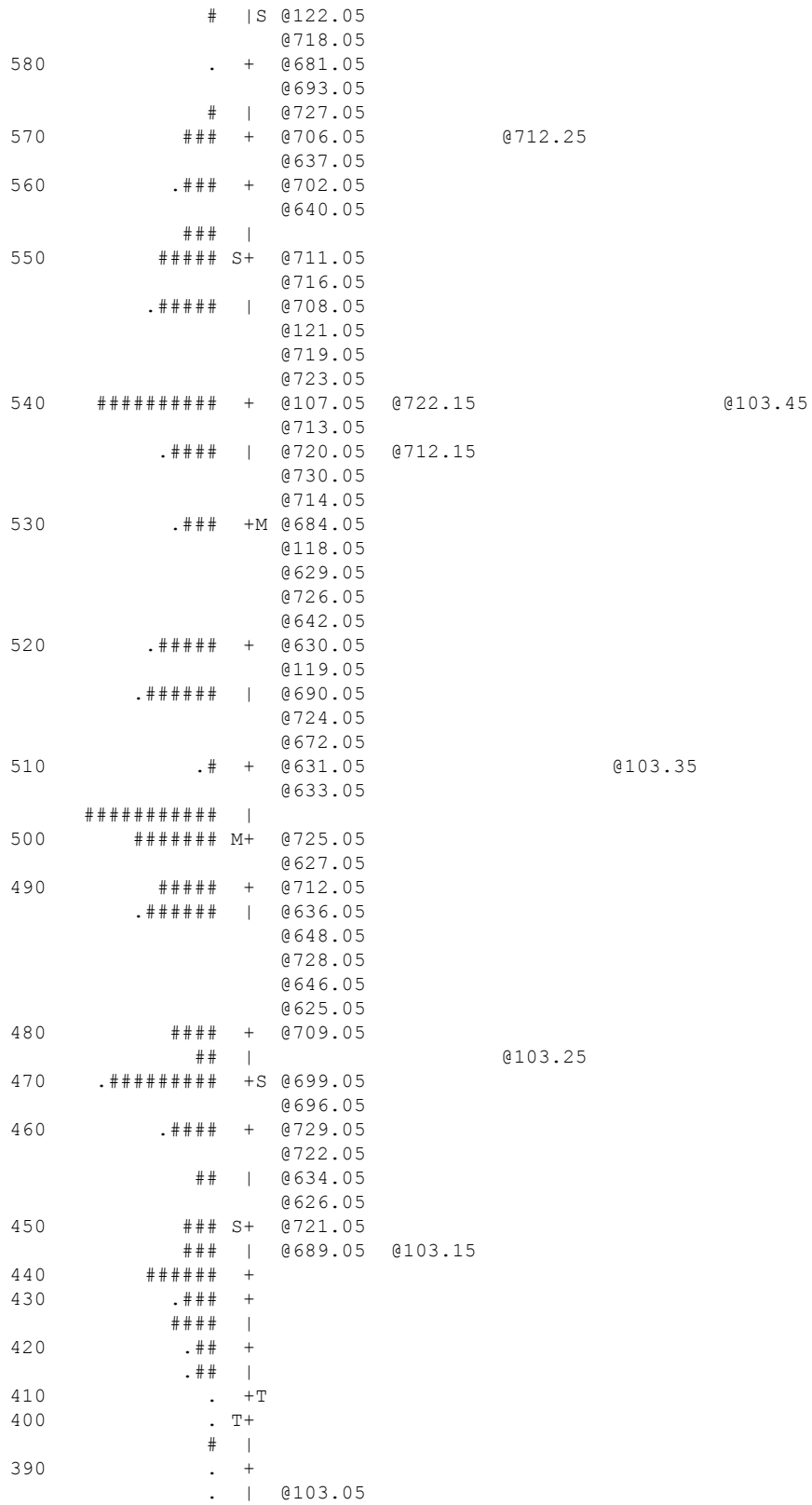
```
            .#####  |   @315.05
  530         .###  +   @299.05   @324.15
              ####  |   @296.05
  520          ###  +   @287.05
                        @301.05
                        @290.05
  510   .##########  +M  @306.05
               ## M|   @307.05
                        @295.05
                        @321.05
                        @283.05
                        @363.05
  500         ####  +   @317.05
                        @320.05
            ######  |   @286.05
                        @308.05
  490           .##  +   @291.05
                        @298.05
              .###  |
  480           ##  +   @316.05
                        @367.05
                        @310.05
                        @313.05
  470           ##  +   @288.05
                        @297.05
                        @309.05
                        @285.05
              .##  |S   @305.05
                        @293.05
                        @365.05
  460             .  +
            .####  |   @318.05
  450         .## S+   @324.05
                        @314.05
                        @284.05
              ##  |   @289.05
  440         ##  +
              .#  |
  430         .###  +T
  420               +
            .###  |
  410               +
             ###  |
  400               +
                . T|
  390               +
  380           .#  +
                    |
  370               +
                    |
  360            #  +
                    |
  350               +
  340               +
                    |
  330             .  +
                    |
  320               +
            <less>|<freq>  0         1         2
EACH "#" IS 2: EACH "." IS 1
```

GR5HLA



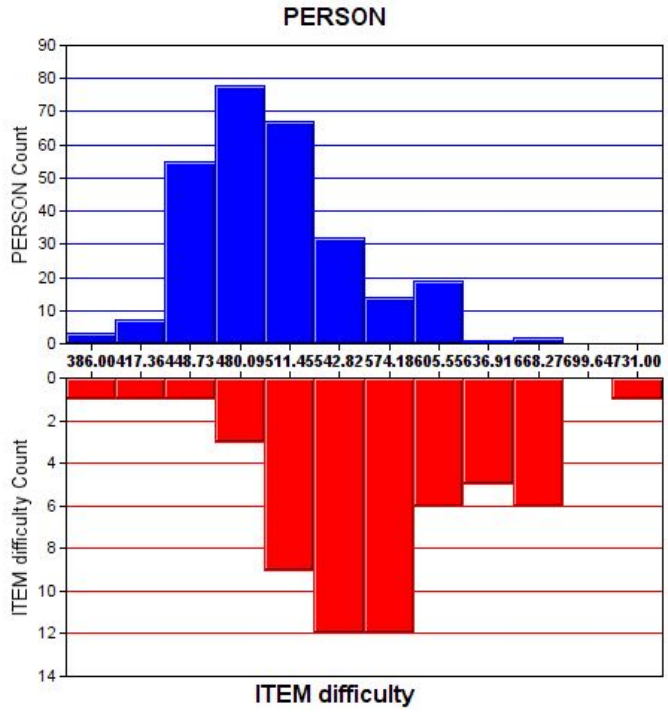

```
TABLE 12.5 20190615_2019_GR5HLA_OT.sav           ZOU386WS.TXT  Aug 26 2019 14:47
INPUT: 280 PERSON  57 ITEM  REPORTED: 280 PERSON  57 ITEM  125 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare> 1        2        3        4        5        6
                    |  @717.05
  720               +
  710               +
                    |
  700               +
                    |  @677.05
  690               +
  680               +
                    |
  670               +           @706.15
                    |
  660               +
  650               +                            @712.35
                    |T
  640               +
                    |
  630             .  +
  620               +                    @722.25
                  .  |
  610             #  +                                                  @103.55
                  .  |
  600             # T+  @673.05
  590           ###   +  @707.05
                       @120.05
```


580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
410
400
390
@122.05
@718.05
@681.05
@693.05
@727.05
@706.05
@712.25
@637.05
@702.05
@640.05
@711.05
@716.05
@708.05
@121.05
@719.05
@723.05
@107.05
@722.15
@103.45
@713.05
@720.05
@712.15
@730.05
@714.05
@684.05
@118.05
@629.05
@726.05
@642.05
@630.05
@119.05
@690.05
@724.05
@672.05
@631.05
@103.35
@633.05
@725.05
@627.05
@712.05
@636.05
@648.05
@728.05
@646.05
@625.05
@709.05
@103.25
@699.05
@696.05
@729.05
@722.05
@634.05
@626.05
@721.05
@689.05
@103.15
@103.05

```
  380                +  @107.05
  370                +  @644.05
                     |
  360              .  +
                <less>|<freq> 0        1        2        3        4        5
EACH "#" IS 2: EACH "." IS 1
```

GR5MA



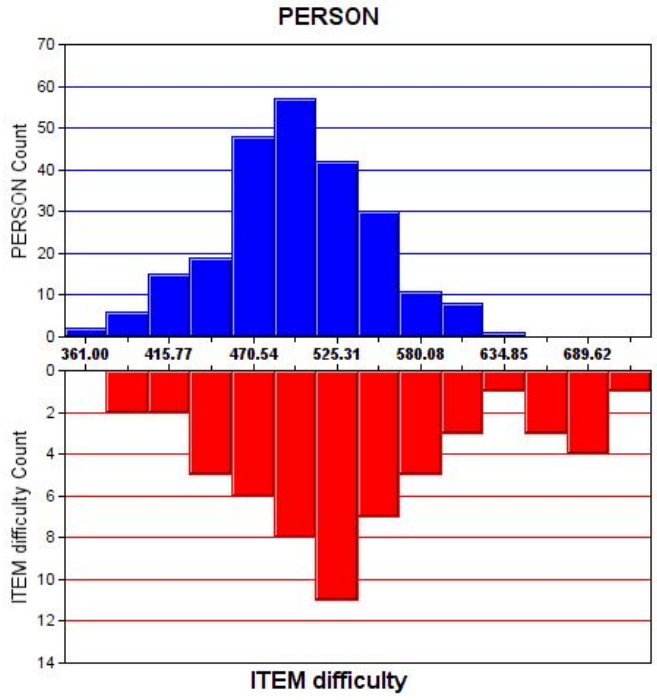

```
TABLE 12.5 20190613_2019_GR5MA_OT.sav            ZOU297WS.TXT  Aug 26 2019 14:53
INPUT: 278 PERSON  57 ITEM  REPORTED: 278 PERSON  57 ITEM  122 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
               <more>|<rare>  1         2         3
  790                +                       @464.25
                     |
  780                +
  770                +
                     |
  760                +
  750                +
                     |
  740                +
  730                +   @420.05
                     |
  720                +
  710                +
                     |             @463.15
                                  @1093.15
  700                +
  690                +T
                     |
  680                +
  670                +             @464.15
                 .   |   @417.05
  660            .   +   @449.05
```

```
650                +  @1217.05
                      @453.05
                   |                          @435.25
640                +  @1229.05
                      @440.05
630             .  +S @1223.05
                .  |   @432.05
620             #  +  @1232.05
                      @443.05
610             .  +   @463.05
                     @1093.05
              .##  |   @462.05
600         ##### T+  @1202.05              @414.25
                      @412.05
                      @444.05
590             #  +
580             #  +   @436.05
                      @428.05
                #  |   @442.05
                      @445.05
                      @437.05
                     @1058.05
570            ##  +   @429.05
                      @450.05
                      @419.05
560             #  +M  @426.05   @435.15
                      @459.05
             .###  |   @439.05
                      @454.05
                      @415.05
550           ### S+  @1136.05   @414.15
                      @448.05
                      @464.05
540         .####  +   @455.05
                      @425.05
             .###  |   @431.05
                     @1187.05
                      @446.05
530           .##  +  @1121.05
520     .########  +   @433.05
                      @451.05
                      @456.05
                      @452.05
           ######  |  @1130.05
                      @416.05
510       .######  +   @434.05
500       ####### M+S  @422.05
                      @424.05
                      @414.05
          .#####  |   @435.05
490   ###########  +   @421.05
480    .#########  +  @1128.05
      .#########  |   @413.05
470     #########  +
460         .####  +   @441.05
        .#######  |
450               S+
440      .#######  +T
         ########  |
430            ##  +
420                +   @460.05
               .#  |
```

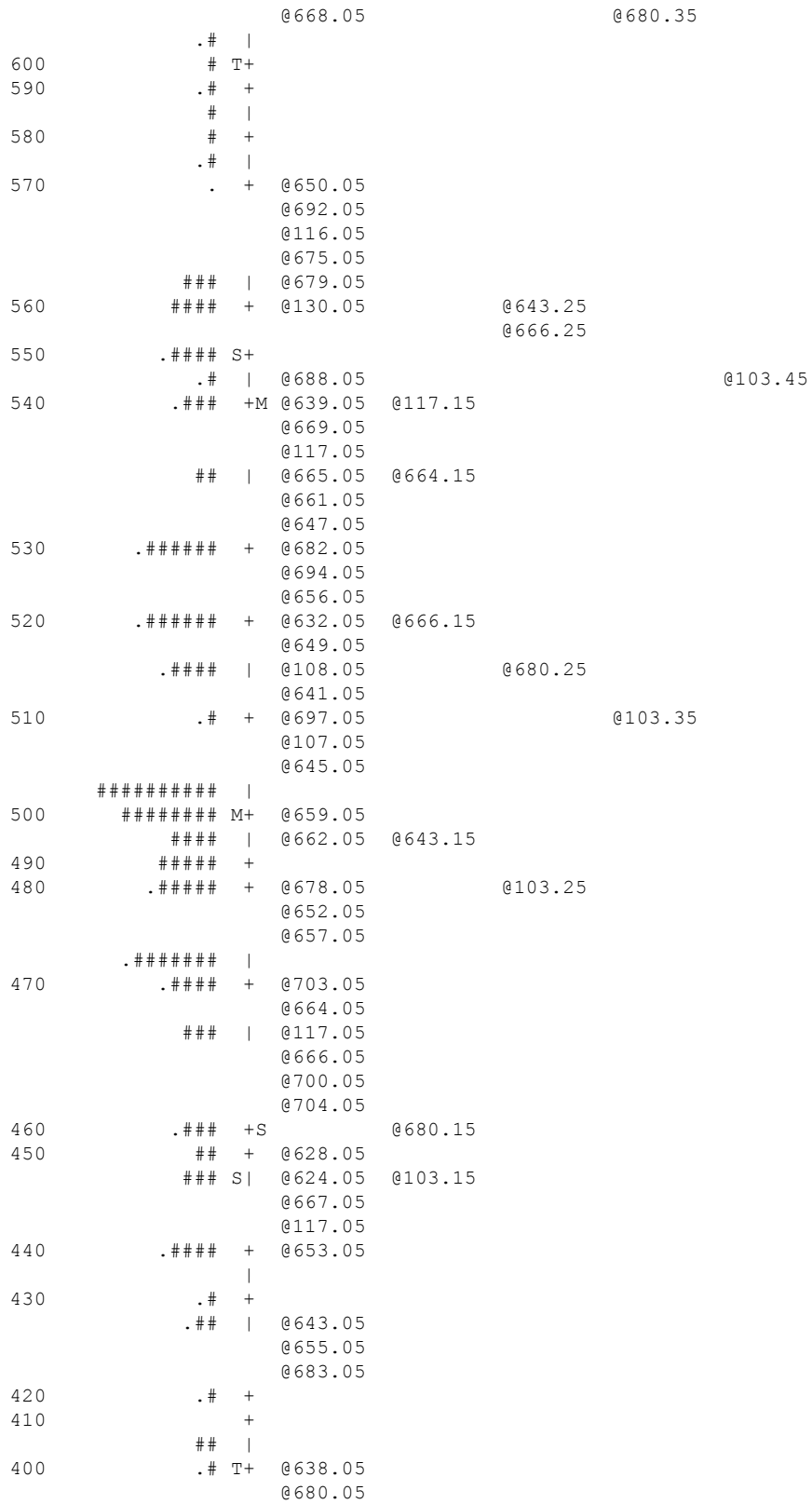
```
  410               +
  400             # T+   @458.05
                    |
  390             .  +
  380               +
              <less>|<freq>  0         1         2
EACH "#" IS 2: EACH "." IS 1
```

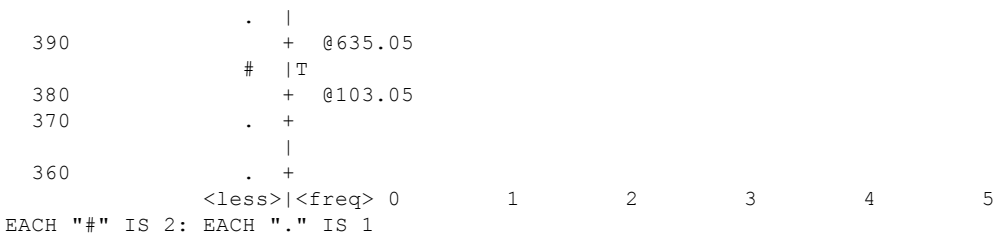
GR6HLA



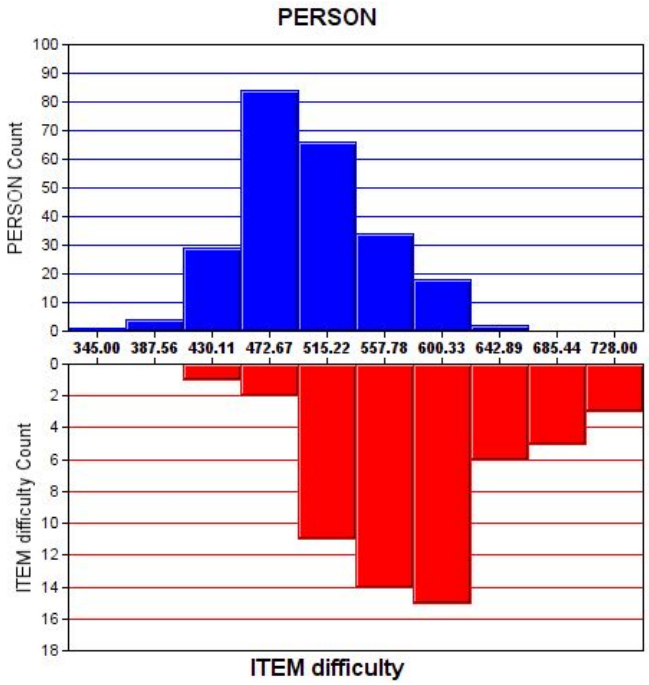

```
TABLE 12.5 20190616_2019_GR6HLA_OT.sav           ZOU003WS.TXT  Sep  3 2019  9:48
INPUT: 239 PERSON  58 ITEM  REPORTED: 239 PERSON  58 ITEM  134 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
               <more>|<rare> 1        2        3        4        5        6
                     |  @691.05
  710                +
  700                +
                     |  @685.05
  690                +T @660.05
                        @676.05
                     |  @674.05
  680                +
                     |
  670                +
  660                +
                     |  @698.05
                        @117.05
                        @701.05
  650                +
                     |  @663.05
  640                +
  630                +           @694.15
                   . |
  620                +  @687.05           @117.25
                   . |S                   @664.25                    @103.55
  610              # +  @651.05                    @666.35
```


@668.05
@680.35
600
590
580
570
@650.05
@692.05
@116.05
@675.05
@679.05
560
@130.05
@643.25
@666.25
550
@688.05
@103.45
540
@639.05
@117.15
@669.05
@117.05
@665.05
@664.15
@661.05
@647.05
530
@682.05
@694.05
@656.05
520
@632.05
@666.15
@649.05
@108.05
@680.25
@641.05
510
@697.05
@103.35
@107.05
@645.05
500
@659.05
@662.05
@643.15
490
480
@678.05
@103.25
@652.05
@657.05
470
@703.05
@664.05
@117.05
@666.05
@700.05
@704.05
460
@680.15
450
@628.05
@624.05
@103.15
@667.05
@117.05
440
@653.05
430
@643.05
@655.05
@683.05
420
410
400
@638.05
@680.05


390
380
370
360
@635.05
@103.05
<less>|<freq> 0 1 2 3 4 5
EACH "#" IS 2: EACH "." IS 1

GR6MA



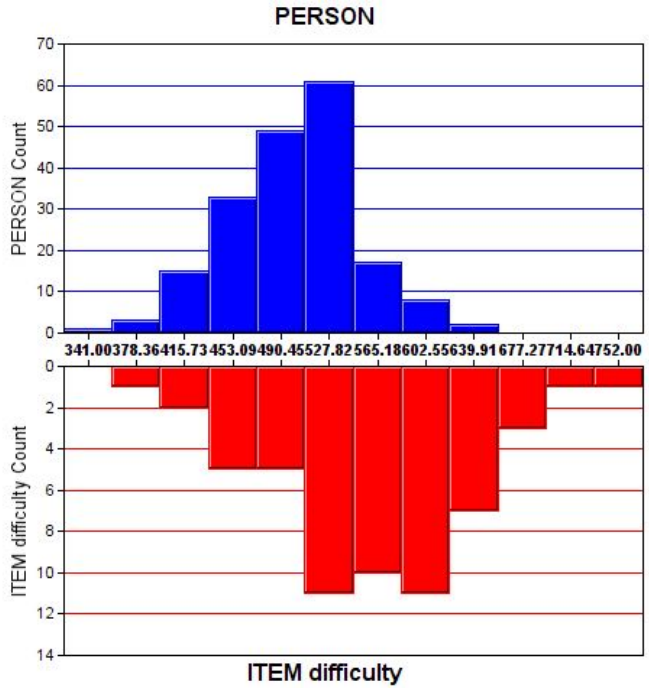

```
TABLE 12.5 20190624_2019_GR6MA_OT.sav            ZOU793WS.TXT  Sep  3 2019  9:57
INPUT: 238 PERSON  57 ITEM  REPORTED: 238 PERSON  57 ITEM  128 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare>  1         2         3         4
  810               +             @472.15
                    |
  800               +
  790               +
  780               +
  770               +
                    |
  760               +
  750               +
  740               +
                    |
  730               +   @482.05
  720               +  @1251.05
  710               +T  @524.05             @502.25
  700               +                                 @1062.35
                    |  @1225.05
  690               +
  680               +   @585.05
  670               +   @577.05
                    |   @575.05
  660               +
```

```
650                +   @476.05             @491.25  @1131.35
                       @570.05            @1062.25
640                +S
                   |   @534.05                       @469.35
                       @466.05
                       @521.05
630              .  +
620              #  +
610              #  +   @470.05  @1062.15
                       @545.05   @502.15
600              # T+  @1256.05
                 ##  |   @487.05
                       @581.05
                       @580.05
                       @512.05
                       @551.05
590              .  +  @1253.05   @491.15
                       @480.05
                       @484.05
580           ####  +M  @578.05            @1131.25
                       @574.05
570             ##  +   @478.05
                ###  |   @553.05             @469.25
                       @572.05
                       @517.05
560           ####  +   @520.05
                      @1062.05
550         ###### S+   @567.05
540             ##  +   @514.05  @1131.15
                       @526.05
                      @1203.05
                       @515.05
530       .#######  +   @490.05
                       @495.05
                       @509.05
                       @472.05
                       @537.05
                      @1063.05
          .########  |  @1142.05
                      @1101.05
                       @468.05
520           .###  +S @1200.05   @469.15
                       @579.05
510         ######  +   @568.05
                       @550.05
                       @491.05
                       @563.05
                       @502.05
500             ### M+
              .####  |
490           #####  +  @1131.05
480 .############  +  @1254.05
470         .#####  +   @535.05
460      .########  +
       .###########  |T
450        .###### S+   @469.05
440                +
430          #####  +
                ##  |
420              #  +
410                +   @571.05
400             ## T+
```

```
                    |
  390               +
  380               +
  370               +
  360               +
                    |
  350             .  +
  340               +
              <less>|<freq>  0         1         2         3
EACH "#" IS 2: EACH "." IS 1
```

GR7HLA



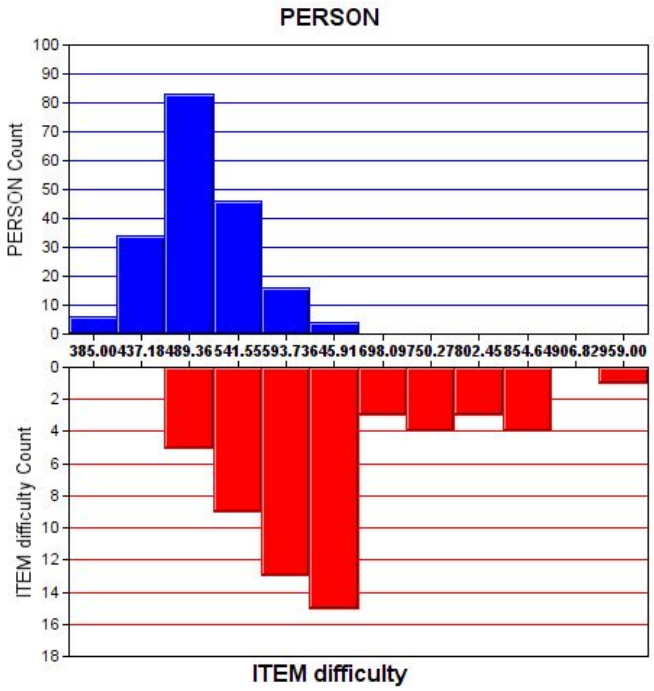

```
TABLE 12.5 20190614_2019_GR7_HLA_OT.sav          ZOU850WS.TXT  Sep  3 2019 10:21
INPUT: 189 PERSON  57 ITEM  REPORTED: 189 PERSON  57 ITEM  134 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare> 1        2        3        4        5        6
  750               +  @869.05
                    |
  740               +
  730               +
                    |
  720               +
  710               +T
                    |  @903.05
  700               +
  690               +
                    |  @870.05           @889.25
                       @822.05
  680               +
  670               +  @843.05                    @872.35
                    |
  660               +  @108.05
  650               +  @886.05  @770.15  @878.25
                    |  @874.05
  640             .  +S @117.05           @872.25
  630             .  +  @117.05
                       @884.05
                    |                              @808.35           @103.55
  620               +
```

```
610             #  +  @118.05  @872.15
                      @880.05
                #  |  @876.05           @109.25
600             # T+  @834.05  @889.15
                      @774.05  @878.15
                      @883.05
590             #  +  @839.05           @109.25
                      @902.05
                .  |  @892.05
                      @108.05
                      @762.05
580             #  +
570           .##  +  @872.05           @808.25
                      @118.05
                      @110.05
                .#  |M @879.05
                      @899.05
560             .#  +  @891.05
                      @811.05
550             .# S+  @806.05                                 @103.45
540           .###  +  @109.05
                      @803.05
                      @777.05
              ####  |  @878.05
                      @875.05
                      @897.05
530           .##  +  @889.05  @109.15
                      @117.05
                      @930.05
520         ######  +           @109.15
                                @808.15
        #########  |  @770.05
                      @109.05
510         .#####  +  @877.05
500       .####### M+                              @103.35
              .##  |  @784.05
490     .########  +S
480             ##  +  @763.05
              ####  |  @829.05
470         ######  +  @769.05           @103.25
460           .##  +  @790.05
                      @808.05
                      @887.05
                      @109.05
              ###  |
450           .## S+  @882.05
440           .##  +  @871.05
                      @109.05
               ##  |
430            .#  +           @103.15
420            ##  +  @885.05
                   |T
410             #  +
400             # T+  @888.05
                   |  @111.05
390             .  +
380                +
                .  |  @103.05
370                +
360             .  +
                   |
350                +
```

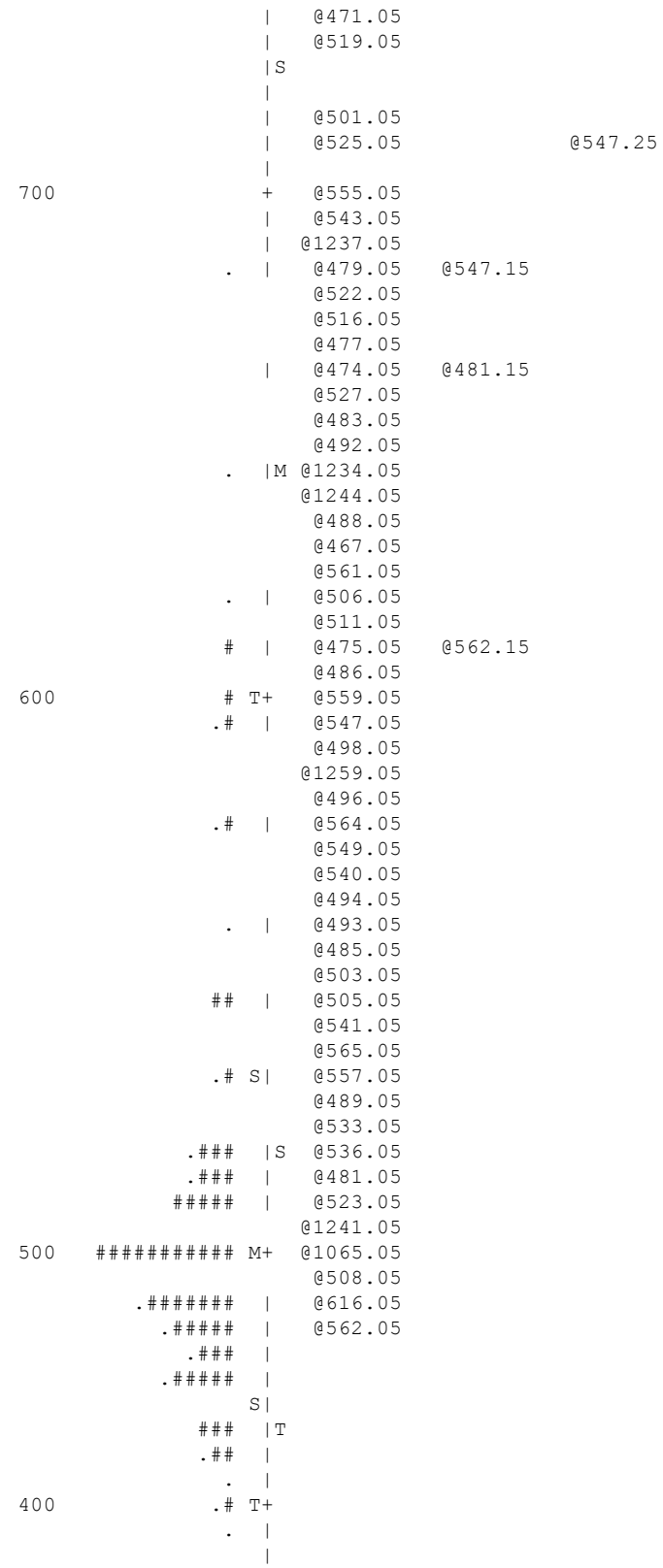
```
  340             .  +
                <less>|<freq> 0        1        2        3        4        5
EACH "#" IS 2: EACH "." IS 1
```

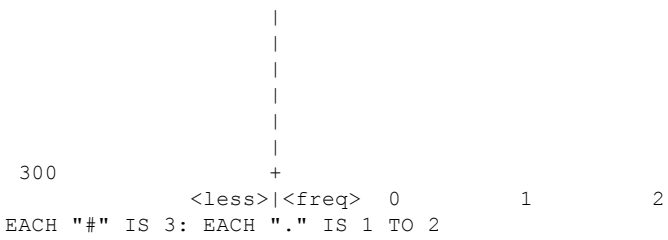
GR7MA



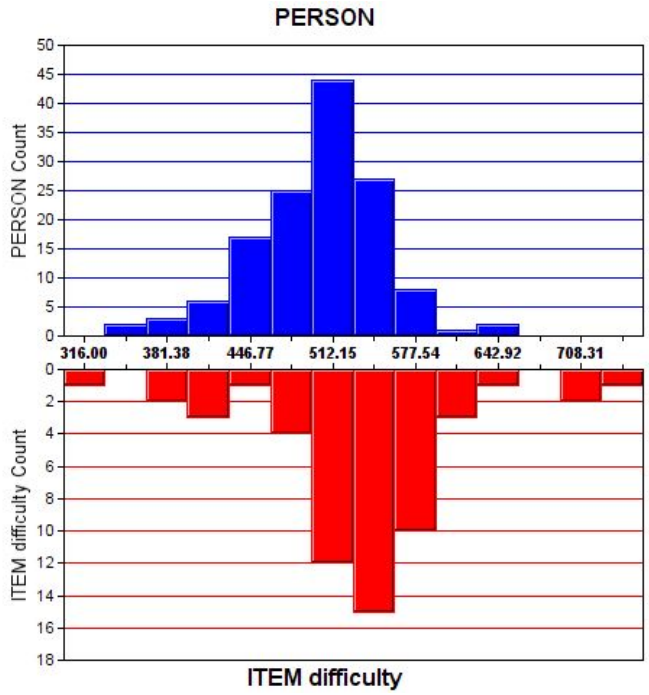

```
TABLE 12.5 20190611_2019_GR7_MA_OT.sav           ZOU059WS.TXT  Sep  3 2019 10:26
INPUT: 189 PERSON  58 ITEM  REPORTED: 189 PERSON  57 ITEM  120 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare>  1         2         3
 1000               +
                    |
                    |
                    |
                    |   @513.05
                    |
                    |
                    |
                    |
  900               +
                    |
                    |
                    |   @538.05
                    |  @1247.05
                    |T            @467.15
                    |  @1066.05
                    |  @1264.05
                    |
                    |
                    |   @552.05   @555.15
                    |  @1252.05
  800               +
                    |
```


700
600
500
400

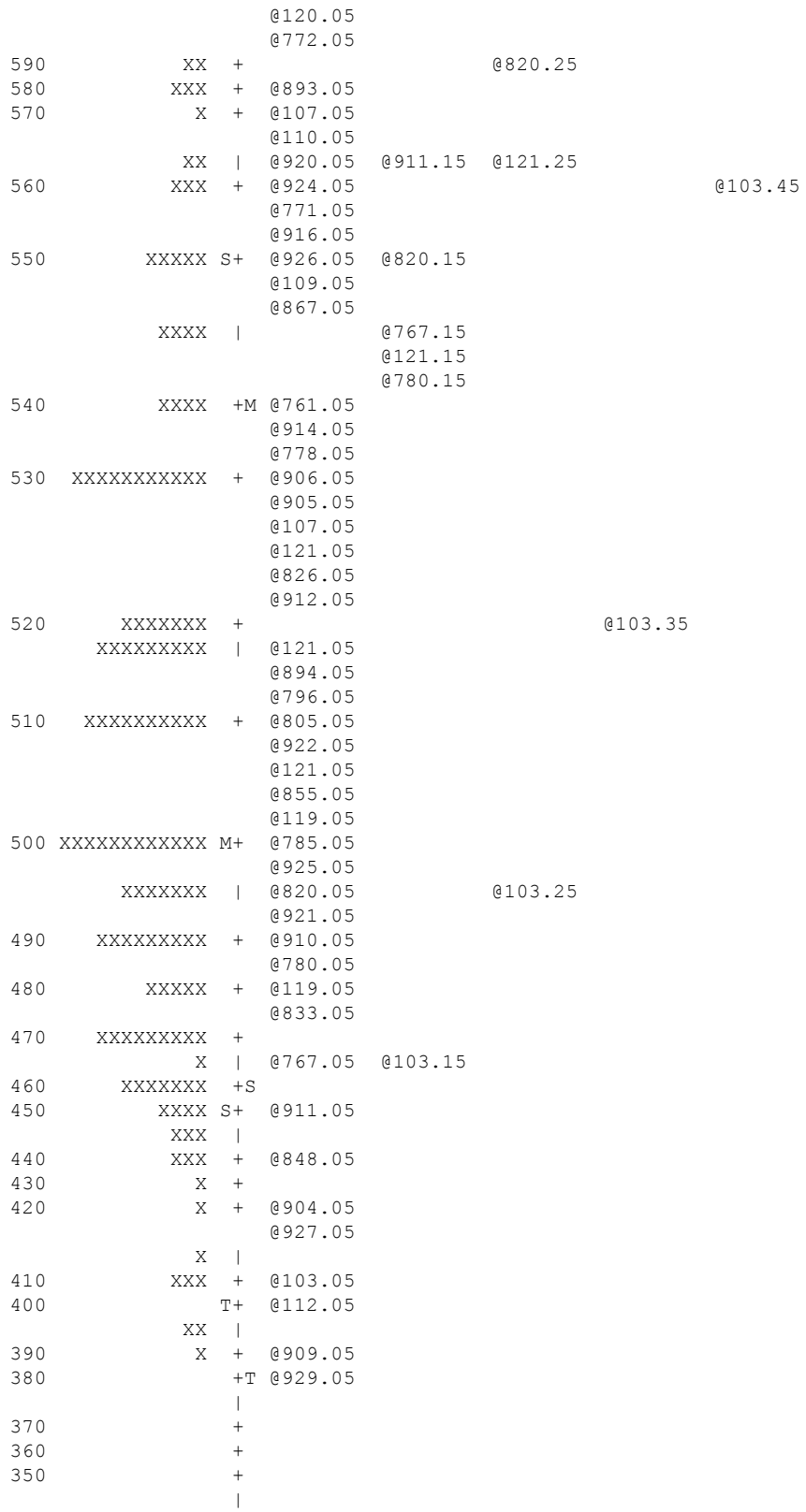

300
<less>|<freq> 0 1 2
EACH "#" IS 3: EACH "." IS 1 TO 2

GR8HLA



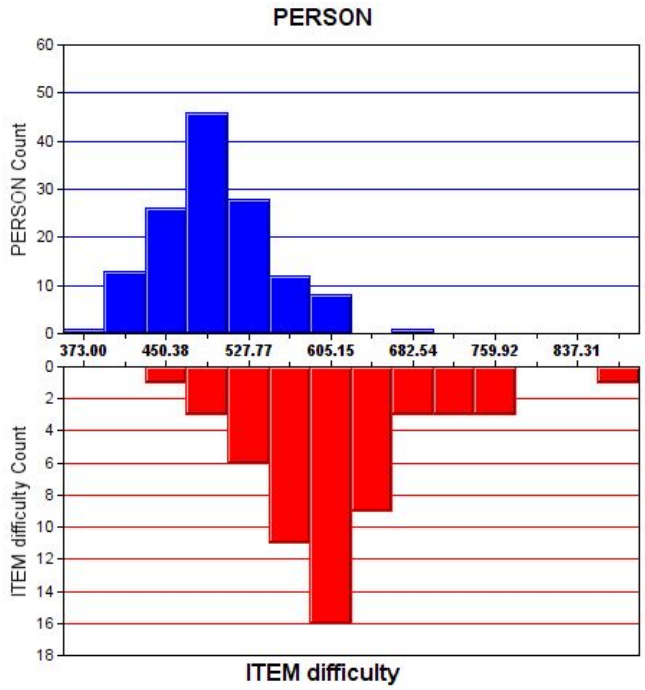

```
TABLE 12.5 20190612_2019_GR8_HLA_OT.sav          ZOU410WS.TXT  Sep  3 2019 10:38
INPUT: 135 PERSON  55 ITEM  REPORTED: 135 PERSON  55 ITEM  127 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE   PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare> 1        2        3        4        5        6
  740               +  @802.05
                    |
  730               +
  720               +  @793.05
                    |
  710               +                            @780.35
  700               +  @810.05
  690               +
                    |T
  680               +
  670               +
                    |
  660               +
  650               +  @766.05          @911.25  @820.35
  640               +
                X   |
  630           X   +                                          @103.55
  620               +  @901.05
                    |
  610           X   +S @913.05
  600             T+                    @780.25  @121.55
                    |  @764.05
                       @112.05
```


@120.05
@772.05
590 XX + @820.25
580 XXX + @893.05
570 X + @107.05
@110.05
XX | @920.05 @911.15 @121.25
560 XXX + @924.05 @103.45
@771.05
@916.05
550 XXXXX S+ @926.05 @820.15
@109.05
@867.05
XXXX | @767.15
@121.15
@780.15
540 XXXX +M @761.05
@914.05
@778.05
530 XXXXXXXXXX + @906.05
@905.05
@107.05
@121.05
@826.05
@912.05
520 XXXXXXX + @103.35
XXXXXXXXX | @121.05
@894.05
@796.05
510 XXXXXXXXX + @805.05
@922.05
@121.05
@855.05
@119.05
500 XXXXXXXXXXX M+ @785.05
@925.05
XXXXXXX | @820.05 @103.25
@921.05
490 XXXXXXXXX + @910.05
@780.05
480 XXXXX + @119.05
@833.05
470 XXXXXXXXX +
X | @767.05 @103.15
460 XXXXXXX +S
450 XXXX S+ @911.05
XXX |
440 XXX + @848.05
430 X +
420 X + @904.05
@927.05
X |
410 XXX + @103.05
400 T+ @112.05
XX |
390 X + @909.05
380 +T @929.05
|
370 +
360 +
350 +
|

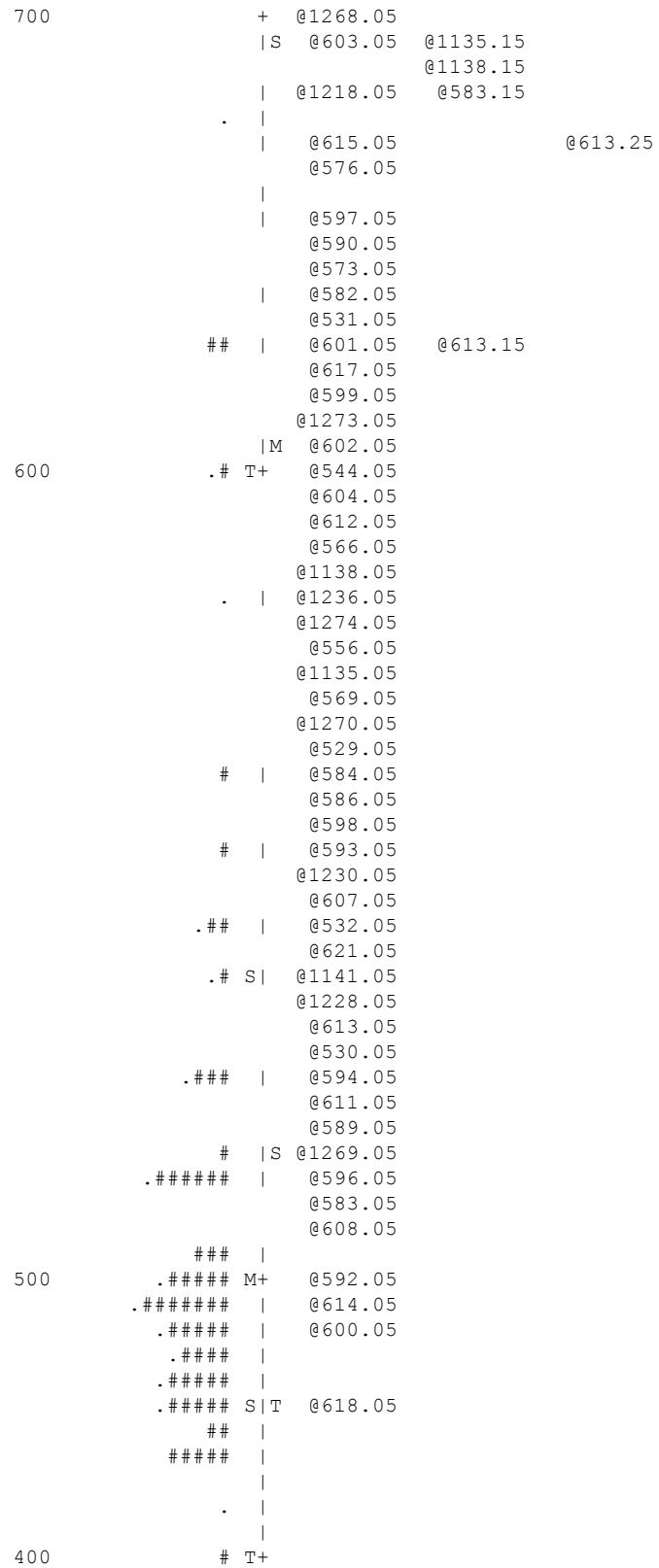

340
XX +
330
+
|
320
+ @917.05
310
+
<less>|<freq> 0 1 2 3 4 5

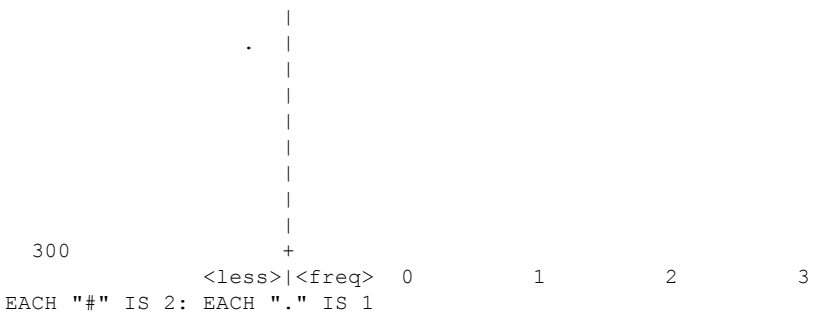
GR8MA



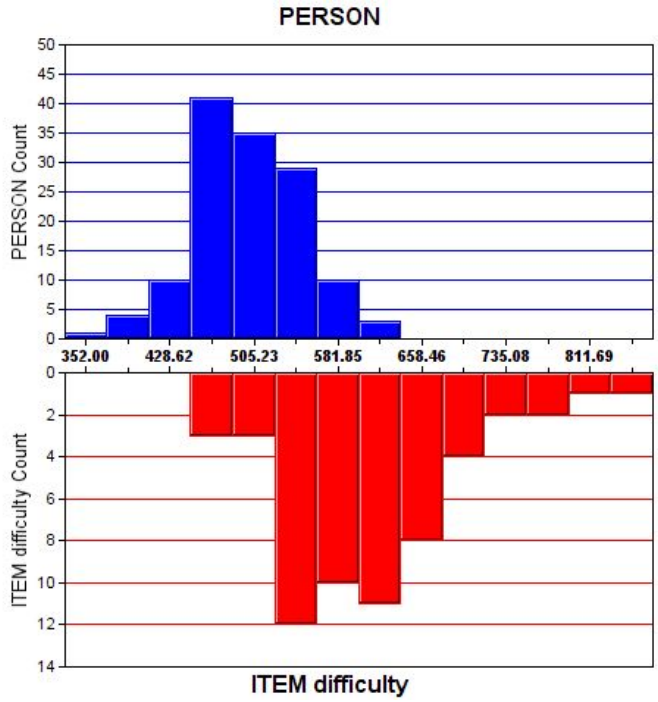

```
TABLE 12.5 20190613_2019_GR8_MA_OT.sav           ZOU477WS.TXT  Sep  3 2019 10:41
INPUT: 135 PERSON  56 ITEM  REPORTED: 135 PERSON  56 ITEM  119 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare>  1         2         3         4
  900               +
                    |
                    |
                    |  @1140.05
                    |
                    |
                    |
                    |
                    |
                    |
  800               +
                    |
                    |             @582.15
                    |   @620.05
                    |   @542.05
                    |T
                    |   @548.05
                    |
                    |   @588.05
                    |   @591.05                        @613.35
                    |
                    |
```


700
600
500
400
@1268.05
@603.05
@1135.15
@1138.15
@1218.05
@583.15
@615.05
@613.25
@576.05
@597.05
@590.05
@573.05
@582.05
@531.05
@601.05
@613.15
@617.05
@599.05
@1273.05
@602.05
@544.05
@604.05
@612.05
@566.05
@1138.05
@1236.05
@1274.05
@556.05
@1135.05
@569.05
@1270.05
@529.05
@584.05
@586.05
@598.05
@593.05
@1230.05
@607.05
@532.05
@621.05
@1141.05
@1228.05
@613.05
@530.05
@594.05
@611.05
@589.05
@1269.05
@596.05
@583.05
@608.05
@592.05
@614.05
@600.05
@618.05

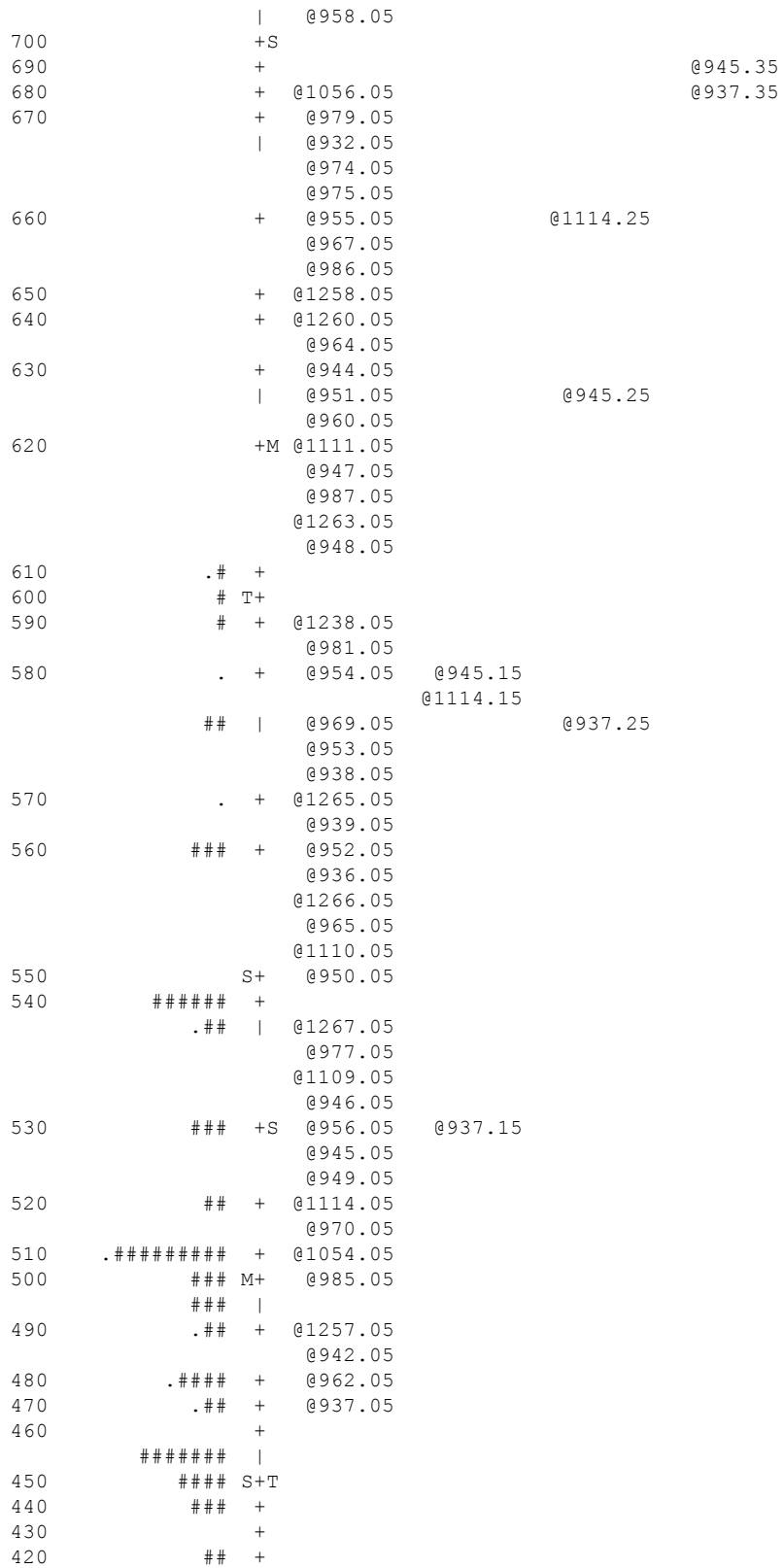

300
<less>|<freq> 0 1 2 3
EACH "#" IS 2: EACH "." IS 1

GR8 SC




```
TABLE 12.5 20190614_2019_GR8_SC_OT_rm.sav        ZOU079WS.TXT  Sep  3 2019 10:52
INPUT: 133 PERSON  58 ITEM  REPORTED: 133 PERSON  57 ITEM  122 CATS WINSTEPS 4.4.2
-------------------------------------------------------------------------------

MEASURE    PERSON - MAP - ITEM - Expected score zones (Rasch-half-point thresholds)
              <more>|<rare>  1         2         3         4
  850               +   @971.05
  840               +
  830               +
                    |
  820               +
  810               +
  800               +  @1205.05
  790               +
                    |
  780               +T
  770               +   @961.05
                        @980.05
  760               +
  750               +   @983.05
                    |
  740               +
  730               +
  720               +   @972.05
  710               +   @984.05
                        @978.05
```


700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
@958.05
@945.35
@937.35
@1056.05
@979.05
@932.05
@974.05
@975.05
@955.05
@1114.25
@967.05
@986.05
@1258.05
@1260.05
@964.05
@944.05
@951.05
@945.25
@960.05
@1111.05
@947.05
@987.05
@1263.05
@948.05
@1238.05
@981.05
@954.05
@945.15
@1114.15
@969.05
@937.25
@953.05
@938.05
@1265.05
@939.05
@952.05
@936.05
@1266.05
@965.05
@1110.05
@950.05
@1267.05
@977.05
@1109.05
@946.05
@956.05
@937.15
@945.05
@949.05
@1114.05
@970.05
@1054.05
@985.05
@1257.05
@942.05
@962.05
@937.05

```
                    |
  410             ##  +
  400                T+
  390                 +
  380                 +
                      |
  370                 +
  360                 +
  350               .  +
                <less>|<freq>  0         1         2         3
EACH "#" IS 2: EACH "." IS 1
```

Appendix F: Item Response Theory Item Statistics

Grade 3 Math IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@178	-3.25906	345	0.196901	0.9706	-0.149	1.0938	0.4611	1.004	0.913	0.2694
@182	-0.57825	345	0.116054	0.9318	-1.8291	0.9103	-1.6391	1.2795	0.487	0.4478
@206	-1.52612	345	0.123335	0.96	-0.789	0.8752	-1.4591	1.1325	0.6841	0.4277
@1303	2.531334	345	0.240229	1.0485	0.311	1.6739	1.9617	0.9312	0.058	0.2295
@225	0.243876	345	0.12449	1.1796	3.1112	1.2977	3.5013	0.5712	0.3188	0.4697
@215	-2.82854	345	0.16931	0.9327	-0.5491	0.9287	-0.3191	1.0479	0.8754	0.3071
@169	-0.86098	345	0.116275	0.9204	-2.1591	0.8767	-2.1391	1.343	0.5478	0.4442
@231	-0.01049	345	0.120417	1.1365	2.7611	1.1967	2.7912	0.6127	0.3681	0.4766
@219	1.233648	345	0.154451	1.0523	0.5611	1.6228	3.6216	0.8841	0.1652	0.3576
@202	-2.80013	345	0.167745	0.8615	-1.2291	0.7771	-1.2192	1.1243	0.8725	0.2979
@221	0.402767	345	0.127731	1.1187	1.9211	1.1913	2.1012	0.7653	0.2899	0.4458
@992	3.307946	345	0.330562	0.875	-0.3491	0.5232	-1.1795	1.0712	0.029	0.1524
@371	0.465572	344	0.129334	0.968	-0.499	0.963	-0.379	1.0559	0.2791	0.4101
@173	-0.12937	344	0.119148	1.083	1.8211	1.1242	1.9211	0.7293	0.3924	0.4709
@226	1.304372	344	0.157744	0.8967	-1.0291	0.8492	-0.9792	1.0956	0.157	0.3237
@233	2.233997	344	0.22063	1.0349	0.211	0.7944	-0.0692	0.9969	0.0465	0.2486
@174	-0.61072	344	0.116188	0.8253	-4.9092	0.7921	-3.9692	1.7071	0.4942	0.4216
@1036	2.269006	344	0.217516	1.0599	0.4011	1.0227	0.171	0.9759	0.0727	0.2552
@210	0.638389	344	0.133742	1.128	1.8011	1.1188	1.1611	0.8159	0.25	0.4282
@207	-1.15646	344	0.118448	0.9072	-2.3091	0.8481	-2.2892	1.34	0.6105	0.4335
@212	-0.50251	344	0.116452	0.8752	-3.3591	0.843	-2.9392	1.4961	0.4709	0.4331
@172	0.088397	344	0.122014	0.8439	-3.2592	0.7796	-3.3392	1.405	0.3488	0.4059
@198	-2.421	344	0.149788	0.8809	-1.3391	0.7093	-2.0493	1.1556	0.8285	0.3378
@368	0.944168	344	0.143303	0.9259	-0.8991	0.8472	-1.2692	1.1019	0.2035	0.362
@191	0.029282	344	0.12114	0.9041	-2.0191	0.8658	-2.0291	1.2635	0.3605	0.4232
@193	-0.74564	344	0.116184	1.0031	0.091	1.0056	0.121	0.982	0.5233	0.4648
@189	-2.14992	344	0.139544	1.0145	0.211	1.0688	0.5611	0.9628	0.7907	0.3892
@995	0.533322	344	0.13098	1.1807	2.6512	1.4354	4.0814	0.6557	0.2674	0.4473

@229	-0.47537	344	0.116555	0.9815	-0.469	0.9749	-0.429	1.0767	0.4651	0.4583
@374	0.43232	344	0.128564	1.1629	2.5512	1.3011	3.1313	0.6654	0.2849	0.4522
@234	2.240602	344	0.179759	0.9842	-0.009	0.6683	-1.0993	1.0345	0.0901	0.2976
@184	-2.0178	344	0.135316	1.0168	0.261	1.1611	1.3112	0.9369	0.7703	0.4018
@186	-0.28352	344	0.117698	1.0405	0.971	1.1286	2.1111	0.8075	0.4244	0.4673
@1035	0.088397	344	0.122014	1.0378	0.761	1.0471	0.681	0.9058	0.3488	0.4502
@201	-1.66069	344	0.126182	0.9062	-1.7391	0.8463	-1.6592	1.2088	0.7093	0.4068
@211	0.56786	344	0.131859	1.1044	1.5511	1.1296	1.3211	0.8312	0.2616	0.4297
@216	-0.75399	343	0.116382	0.9834	-0.429	0.9534	-0.799	1.0896	0.5248	0.4601
@209	0.510874	343	0.130662	0.9395	-0.9391	0.9261	-0.7791	1.0962	0.2711	0.4005
@213	0.42683	343	0.128675	0.8994	-1.6791	0.8751	-1.4391	1.1828	0.2857	0.398
@224	0.082258	343	0.12214	1.1348	2.5811	1.2338	3.0912	0.6323	0.3499	0.4709
@204	-0.79465	343	0.116458	0.8939	-2.9191	0.8757	-2.1991	1.4345	0.5335	0.4384
@230	0.781077	343	0.138167	1.1798	2.2912	1.284	2.3713	0.7384	0.2274	0.4245
@190	-1.68957	343	0.126962	0.9877	-0.199	0.9533	-0.449	1.0341	0.7143	0.4227
@235	2.782311	343	0.200988	0.9825	-0.019	0.6117	-1.4694	1.0569	0.0787	0.2663
@180	-0.22073	343	0.118438	1.0538	1.2411	1.0753	1.2311	0.8138	0.4111	0.468
@188	-1.26598	343	0.119816	0.9431	-1.3191	0.9503	-0.659	1.1616	0.6327	0.4376
@214	-0.46925	343	0.116777	0.9513	-1.249	0.9358	-1.1391	1.188	0.4636	0.451
@223	-0.09313	343	0.11977	1.1402	2.9411	1.1876	2.7712	0.5745	0.3848	0.4814
@205	0.097202	343	0.122371	1.0803	1.5611	1.1978	2.6212	0.7661	0.3469	0.4586
@217	1.203164	343	0.153588	0.9983	0.011	1.0641	0.4811	0.9871	0.1691	0.3512
@1305	2.17404	343	0.210356	0.9991	0.051	0.9532	-0.109	1.009	0.0787	0.2566
@187	-1.82161	343	0.130056	0.968	-0.509	0.9448	-0.4891	1.0562	0.7376	0.4085
@208	0.203511	343	0.12415	0.815	-3.6492	0.8038	-2.7192	1.4023	0.3265	0.3926
@218	0.839104	343	0.140009	1.1403	1.7511	1.3261	2.5913	0.7792	0.2187	0.4118
@185	2.469835	343	0.235123	0.9382	-0.2691	1.3147	1.0713	1.0014	0.0612	0.2224

Grade 4 Math IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@135	-1.4018	227	0.14826	0.8777	-2.2291	0.8317	-2.1092	1.3555	0.6652	0.4194
@140	-1.06351	227	0.14309	0.9549	-0.969	0.9215	-1.1991	1.202	0.5947	0.4533
@109	-1.00233	227	0.142489	0.9194	-1.8191	0.8865	-1.8291	1.3571	0.5815	0.4466
@257	0.255288	227	0.151675	0.9422	-0.8791	0.9546	-0.479	1.1134	0.3128	0.4248
@157	-0.54274	227	0.141107	0.9495	-1.1791	0.9364	-1.1191	1.2421	0.4802	0.4583
@236	-0.34228	227	0.142205	0.8943	-2.3591	0.8632	-2.3391	1.4585	0.4361	0.4414
@170	-0.2405	227	0.143156	1.1837	3.5912	1.1927	2.8512	0.3094	0.4141	0.5044
@1009	0.186987	227	0.150109	1.0344	0.561	1.2597	2.8213	0.8651	0.326	0.4497
@262	-0.9863	227	0.089729	1.0081	0.141	1.166	1.6612	0.9493	1.1938	0.7427
@238	0.255288	227	0.151675	1.0779	1.1811	1.1159	1.2711	0.8109	0.3128	0.4543
@268	-1.4018	227	0.14826	1.1162	1.9911	1.2029	2.3012	0.6351	0.6652	0.473
@264	0.348723	227	0.154029	1.0584	0.8511	1.0687	0.7311	0.8768	0.2952	0.4433
@276	0.372547	227	0.154669	0.9485	-0.7191	0.9459	-0.5291	1.0987	0.2907	0.4179
@244	3.691604	227	0.508491	0.9982	0.161	1.1146	0.3911	0.9905	0.0176	0.1304
@166	0.32509	227	0.153411	0.9715	-0.399	1.0536	0.5911	1.0169	0.2996	0.4264
@247	-0.09528	227	0.144977	0.9152	-1.6391	0.8977	-1.4891	1.2819	0.3833	0.438
@171	-0.15797	227	0.144124	0.9497	-0.9891	0.9502	-0.729	1.1704	0.3965	0.4488
@1005	-2.15292	227	0.172093	0.825	-1.8992	0.6594	-2.6893	1.2563	0.7974	0.3503
@254	0.011008	227	0.146659	1.2197	3.6712	1.268	3.2913	0.3394	0.3612	0.4998
@239	2.725588	227	0.329076	0.9371	-0.1291	0.5322	-1.3295	1.0636	0.0441	0.1952
@165	-0.13716	227	0.144396	0.94	-1.1691	0.9168	-1.2291	1.2185	0.3921	0.4457
@265	-0.58254	227	0.141012	1.1914	4.2312	1.2353	3.8812	0.0627	0.489	0.5138
@259	0.649806	227	0.163347	1.0817	0.9711	1.5648	4.0716	0.8001	0.2423	0.4226
@256	0.209596	227	0.150613	1.0353	0.571	1.0395	0.471	0.9193	0.3216	0.4484
@250	-0.50287	227	0.141244	0.8903	-2.5991	0.8649	-2.4491	1.5203	0.4714	0.4434
@164	0.278381	227	0.152234	1.1327	1.9311	1.2053	2.1312	0.6765	0.3084	0.464
@263	-0.70179	227	0.140968	1.0037	0.101	1.0251	0.461	0.9572	0.5154	0.4717
@261	0.571095	227	0.160648	1.0495	0.631	1.1486	1.2911	0.8849	0.2555	0.4233
@1006	0.571095	227	0.160648	1.171	2.0412	1.2609	2.1613	0.6991	0.2555	0.4471
@168	-0.09528	227	0.144977	0.9086	-1.7691	0.8965	-1.4991	1.3012	0.3833	0.4364
@163	-1.55924	227	0.151779	1.0198	0.331	0.9894	-0.079	0.9678	0.696	0.4416
@103	-0.13716	227	0.144396	0.9188	-1.6091	0.9433	-0.8191	1.25	0.3921	0.4406

@245	0.142206	227	0.149151	0.8778	-2.0691	0.8556	-1.7991	1.3113	0.3348	0.4169
@167	-0.52282	227	0.141171	1.098	2.2011	1.1136	1.9311	0.5325	0.4758	0.4927
@1010	4.401548	227	0.713417	0.945	0.1509	0.2028	-1.2098	1.0663	0.0088	0.0904
@277	-0.38264	227	0.141901	0.8986	-2.2891	0.8747	-2.1691	1.4462	0.4449	0.4434
@240	2.010008	227	0.246601	0.9176	-0.3791	0.6722	-1.2693	1.0742	0.0837	0.2578
@154	-0.84126	227	0.141381	0.8718	-3.1091	0.8304	-3.0292	1.6245	0.5463	0.4383
@271	-0.98205	227	0.142312	1.0327	0.741	1.1147	1.7711	0.7918	0.5771	0.474
@253	0.301645	227	0.152812	1.2834	3.8713	1.4208	4.0114	0.3454	0.304	0.492
@375	0.090552	227	0.108666	1.0155	0.221	1.0188	0.251	0.9749	0.7181	0.6155
@267	-1.27205	227	0.1459	0.8504	-3.0091	0.7792	-3.1192	1.5197	0.6388	0.4195
@242	-2.47602	227	0.188432	0.8697	-1.0991	0.6822	-1.9993	1.1578	0.8414	0.3285
@274	-0.05306	227	0.14561	1.0505	0.9411	1.0435	0.621	0.8484	0.3744	0.4672
@246	0.815969	227	0.169688	0.9394	-0.6291	0.8918	-0.7891	1.0874	0.2159	0.3791
@272	-1.20861	227	0.144919	0.9091	-1.8491	0.8472	-2.1892	1.3529	0.6256	0.4367
@373	0.255288	227	0.151675	1.1181	1.7611	1.1606	1.7212	0.7213	0.3128	0.4627
@278	0.120024	227	0.148697	1.0148	0.261	1.0134	0.191	0.9627	0.3392	0.4496
@1007	0.759157	227	0.16742	1.0536	0.6111	1.1713	1.3012	0.8954	0.2247	0.4069
@377	-0.46291	227	0.141421	0.9382	-1.4091	0.9181	-1.4291	1.2922	0.4626	0.4546
@243	0.520011	227	0.158998	1.0589	0.7711	1.0646	0.6111	0.9007	0.2643	0.4296
@378	-0.74156	227	0.141034	0.864	-3.3491	0.8333	-3.0692	1.6674	0.5242	0.4374
@241	0.703808	227	0.165311	1.0664	0.7711	1.1475	1.1711	0.8786	0.2335	0.4146
@252	2.279086	227	0.273641	0.9072	-0.3591	0.5782	-1.4994	1.0857	0.0661	0.231
@258	-0.48291	227	0.141327	1.0805	1.8011	1.0812	1.3911	0.6373	0.467	0.4882
@249	-0.32203	227	0.142373	1.0093	0.211	0.9902	-0.139	0.9809	0.4317	0.4684

Grade 5 Math IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@422	-0.84665	278	0.125876	0.8575	-4.2591	0.8382	-4.0192	1.8315	0.4892	0.4412
@1128	-1.10026	278	0.126136	1.048	1.371	1.0706	1.5211	0.697	0.5468	0.4868
@459	-0.02645	278	0.135757	1.001	0.041	1.0111	0.181	0.9923	0.3129	0.442
@455	-0.2751	278	0.131011	1.0581	1.1811	1.0708	1.2211	0.8101	0.3633	0.4709
@1217	1.157066	278	0.18262	1.0662	0.5611	1.1937	1.1712	0.928	0.1331	0.3391
@434	-0.79905	278	0.126002	0.9297	-2.0091	0.9105	-2.1491	1.4152	0.4784	0.459
@432	0.799804	278	0.163717	1.1059	1.0511	1.195	1.4512	0.8715	0.1763	0.3852
@417	1.296768	278	0.191346	0.9709	-0.169	0.8415	-0.8792	1.0414	0.1187	0.3088
@424	-0.86249	278	0.125846	0.9687	-0.889	0.9624	-0.879	1.1861	0.4928	0.4691
@441	-1.42414	278	0.128799	1.0261	0.651	1.0651	1.1211	0.8524	0.6187	0.4717
@1136	-0.22324	278	0.131873	1.1185	2.2611	1.1425	2.2811	0.6385	0.3525	0.481
@431	-0.37693	278	0.129514	0.9715	-0.619	0.9635	-0.679	1.1073	0.3849	0.4564
@1223	0.826824	278	0.164987	0.9814	-0.149	1.0155	0.161	1.01	0.1727	0.3601
@463	1.221381	278	0.157176	0.8667	-0.6091	0.804	-0.5192	1.0469	0.1151	0.3553
@413	-1.24437	278	0.126992	0.8704	-3.7091	0.8376	-3.4092	1.6865	0.5791	0.4406
@442	0.164139	278	0.140478	1.0731	1.0911	1.0765	0.9311	0.8664	0.277	0.4423
@450	0.029386	278	0.137041	0.9662	-0.539	0.9499	-0.6591	1.0798	0.3022	0.4302
@1202	0.435579	278	0.14892	0.9092	-1.1391	0.8792	-1.2091	1.132	0.2302	0.384
@1130	-0.67143	278	0.126609	0.8558	-4.0091	0.8431	-3.7392	1.7355	0.4496	0.4382
@414	-0.25071	278	0.063789	1.5019	4.2415	1.6674	2.9617	0.8043	0.7482	1.1523
@444	0.370021	278	0.146689	1.1368	1.7311	1.2081	2.0512	0.7741	0.241	0.4359
@460	-1.89946	278	0.13775	0.9899	-0.149	1.024	0.311	1.0088	0.7158	0.4332
@1232	0.695646	278	0.159053	0.9276	-0.7491	0.8654	-1.1191	1.0949	0.1906	0.3632
@420	2.198844	278	0.270207	0.938	-0.1991	0.8381	-0.4792	1.0393	0.054	0.215
@462	0.503217	278	0.151355	1.0718	0.8711	1.1484	1.3611	0.8851	0.2194	0.4102
@436	0.264856	278	0.143368	0.9534	-0.639	0.9404	-0.6491	1.0785	0.259	0.4085
@1229	0.939362	278	0.170547	0.9378	-0.5391	0.8214	-1.2792	1.08	0.1583	0.3406
@439	-0.09935	278	0.134203	1.0987	1.7411	1.1393	2.0211	0.7289	0.3273	0.4684
@440	0.939362	278	0.170547	1.0275	0.281	1.1266	0.9011	0.9539	0.1583	0.3565
@415	-0.15298	278	0.133147	0.9631	-0.679	0.9701	-0.449	1.0906	0.3381	0.4421
@429	0.048239	278	0.137493	1.004	0.091	1.0202	0.291	0.9804	0.2986	0.4371
@445	0.144469	278	0.139946	0.8811	-1.8591	0.8943	-1.3191	1.2157	0.2806	0.4023

@412	0.413505	278	0.148155	0.8596	-1.8391	0.7821	-2.3292	1.2207	0.2338	0.3753
@426	-0.00795	278	0.136174	0.9664	-0.549	0.9497	-0.6891	1.0823	0.3094	0.433
@448	-0.22324	278	0.131873	0.941	-1.1691	0.9439	-0.9291	1.1679	0.3525	0.4412
@421	-1.06846	278	0.126017	1.0776	2.2111	1.1132	2.4411	0.5121	0.5396	0.4941
@446	-0.44361	278	0.128672	1.1322	2.9311	1.1403	2.6711	0.4827	0.3993	0.496
@1093	1.221359	278	0.157174	0.988	0.011	0.9943	0.091	1.0129	0.1151	0.3793
@443	0.67051	278	0.157981	0.9582	-0.419	0.948	-0.3991	1.0487	0.1942	0.3716
@454	-0.1352	278	0.133489	0.9867	-0.229	1.0238	0.391	1.0084	0.3345	0.4463
@425	-0.2751	278	0.131011	1.1054	2.1011	1.1215	2.0411	0.661	0.3633	0.4813
@419	0.029386	278	0.137041	1.111	1.7811	1.1193	1.5711	0.7602	0.3022	0.4613
@433	-0.55844	278	0.127475	0.959	-1.019	0.9467	-1.1391	1.1956	0.4245	0.4607
@458	-2.24547	278	0.148434	1.0483	0.641	1.0669	0.6311	0.9212	0.777	0.4137
@416	-0.70346	278	0.12642	0.9055	-2.6191	0.8878	-2.6591	1.509	0.4568	0.4514
@456	-0.59089	278	0.127195	0.9648	-0.889	0.9595	-0.879	1.1692	0.4317	0.4632
@449	1.190794	278	0.184654	1.1149	0.9111	1.1977	1.1712	0.8966	0.1295	0.343
@435	0.023609	278	0.072853	0.9251	-0.7791	0.8356	-1.3492	1.0713	0.705	0.7918
@452	-0.59089	278	0.127195	1.0654	1.6311	1.0639	1.3811	0.702	0.4317	0.4867
@1187	-0.41038	278	0.129078	0.8811	-2.7691	0.8639	-2.7391	1.455	0.3921	0.4361
@451	-0.57468	278	0.127332	0.9513	-1.229	0.9532	-1.009	1.2164	0.4281	0.4594
@1058	0.124947	278	0.139428	0.9975	-0.019	1.017	0.241	0.9951	0.2842	0.4296
@464	1.420496	278	0.114432	0.8692	-1.1991	0.7959	-1.7392	1.1104	0.3381	0.4886
@437	0.144469	278	0.139946	1.0281	0.441	1.013	0.191	0.9546	0.2806	0.4345
@1121	-0.50949	278	0.127946	1.0284	0.691	1.0456	0.951	0.8617	0.4137	0.4754
@453	1.091754	278	0.178809	0.9178	-0.6591	0.766	-1.5692	1.0944	0.1403	0.3213
@428	0.224075	278	0.142164	1.1855	2.5412	1.2623	2.8213	0.6535	0.2662	0.4594

Grade 6 Math IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@581	0.20191	238	0.160528	0.9965	-0.009	0.9757	-0.179	1.0092	0.2311	0.4031
@568	-0.94038	238	0.137206	1.1129	2.6011	1.1205	2.3811	0.4545	0.458	0.4984
@579	-0.92153	238	0.137309	0.9159	-2.0291	0.901	-2.0591	1.4114	0.4538	0.4518
@470	0.448069	238	0.170654	1.0947	0.9611	1.1323	0.9911	0.8794	0.1933	0.3974
@468	-0.80773	238	0.138124	0.8233	-4.2092	0.8085	-3.9092	1.7679	0.4286	0.4258
@1200	-0.88375	238	0.137543	0.9215	-1.8591	0.8995	-2.0591	1.3839	0.4454	0.4524
@551	0.150941	238	0.158684	1.0618	0.7711	1.2961	2.5213	0.8422	0.2395	0.4209
@480	0.101104	238	0.156962	1.1492	1.8311	1.2584	2.3113	0.728	0.2479	0.4427
@469	-0.55679	238	0.062577	0.946	-0.5891	0.8949	-1.0491	1.0722	1.3277	1.0075
@585	1.411464	238	0.23364	0.9556	-0.189	0.8493	-0.5792	1.04	0.0882	0.2712
@578	-0.01908	238	0.153127	0.9516	-0.649	0.9539	-0.459	1.0809	0.2689	0.4129
@1251	1.865493	238	0.279861	0.9445	-0.1591	0.7075	-0.9493	1.0555	0.0588	0.2251
@490	-0.61412	238	0.140267	1.1306	2.5511	1.1374	2.2211	0.5379	0.3866	0.4914
@1256	0.280693	238	0.163545	1.0755	0.8611	1.1122	0.9511	0.8865	0.2185	0.411
@502	0.403497	238	0.097865	0.8586	-1.3391	0.8207	-1.4792	1.1218	0.5168	0.6137
@484	0.076582	238	0.156143	1.034	0.461	1.0953	0.9311	0.9193	0.2521	0.4221
@1131	-0.20523	238	0.064798	0.8408	-1.6592	0.715	-2.0693	1.117	0.9412	0.9173
@1062	0.67326	238	0.106609	0.8251	-0.9692	0.6427	-1.8894	1.0965	0.3067	0.5523
@537	-0.67875	237	0.139732	0.9027	-2.0991	0.9146	-1.5191	1.3515	0.4008	0.4417
@567	-0.45922	237	0.142962	0.986	-0.239	1.0114	0.191	1.02	0.3544	0.4512
@577	1.30366	237	0.224727	1.1297	0.7911	1.6708	2.5417	0.848	0.097	0.3072
@1142	-0.77567	237	0.138704	1.056	1.2311	1.0707	1.3111	0.7504	0.4219	0.4812
@487	0.223939	237	0.161619	1.1995	2.2212	1.3198	2.5713	0.6838	0.2278	0.4402
@580	0.197964	237	0.160651	1.0722	0.8711	1.1504	1.3112	0.871	0.2321	0.4187
@526	-0.52012	237	0.141939	1.1321	2.4411	1.1492	2.2311	0.5719	0.3671	0.4869
@1253	0.146914	237	0.158811	1.0273	0.361	1.1083	1.0011	0.9286	0.2405	0.4146
@534	0.762916	237	0.18709	1.0838	0.7111	1.2577	1.5013	0.8859	0.1519	0.3615
@1225	1.647919	237	0.256467	1.0475	0.301	1.0721	0.3511	0.9652	0.0717	0.2592
@520	-0.29197	237	0.146286	0.9244	-1.2591	0.9227	-0.9991	1.1814	0.3207	0.4269
@472	1.294964	236	0.136245	0.8702	-1.9591	0.8358	-2.2792	1.2542	0.3941	0.4457
@535	-1.52331	238	0.138454	0.9968	-0.059	1.0133	0.251	0.9942	0.5882	0.4674
@571	-2.3466	238	0.155969	0.8988	-1.3491	0.7936	-2.0392	1.2062	0.7521	0.394

@553	-0.22236	238	0.147623	0.8879	-1.8191	0.8367	-2.0892	1.2753	0.3067	0.4138
@563	-0.9592	238	0.137111	1.0034	0.101	1.0237	0.501	0.9639	0.4622	0.4736
@550	-0.94038	238	0.137206	0.8919	-2.6491	0.8744	-2.6691	1.5338	0.458	0.4462
@515	-0.59439	238	0.14054	0.9844	-0.299	0.9697	-0.479	1.0645	0.3824	0.4576
@509	-0.63376	238	0.140006	1.1361	2.6911	1.1475	2.4111	0.5043	0.3908	0.4935
@495	-0.61412	238	0.140267	1.0428	0.871	1.0556	0.9311	0.8372	0.3866	0.4719
@574	-0.01908	238	0.153127	0.9715	-0.369	0.9433	-0.5691	1.059	0.2689	0.4172
@478	-0.08852	238	0.151111	0.9625	-0.519	0.9066	-1.0291	1.0985	0.2815	0.4208
@575	1.162829	238	0.213298	0.8678	-0.8391	0.5697	-2.3794	1.1374	0.1092	0.2831
@491	-0.00794	238	0.08898	0.9058	-0.7791	0.7977	-1.4192	1.1112	0.5504	0.6933
@512	0.170001	237	0.159742	1.0172	0.231	1.0335	0.341	0.9666	0.2363	0.4101
@521	0.692212	237	0.183267	1.1094	0.9511	1.3096	1.8413	0.8587	0.1603	0.3733
@1101	-0.77825	237	0.138718	1.0184	0.421	1.0098	0.201	0.9324	0.4219	0.4726
@572	-0.22951	237	0.147806	1.0539	0.8611	1.0601	0.7511	0.8738	0.308	0.4512
@476	0.946374	237	0.198517	1.0938	0.7111	1.2428	1.2812	0.9028	0.1308	0.3422
@1203	-0.54275	237	0.141642	0.9549	-0.869	0.9399	-0.9391	1.1582	0.3713	0.4481
@524	1.785106	237	0.27131	0.982	-0.009	0.7127	-0.9793	1.034	0.0633	0.2373
@514	-0.50242	237	0.142287	1.0694	1.3011	1.122	1.8111	0.7593	0.3629	0.4721
@1063	-0.70081	237	0.139522	1.0005	0.031	0.9974	-0.029	1.0009	0.4051	0.4657
@570	0.946374	237	0.198517	0.8984	-0.7291	0.7229	-1.5993	1.111	0.1308	0.3101
@545	0.384772	237	0.168243	0.998	0.011	1.0152	0.161	0.9977	0.2025	0.3857
@517	-0.25129	237	0.14729	1.0176	0.301	1.0297	0.391	0.9568	0.3122	0.4449
@466	0.760813	237	0.187117	1.0929	0.7911	1.3239	1.8413	0.8724	0.1519	0.3629
@482	2.029048	237	0.300415	1.0622	0.3211	1.5167	1.4315	0.9278	0.0506	0.2228
@1254	-1.4398	237	0.138049	0.9631	-0.869	0.9473	-0.9891	1.1859	0.5696	0.4618

Grade 7 Math IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@581	0.20191	238	0.160528	0.9965	-0.009	0.9757	-0.179	1.0092	0.2311	0.4031
@568	-0.94038	238	0.137206	1.1129	2.6011	1.1205	2.3811	0.4545	0.458	0.4984
@579	-0.92153	238	0.137309	0.9159	-2.0291	0.901	-2.0591	1.4114	0.4538	0.4518
@470	0.448069	238	0.170654	1.0947	0.9611	1.1323	0.9911	0.8794	0.1933	0.3974
@468	-0.80773	238	0.138124	0.8233	-4.2092	0.8085	-3.9092	1.7679	0.4286	0.4258
@1200	-0.88375	238	0.137543	0.9215	-1.8591	0.8995	-2.0591	1.3839	0.4454	0.4524
@551	0.150941	238	0.158684	1.0618	0.7711	1.2961	2.5213	0.8422	0.2395	0.4209
@480	0.101104	238	0.156962	1.1492	1.8311	1.2584	2.3113	0.728	0.2479	0.4427
@469	-0.55679	238	0.062577	0.946	-0.5891	0.8949	-1.0491	1.0722	1.3277	1.0075
@585	1.411464	238	0.23364	0.9556	-0.189	0.8493	-0.5792	1.04	0.0882	0.2712
@578	-0.01908	238	0.153127	0.9516	-0.649	0.9539	-0.459	1.0809	0.2689	0.4129
@1251	1.865493	238	0.279861	0.9445	-0.1591	0.7075	-0.9493	1.0555	0.0588	0.2251
@490	-0.61412	238	0.140267	1.1306	2.5511	1.1374	2.2211	0.5379	0.3866	0.4914
@1256	0.280693	238	0.163545	1.0755	0.8611	1.1122	0.9511	0.8865	0.2185	0.411
@502	0.403497	238	0.097865	0.8586	-1.3391	0.8207	-1.4792	1.1218	0.5168	0.6137
@484	0.076582	238	0.156143	1.034	0.461	1.0953	0.9311	0.9193	0.2521	0.4221
@1131	-0.20523	238	0.064798	0.8408	-1.6592	0.715	-2.0693	1.117	0.9412	0.9173
@1062	0.67326	238	0.106609	0.8251	-0.9692	0.6427	-1.8894	1.0965	0.3067	0.5523
@537	-0.67875	237	0.139732	0.9027	-2.0991	0.9146	-1.5191	1.3515	0.4008	0.4417
@567	-0.45922	237	0.142962	0.986	-0.239	1.0114	0.191	1.02	0.3544	0.4512
@577	1.30366	237	0.224727	1.1297	0.7911	1.6708	2.5417	0.848	0.097	0.3072
@1142	-0.77567	237	0.138704	1.056	1.2311	1.0707	1.3111	0.7504	0.4219	0.4812
@487	0.223939	237	0.161619	1.1995	2.2212	1.3198	2.5713	0.6838	0.2278	0.4402
@580	0.197964	237	0.160651	1.0722	0.8711	1.1504	1.3112	0.871	0.2321	0.4187
@526	-0.52012	237	0.141939	1.1321	2.4411	1.1492	2.2311	0.5719	0.3671	0.4869
@1253	0.146914	237	0.158811	1.0273	0.361	1.1083	1.0011	0.9286	0.2405	0.4146
@534	0.762916	237	0.18709	1.0838	0.7111	1.2577	1.5013	0.8859	0.1519	0.3615
@1225	1.647919	237	0.256467	1.0475	0.301	1.0721	0.3511	0.9652	0.0717	0.2592
@520	-0.29197	237	0.146286	0.9244	-1.2591	0.9227	-0.9991	1.1814	0.3207	0.4269
@472	1.294964	236	0.136245	0.8702	-1.9591	0.8358	-2.2792	1.2542	0.3941	0.4457
@535	-1.52331	238	0.138454	0.9968	-0.059	1.0133	0.251	0.9942	0.5882	0.4674
@571	-2.3466	238	0.155969	0.8988	-1.3491	0.7936	-2.0392	1.2062	0.7521	0.394

@553	-0.22236	238	0.147623	0.8879	-1.8191	0.8367	-2.0892	1.2753	0.3067	0.4138
@563	-0.9592	238	0.137111	1.0034	0.101	1.0237	0.501	0.9639	0.4622	0.4736
@550	-0.94038	238	0.137206	0.8919	-2.6491	0.8744	-2.6691	1.5338	0.458	0.4462
@515	-0.59439	238	0.14054	0.9844	-0.299	0.9697	-0.479	1.0645	0.3824	0.4576
@509	-0.63376	238	0.140006	1.1361	2.6911	1.1475	2.4111	0.5043	0.3908	0.4935
@495	-0.61412	238	0.140267	1.0428	0.871	1.0556	0.9311	0.8372	0.3866	0.4719
@574	-0.01908	238	0.153127	0.9715	-0.369	0.9433	-0.5691	1.059	0.2689	0.4172
@478	-0.08852	238	0.151111	0.9625	-0.519	0.9066	-1.0291	1.0985	0.2815	0.4208
@575	1.162829	238	0.213298	0.8678	-0.8391	0.5697	-2.3794	1.1374	0.1092	0.2831
@491	-0.00794	238	0.08898	0.9058	-0.7791	0.7977	-1.4192	1.1112	0.5504	0.6933
@512	0.170001	237	0.159742	1.0172	0.231	1.0335	0.341	0.9666	0.2363	0.4101
@521	0.692212	237	0.183267	1.1094	0.9511	1.3096	1.8413	0.8587	0.1603	0.3733
@1101	-0.77825	237	0.138718	1.0184	0.421	1.0098	0.201	0.9324	0.4219	0.4726
@572	-0.22951	237	0.147806	1.0539	0.8611	1.0601	0.7511	0.8738	0.308	0.4512
@476	0.946374	237	0.198517	1.0938	0.7111	1.2428	1.2812	0.9028	0.1308	0.3422
@1203	-0.54275	237	0.141642	0.9549	-0.869	0.9399	-0.9391	1.1582	0.3713	0.4481
@524	1.785106	237	0.27131	0.982	-0.009	0.7127	-0.9793	1.034	0.0633	0.2373
@514	-0.50242	237	0.142287	1.0694	1.3011	1.122	1.8111	0.7593	0.3629	0.4721
@1063	-0.70081	237	0.139522	1.0005	0.031	0.9974	-0.029	1.0009	0.4051	0.4657
@570	0.946374	237	0.198517	0.8984	-0.7291	0.7229	-1.5993	1.111	0.1308	0.3101
@545	0.384772	237	0.168243	0.998	0.011	1.0152	0.161	0.9977	0.2025	0.3857
@517	-0.25129	237	0.14729	1.0176	0.301	1.0297	0.391	0.9568	0.3122	0.4449
@466	0.760813	237	0.187117	1.0929	0.7911	1.3239	1.8413	0.8724	0.1519	0.3629
@482	2.029048	237	0.300415	1.0622	0.3211	1.5167	1.4315	0.9278	0.0506	0.2228
@1254	-1.4398	237	0.138049	0.9631	-0.869	0.9473	-0.9891	1.1859	0.5696	0.4618

Grade 8 Math IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@616	-1.86115	189	0.151346	1.0794	2.0611	1.1028	2.1111	0.4097	0.5344	0.4993
@562	-1.16271	189	0.100838	0.9189	-0.9791	0.9074	-0.9691	1.1541	0.6878	0.6915
@533	-1.11435	189	0.15707	0.9184	-1.4991	0.9186	-1.2791	1.2865	0.3651	0.4438
@467	1.169404	189	0.200656	0.9596	-0.189	0.9441	-0.2191	1.0238	0.1534	0.3551
@471	1.589331	189	0.365378	0.9337	-0.0991	0.6829	-0.7693	1.0527	0.0423	0.1924
@543	0.514611	189	0.236913	1.0505	0.3411	1.1003	0.5211	0.9566	0.1111	0.3147
@474	0.080853	189	0.204899	1.0373	0.321	1.0787	0.5211	0.9603	0.1587	0.3616
@565	-1.01436	189	0.159156	0.8376	-2.8392	0.8285	-2.5592	1.4987	0.3439	0.4183
@522	0.212065	189	0.213614	0.9231	-0.4991	0.7948	-1.1692	1.0896	0.1429	0.3272
@489	-1.08959	189	0.157557	0.9906	-0.149	1.0039	0.081	1.0193	0.3598	0.4595
@540	-0.77786	189	0.165379	0.9846	-0.189	0.9864	-0.129	1.0325	0.2963	0.4364
@523	-1.56375	189	0.151566	1.0275	0.701	1.0462	1.001	0.7841	0.4656	0.4865
@527	0.039404	189	0.202309	0.923	-0.5691	0.783	-1.3992	1.1032	0.164	0.3454
@1241	-1.58671	189	0.151452	0.927	-1.8991	0.9141	-1.9091	1.5102	0.4709	0.4624
@1244	-0.0405	189	0.19753	1.1292	1.0511	1.2274	1.4412	0.8474	0.1746	0.3913
@1264	2.299246	188	0.508567	1.0021	0.161	1.2545	0.6013	0.9887	0.0213	0.1436
@1259	-0.62483	188	0.171018	0.9736	-0.289	0.9631	-0.339	1.0499	0.266	0.4208
@1065	-1.6964	188	0.151416	0.9196	-2.1991	0.902	-2.2491	1.6155	0.4947	0.4619
@475	-0.2945	189	0.184116	0.9126	-0.8291	0.9184	-0.6091	1.1091	0.2116	0.3774
@564	-0.6661	189	0.168972	1.0338	0.451	1.0963	1.0111	0.911	0.2751	0.4377
@505	-0.96331	189	0.160344	1.0998	1.5611	1.1122	1.4911	0.7076	0.3333	0.4757
@516	0.212065	189	0.213614	1.0153	0.151	0.9356	-0.3091	1.0043	0.1429	0.3431
@508	-1.70114	189	0.151126	1.0088	0.251	1.0213	0.481	0.9189	0.4974	0.4834
@525	0.901841	189	0.274102	0.9752	-0.039	0.8288	-0.5792	1.0287	0.0794	0.2621
@1066	2.316087	189	0.508584	1.022	0.201	1.2567	0.6013	0.9753	0.0212	0.1446
@488	-0.07908	189	0.195321	1.1178	0.9811	1.141	0.9611	0.8732	0.1799	0.3937
@477	0.1671	189	0.210537	1.0926	0.6911	1.1441	0.8511	0.9087	0.1481	0.3611
@494	-0.77786	189	0.165379	0.9632	-0.489	0.9508	-0.549	1.0845	0.2963	0.4317
@506	-0.1562	188	0.19131	1.1335	1.1611	1.2506	1.7013	0.8222	0.1915	0.4059
@496	-0.63738	189	0.169964	1.0417	0.531	1.0728	0.7611	0.9109	0.2698	0.4368
@538	2.612177	189	0.584892	1.0195	0.221	1.0527	0.3011	0.9834	0.0159	0.1256
@479	0.258385	189	0.216884	0.8918	-0.6991	0.7103	-1.6793	1.1209	0.1376	0.3167

@483	0.039404	189	0.202309	1.0683	0.5611	1.0856	0.5711	0.9336	0.164	0.3716
@559	-0.42567	189	0.178188	1.0679	0.7311	1.0285	0.281	0.9171	0.2328	0.4218
@486	-0.2945	189	0.184116	1.1763	1.6412	1.3038	2.2113	0.7424	0.2116	0.4285
@1234	-0.00103	189	0.199856	1.0602	0.5111	1.1343	0.8711	0.9307	0.1693	0.3748
@1247	2.612177	189	0.584892	0.9793	0.151	1.1298	0.4111	1.0084	0.0159	0.1231
@481	-0.65465	189	0.11377	0.8533	-1.2591	0.7498	-1.6593	1.1086	0.4074	0.5906
@519	1.349383	189	0.329356	0.9296	-0.1591	0.7236	-0.7693	1.0523	0.0529	0.2129
@498	-0.58631	188	0.17228	0.9234	-0.8991	0.8942	-1.0391	1.1433	0.2606	0.4068
@485	-0.89347	188	0.162567	0.9884	-0.149	1.0003	0.031	1.018	0.3191	0.446
@1237	0.349709	188	0.224215	1.0134	0.141	1.1028	0.5711	0.9729	0.1277	0.3274
@555	1.302489	188	0.344414	0.8563	-0.1591	0.4882	-0.8995	1.0648	0.0372	0.196
@557	-1.0735	188	0.158335	1.0614	1.0611	1.068	1.0111	0.79	0.3564	0.4746
@552	1.889017	188	0.418657	0.9697	0.051	0.78	-0.3592	1.0265	0.0319	0.1715
@536	-1.31732	188	0.154251	0.941	-1.2591	0.9283	-1.3391	1.2989	0.4096	0.4587
@549	-0.67374	188	0.169185	1.0776	0.9811	1.1164	1.2111	0.8366	0.2766	0.4475
@541	-0.97179	188	0.160597	0.9023	-1.5891	0.8848	-1.5991	1.2902	0.3351	0.4314
@501	1.056599	188	0.292305	1.0034	0.091	1.0688	0.3311	0.9878	0.0691	0.2499
@547	0.162929	188	0.159597	0.9722	-0.019	0.6635	-0.9493	1.031	0.1543	0.4506
@513	3.723114	188	1.00483	0.9943	0.321	0.4516	-0.3295	1.0228	0.0053	0.0724
@503	-0.91979	188	0.161882	1.0907	1.3711	1.1083	1.3811	0.7482	0.3245	0.4705
@1252	1.889017	188	0.418657	0.9844	0.091	0.9805	0.111	1.0065	0.0319	0.1728
@493	-0.84013	188	0.164024	1.0905	1.2811	1.0919	1.1011	0.7865	0.3085	0.4643
@561	-0.12331	188	0.193383	0.9102	-0.7491	0.8581	-0.9791	1.1074	0.1862	0.3598
@492	0.033157	188	0.202461	0.9666	-0.219	0.9902	-0.009	1.0278	0.1649	0.3542
@1261	0	188	0	1	0	1	0	1	0	0
@511	-0.19659	188	0.189486	1.1863	1.6112	1.3273	2.2013	0.7518	0.1968	0.4192

Grade 3 Hawaiian Language Arts IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@93	-2.08243	344	0.145236	0.9548	-0.539	0.7824	-1.6292	1.0886	0.8081	0.3628
@101	0.009047	344	0.119906	0.8693	-2.9291	0.8558	-2.3991	1.3636	0.4157	0.4192
@381	-0.18988	344	0.118704	0.8504	-3.5491	0.8199	-3.2792	1.4631	0.4564	0.4189
@108	-0.17579	344	0.118766	0.9162	-1.9291	0.9084	-1.5991	1.2509	0.4535	0.4345
@94	-2.04065	344	0.143768	0.9967	-0.019	1.0803	0.6211	0.9839	0.8023	0.3744
@99	-0.37204	344	0.118221	0.9422	-1.3491	0.8945	-1.9091	1.2164	0.4942	0.4427
@89	-0.49771	344	0.11823	0.953	-1.099	0.921	-1.3991	1.1687	0.5203	0.4452
@1026	0.410231	344	0.124517	0.8459	-3.0092	0.8048	-2.6292	1.3405	0.3372	0.3982
@84	-1.49053	344	0.128711	0.8558	-2.5991	0.802	-2.1592	1.2865	0.7151	0.3875
@88	0.154226	344	0.121231	0.9315	-1.4191	0.8667	-2.0491	1.2113	0.3866	0.4292
@90	-2.42858	344	0.159418	0.9145	-0.8491	0.8224	-1.0392	1.0967	0.8517	0.3234
@91	-2.14678	344	0.147596	0.8963	-1.2491	0.7777	-1.5992	1.1416	0.8169	0.3458
@87	0.751178	344	0.13088	0.9295	-1.1291	0.8294	-1.8092	1.1479	0.2762	0.3972
@92	-0.41393	344	0.118193	0.8447	-3.7892	0.8013	-3.7392	1.5151	0.5029	0.4193
@1023	0.873595	344	0.133758	1.0246	0.391	1.0777	0.7511	0.9446	0.2558	0.408
@95	0.379361	344	0.124055	0.9754	-0.449	0.9992	0.011	1.0431	0.343	0.4292
@97	-0.21802	344	0.118591	0.9175	-1.9091	0.9222	-1.3591	1.2424	0.4622	0.4355
@96	0.768347	344	0.131264	0.9694	-0.469	0.9029	-0.9791	1.0691	0.2733	0.4044
@107	-0.49771	344	0.11823	1.0043	0.111	1.0119	0.231	0.9791	0.5203	0.457
@104	1.302472	344	0.146604	0.8166	-2.3292	0.619	-3.1394	1.245	0.1919	0.3323
@383	-0.77903	344	0.119279	1.1191	2.6111	1.1879	2.8412	0.61	0.5785	0.4782
@161	-0.82179	344	0.119566	0.9726	-0.599	0.9768	-0.339	1.0765	0.5872	0.4447
@162	-1.05423	344	0.121726	0.887	-2.4491	0.8225	-2.5592	1.3193	0.6337	0.4172
@1025	1.345895	344	0.148165	1.0716	0.8511	1.0768	0.5711	0.9259	0.186	0.3767
@110	0.273001	344	0.122603	1.0414	0.821	1.0811	1.1211	0.881	0.3634	0.4488
@113	1.845889	344	0.170158	0.9923	-0.029	1.1088	0.6111	0.9841	0.1279	0.3156
@1024	0.704349	344	0.071735	0.9555	-0.489	0.8521	-1.2791	1.068	0.7093	0.7347
@117	-1.03945	344	0.121557	1.0008	0.031	0.9821	-0.219	1.0055	0.6308	0.4437
@1020	1.005254	344	0.095112	0.932	-0.7791	0.8709	-0.9791	1.0753	0.4099	0.5473
@114	0.037835	344	0.120138	1.1049	2.1811	1.1515	2.3012	0.6885	0.4099	0.4717
@112	2.238792	344	0.193499	0.8931	-0.7491	0.5585	-2.1494	1.1099	0.093	0.2633
@1022	0.095766	344	0.120651	1.5157	9.3615	1.6508	8.3717	-0.4118	0.3983	0.5502

@119	-0.09092	344	0.119214	1.0693	1.5111	1.1156	1.8711	0.7697	0.436	0.4677
@379	2.007796	344	0.134623	1.0236	0.221	1.0219	0.171	0.9883	0.1657	0.4052
@130	0.081236	344	0.120517	1.2105	4.1712	1.3375	4.7313	0.3721	0.4012	0.4922
@125	-0.69406	344	0.118811	0.9396	-1.3991	0.8894	-1.8691	1.2159	0.561	0.4399
@143	0.964552	344	0.136113	1.0906	1.2911	1.3644	2.9414	0.793	0.2413	0.4137
@123	-0.09092	344	0.119214	1.1088	2.3411	1.1524	2.4412	0.6576	0.436	0.4762
@137	-0.37204	344	0.118221	0.966	-0.779	0.941	-1.0391	1.1246	0.4942	0.4482
@127	3.257116	344	0.288273	0.8688	-0.4691	0.301	-2.3397	1.1108	0.0378	0.1743
@158	0.16893	344	0.121387	1.1592	3.1112	1.2753	3.7513	0.5382	0.3837	0.4782
@1021	-1.02469	344	0.121393	1.089	1.8511	1.1171	1.5911	0.7547	0.6279	0.4635
@384	-0.95151	344	0.120644	1.2316	4.6912	1.3291	4.3513	0.3283	0.6134	0.496
@156	0.348713	344	0.123615	1.0138	0.281	1.1756	2.2212	0.9182	0.3488	0.4392
@150	-1.59161	344	0.13092	0.9296	-1.1591	1.0032	0.071	1.1012	0.7326	0.3971
@138	1.434867	344	0.107079	0.9545	-0.509	0.9183	-0.6891	1.0569	0.3576	0.4919
@145	-1.20466	344	0.123686	0.8272	-3.6092	0.8002	-2.6392	1.4035	0.6628	0.3965
@152	-0.70473	343	0.119018	1.0564	1.2811	1.0564	0.9311	0.8303	0.5627	0.4663
@122	-0.62005	343	0.118671	1.0143	0.341	1.068	1.1411	0.9243	0.5452	0.4582
@141	-1.35835	343	0.126293	1.0462	0.861	1.1521	1.6612	0.862	0.691	0.4373
@155	0.464977	343	0.125629	0.9836	-0.279	0.9843	-0.169	1.0305	0.3265	0.4263
@159	0.831011	343	0.133001	1.2083	3.0012	1.2754	2.4813	0.655	0.2624	0.4463
@134	0.692965	343	0.129893	1.1423	2.2411	1.3121	3.0313	0.6997	0.2857	0.4443
@139	2.010417	342	0.180332	1.0245	0.241	1.2266	1.0712	0.9647	0.1111	0.3035
@394	0.494252	335	0.056233	0.9063	-1.3091	0.8907	-1.4791	1.1162	1.8299	0.9249

Grade 4 Hawaiian Language Arts IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@18	-1.1917	227	0.164689	1.1099	1.3311	1.1701	1.2312	0.8125	0.7445	0.4246
@389	-1.70299	227	0.184041	0.8894	-1.0491	0.8264	-0.9292	1.13	0.8194	0.3401
@21	0.225454	227	0.145999	1.0221	0.431	1.0651	0.9011	0.9001	0.4714	0.4596
@7	-1.80738	227	0.189045	0.9356	-0.5491	0.8399	-0.7892	1.092	0.8326	0.3396
@12	-1.13799	227	0.163105	0.9419	-0.7191	0.854	-1.1291	1.1165	0.7357	0.3949
@64	-1.95622	227	0.196876	0.873	-1.0491	0.6415	-1.8394	1.1565	0.8502	0.315
@8	-0.88307	227	0.156625	0.8294	-2.5392	0.7706	-2.1992	1.3371	0.6916	0.3859
@9	0.225454	227	0.145999	1.0157	0.311	0.9929	-0.069	0.967	0.4714	0.4582
@13	-2.11875	227	0.206427	0.9182	-0.5791	0.8076	-0.7892	1.0798	0.8678	0.3081
@11	1.612486	227	0.172786	0.9851	-0.129	1.2082	1.2912	0.9745	0.2159	0.3813
@1019	0.680931	227	0.149455	0.8591	-2.5391	0.8334	-1.9792	1.3747	0.3789	0.4116
@14	-1.44817	227	0.173385	0.9176	-0.8791	0.7684	-1.5292	1.1398	0.7841	0.3667
@16	-1.08529	227	0.161626	0.975	-0.299	0.8987	-0.7791	1.0622	0.7269	0.4055
@15	-1.24648	227	0.166387	0.7678	-2.9992	0.6381	-2.9194	1.369	0.7533	0.3495
@17	0.61433	227	0.148653	1.0328	0.591	1.001	0.041	0.9285	0.3921	0.4538
@65	-1.77195	227	0.187303	0.8482	-1.4192	0.6508	-1.9993	1.1943	0.8282	0.3263
@20	-1.63634	227	0.181047	0.726	-2.9393	0.5051	-3.3495	1.3495	0.8106	0.3124
@22	0.483032	227	0.147375	1.0231	0.431	1.0346	0.461	0.9226	0.4185	0.4555
@23	0.504762	227	0.147559	1.2785	4.6413	1.3497	3.9613	0.1756	0.4141	0.5086
@30	0.268087	227	0.146125	1.2109	3.6912	1.3339	4.1213	0.2841	0.4626	0.4998
@34	-0.44171	227	0.149137	0.9504	-0.819	0.9113	-1.0391	1.1452	0.6079	0.4339
@35	1.522077	226	0.115163	0.9229	-0.6191	0.6005	-1.6494	1.0782	0.3274	0.5549
@24	0.307612	226	0.146475	0.8251	-3.4492	0.766	-3.4092	1.5677	0.4558	0.4125
@28	1.671694	226	0.17524	0.8548	-1.5791	0.6834	-2.1393	1.2173	0.208	0.351
@39	-1.06993	226	0.161718	0.8371	-2.2092	0.7157	-2.4593	1.3062	0.7257	0.3763
@36	0.158009	226	0.146097	1.2151	3.7712	1.2537	3.2713	0.3101	0.4867	0.5019
@25	1.552155	226	0.170628	1.3161	3.2813	1.8646	4.6319	0.4311	0.2257	0.4472
@26	0.158009	226	0.146097	1.028	0.541	1.0034	0.071	0.9322	0.4867	0.4616
@27	-0.53785	226	0.150737	0.9658	-0.539	0.8968	-1.1491	1.1198	0.6283	0.4337
@37	-0.16292	226	0.146928	0.9463	-0.9591	0.9339	-0.8691	1.1595	0.5531	0.4404
@38	-1.17646	226	0.164778	0.9535	-0.549	0.9521	-0.309	1.0682	0.7434	0.3942
@31	-0.11985	226	0.146687	1.0392	0.721	1.0304	0.431	0.8881	0.5442	0.4623

@54	-0.42546	226	0.149269	1.0638	1.0711	1.0792	0.9411	0.8227	0.6062	0.4596
@40	0.307612	226	0.146475	1.2015	3.5412	1.3101	3.8313	0.3107	0.4558	0.4978
@55	0.837377	226	0.151905	1.2525	3.8513	1.4017	3.7514	0.3376	0.3496	0.4901
@41	1.026049	226	0.155482	1.0708	1.0611	1.201	1.7812	0.8065	0.3142	0.4427
@56	1.250904	226	0.16098	1.1486	1.9311	1.5925	4.0716	0.6107	0.2743	0.4428
@57	1.276927	226	0.161707	1.1636	2.0812	1.391	2.7914	0.651	0.2699	0.4437
@42	1.261015	226	0.089743	1.1614	1.6412	1.1105	0.9111	0.8706	0.7655	0.7988
@387	0.11536	226	0.146079	1.1404	2.5211	1.2192	2.8612	0.5077	0.4956	0.4863
@46	0.329064	226	0.14657	1.0311	0.591	1.0277	0.391	0.908	0.4513	0.4608
@47	0.158009	226	0.146097	0.972	-0.509	0.9695	-0.399	1.0863	0.4867	0.4489
@48	-1.06993	226	0.161718	0.782	-3.0292	0.6573	-3.0593	1.3977	0.7257	0.3637
@50	0.350547	226	0.146675	0.8108	-3.7392	0.8053	-2.7492	1.5641	0.4469	0.4084
@49	-1.2313	226	0.166475	0.7746	-2.8992	0.651	-2.8093	1.36	0.7522	0.3517
@51	0.545735	226	0.148107	1.1492	2.5711	1.2623	3.0013	0.5092	0.4071	0.4815
@62	0.350547	226	0.146675	1.0657	1.2111	1.0888	1.1711	0.791	0.4469	0.4682
@60	-0.86747	226	0.156723	0.9106	-1.2791	0.8923	-0.9691	1.1716	0.6903	0.405
@61	0.11536	226	0.146079	1.0341	0.651	1.0289	0.421	0.8988	0.4956	0.4631
@63	1.356478	226	0.164052	1.2182	2.6112	1.7382	4.5817	0.5157	0.2566	0.4475
@1016	0.700922	226	0.149874	1.0966	1.6311	1.187	2.0212	0.7002	0.3761	0.4648
@1015	-0.09836	226	0.146582	1.0723	1.3011	1.056	0.7711	0.7978	0.5398	0.4699
@1014	1.199539	226	0.159601	1.1531	2.0412	1.3769	2.8314	0.6409	0.2832	0.4476
@1011	0.746003	226	0.150494	1.0055	0.111	1.0688	0.7711	0.95	0.3673	0.4432
@1012	0.837377	226	0.151905	0.849	-2.5892	0.7495	-2.8293	1.4032	0.3496	0.4035
@1017	1.410848	226	0.165762	0.7718	-3.0192	0.6134	-3.2094	1.3875	0.2478	0.3525
@1013	0.591422	226	0.081363	0.6575	-4.5193	0.6726	-3.6893	1.4906	1.177	0.6629
@395	0.436385	222	0.064284	1.0248	0.301	0.9761	-0.219	1.0334	2.0721	1.0569

Grade 5 Hawaiian Language Arts IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@642	-0.05894	280	0.133007	0.9057	-1.9091	0.8764	-1.7791	1.2733	0.4036	0.4276
@644	-2.97719	280	0.201685	0.8734	-0.8891	0.5323	-2.2995	1.1363	0.8929	0.2769
@636	-0.75007	280	0.131414	0.9523	-0.979	0.9611	-0.589	1.135	0.5464	0.4438
@716	0.402647	280	0.139552	1.2257	3.5012	1.477	4.4215	0.4348	0.3143	0.4741
@717	3.707216	280	0.417548	1.0395	0.231	1.4097	0.8214	0.9579	0.0214	0.1459
@633	-0.38939	280	0.131063	1.0873	1.7911	1.1047	1.6211	0.7188	0.4714	0.4755
@723	0.287531	280	0.13748	0.9307	-1.2191	0.8817	-1.3691	1.1746	0.3357	0.4194
@1072	0.268664	280	0.137169	1.0246	0.451	1.0451	0.541	0.9322	0.3393	0.441
@711	0.441826	280	0.140327	1.1411	2.2111	1.2102	2.0512	0.6887	0.3071	0.4549
@690	-0.1993	280	0.131912	0.946	-1.0991	0.9369	-0.9391	1.1665	0.4321	0.4406
@1074	-2.82269	280	0.191756	1.1038	0.8211	1.7549	2.8918	0.8398	0.8786	0.3274
@713	0.175544	280	0.135751	0.9422	-1.0591	0.9175	-1.0091	1.1462	0.3571	0.4273
@721	-1.43775	280	0.139344	0.8739	-2.1491	0.7918	-2.3692	1.2883	0.6821	0.4009
@726	-0.04122	280	0.133174	1.1222	2.3211	1.1275	1.7211	0.6643	0.4	0.4754
@724	-0.2514	280	0.131608	1.0544	1.1111	1.0356	0.561	0.8514	0.4429	0.4663
@725	-0.52663	280	0.130895	0.93	-1.4891	0.9309	-1.1091	1.2239	0.5	0.4403
@627	-0.59522	280	0.13095	1.1025	2.0911	1.1181	1.8411	0.6676	0.5143	0.4792
@722	0.210724	280	0.076739	0.9813	-0.209	0.9124	-0.9991	1.0673	1.05	0.7715
@1215	0.306482	280	0.1378	1.2192	3.5612	1.5396	5.2315	0.4054	0.3321	0.4789
@672	-0.2514	280	0.131608	1.2123	4.1012	1.2479	3.5212	0.3385	0.4429	0.5
@1183	0.030134	280	0.133912	1.1045	1.9611	1.052	0.7011	0.7607	0.3857	0.469
@681	0.956861	280	0.154072	0.985	-0.159	1.1195	0.8911	0.9942	0.2214	0.385
@673	1.346612	280	0.169433	0.9956	-0.009	0.8785	-0.6791	1.0238	0.1679	0.3519
@729	-1.22962	280	0.135896	1.2228	3.7512	1.4699	5.0415	0.3644	0.6429	0.4863
@640	0.666139	280	0.145475	0.8828	-1.7491	0.8377	-1.4892	1.2008	0.2679	0.386
@718	1.104082	280	0.159326	1.1881	2.0412	1.5389	3.1615	0.7014	0.2	0.4089
@1193	-0.12941	280	0.132407	0.9361	-1.2891	0.9561	-0.619	1.1691	0.4179	0.4367
@689	-1.5764	280	0.142183	0.9652	-0.519	1.021	0.241	1.0408	0.7071	0.4129
@631	-0.32054	280	0.131288	0.925	-1.5791	0.9016	-1.5591	1.2468	0.4571	0.4378
@648	-0.76736	280	0.131495	1.011	0.241	1.0232	0.381	0.956	0.55	0.457
@1222	1.15549	280	0.161314	1.1764	1.8712	1.5663	3.2016	0.7151	0.1929	0.4018
@629	-0.02346	280	0.133348	0.9189	-1.6091	0.886	-1.5991	1.2374	0.3964	0.4296

@728	-0.76736	280	0.131495	0.9976	-0.029	0.9881	-0.159	1.0135	0.55	0.4539
@693	0.956861	280	0.154072	0.9911	-0.079	0.9772	-0.119	1.015	0.2214	0.3862
@677	3.166603	280	0.327885	1.012	0.141	1.1575	0.4812	0.9891	0.0357	0.1834
@625	-0.85416	280	0.131992	1.0102	0.221	1.0347	0.541	0.952	0.5679	0.4551
@702	0.687389	280	0.146028	1.0201	0.311	1.0725	0.6611	0.9515	0.2643	0.4133
@730	0.120545	280	0.135002	1.0751	1.3811	1.16	1.9412	0.7649	0.3679	0.459
@709	-0.8716	280	0.13211	1.0241	0.501	1.0091	0.161	0.9388	0.5714	0.4578
@646	-0.78467	280	0.131582	0.9551	-0.909	0.927	-1.1191	1.1523	0.5536	0.4439
@696	-1.17451	280	0.13514	0.7786	-4.3792	0.6992	-4.2293	1.5793	0.6321	0.3902
@637	0.723968	279	0.147338	0.8421	-2.3092	0.7267	-2.5393	1.2814	0.2581	0.3729
@708	0.375981	279	0.139361	0.802	-3.5292	0.7478	-2.9293	1.4262	0.319	0.3847
@712	0.676401	279	0.064126	0.9532	-0.499	0.7635	-1.3792	1.0497	0.9785	0.9115
@720	0.1309	279	0.135442	0.9005	-1.8791	0.8696	-1.6791	1.2572	0.3656	0.4195
@714	0.094323	279	0.13497	0.8837	-2.2491	0.808	-2.5992	1.3332	0.3728	0.417
@630	-0.0852	279	0.133065	1.0701	1.3711	1.0463	0.671	0.822	0.4086	0.4654
@727	0.857619	279	0.151219	0.9218	-1.0191	0.8859	-0.8891	1.1158	0.2366	0.3801
@684	0.039917	279	0.134321	0.7892	-4.3192	0.713	-4.1893	1.5892	0.3835	0.3959
@699	-1.1332	279	0.134857	0.9543	-0.839	0.9622	-0.469	1.107	0.6237	0.4337
@707	1.284657	279	0.167035	1.0612	0.6411	1.497	2.6515	0.8535	0.1756	0.3692
@706	1.731474	279	0.138466	0.9079	-0.6791	0.8024	-0.9892	1.0736	0.2115	0.412
@626	-1.41415	279	0.139134	0.9964	-0.039	0.958	-0.429	1.0257	0.6774	0.4295
@634	-1.39484	279	0.138785	0.9362	-1.0691	0.8601	-1.5791	1.1659	0.6738	0.4174
@719	0.299043	279	0.137986	0.7218	-5.3193	0.6399	-4.6294	1.6376	0.3333	0.3686
@1208	1.284657	279	0.167035	1.1214	1.2211	1.4741	2.5415	0.8128	0.1756	0.3795
@1030	-0.6626	275	0.051209	1.1747	2.0312	1.1615	1.8512	0.8105	3.2473	1.2763

Grade 6 Hawaiian Language Arts IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@624	-1.58055	239	0.149846	0.9734	-0.389	0.9699	-0.279	1.0551	0.6862	0.4259
@635	-2.61843	239	0.188391	1.1051	0.9011	1.3561	1.7514	0.8716	0.8452	0.3609
@638	-2.41729	239	0.178215	1.1361	1.2711	1.2565	1.4713	0.8352	0.8201	0.3869
@641	-0.34249	239	0.141205	0.9302	-1.4291	0.9019	-1.4491	1.2519	0.431	0.4418
@704	-1.3413	239	0.145308	0.9395	-1.0591	0.8828	-1.4391	1.1896	0.6402	0.4315
@703	-1.15467	239	0.142755	1.1369	2.5211	1.2	2.5612	0.5522	0.6025	0.4831
@628	-1.55816	239	0.149359	1.0233	0.381	1.0564	0.6111	0.9374	0.682	0.4381
@645	-0.52067	239	0.140232	1.0842	1.7411	1.1367	2.0511	0.6521	0.4686	0.4803
@660	2.709817	239	0.315233	0.9538	-0.089	0.7476	-0.5293	1.0341	0.046	0.2004
@1171	0.005278	239	0.145265	0.9965	-0.039	1.0027	0.061	1.0068	0.3598	0.4445
@661	-0.03676	239	0.144619	1.1585	2.7112	1.2968	3.3613	0.4996	0.3682	0.4814
@659	-0.63851	239	0.139994	1.0116	0.261	1.0506	0.8011	0.9252	0.4937	0.4647
@643	-0.81591	239	0.07294	1.0284	0.381	1.1215	1.2511	0.9559	1.6151	0.8993
@665	-0.01579	239	0.144936	0.8293	-3.1892	0.8024	-2.5392	1.4635	0.364	0.4064
@678	-0.95356	239	0.140938	0.7965	-4.4592	0.7503	-4.0493	1.7212	0.5607	0.4096
@652	-1.01338	239	0.141378	0.9941	-0.099	1.0571	0.8311	0.9706	0.5732	0.4562
@639	0.047707	239	0.145961	1.0423	0.731	1.1027	1.1811	0.8638	0.3515	0.4524
@1075	-0.48127	239	0.140384	1.1853	3.6712	1.2398	3.4312	0.3063	0.4603	0.5016
@662	-0.79551	239	0.140176	1.026	0.561	1.0051	0.101	0.9229	0.5272	0.4674
@664	0.079024	239	0.077217	0.8959	-1.2791	0.8322	-1.5692	1.1277	1.0126	0.7929
@647	-0.07844	239	0.144021	0.918	-1.5191	0.8623	-1.7991	1.2589	0.3766	0.4303
@691	3.195221	239	0.389177	1.0284	0.201	1.0032	0.181	0.9834	0.0293	0.1686
@688	0.155698	239	0.147935	0.9372	-1.0191	0.8467	-1.7192	1.1879	0.3305	0.4233
@687	1.467435	239	0.198987	1.0132	0.141	0.9889	0.021	0.99	0.1339	0.3272
@1309	0.38188	239	0.153043	0.9393	-0.8591	0.8457	-1.4792	1.1503	0.2887	0.4096
@651	1.316269	239	0.190124	0.9718	-0.199	0.9345	-0.2791	1.0334	0.1506	0.3354
@683	-2.04155	239	0.162891	0.9031	-1.1491	0.8485	-1.1592	1.144	0.7657	0.3774
@649	-0.28242	239	0.1417	1.1004	1.9411	1.2349	3.1212	0.5887	0.4184	0.4789
@1173	0.091621	239	0.080384	0.9144	-0.9991	0.8206	-1.8392	1.1637	0.9791	0.7695
@1083	-0.32251	239	0.14136	1.0667	1.3311	1.0851	1.2211	0.7631	0.4268	0.4726
@653	-1.74176	239	0.15374	0.9103	-1.2791	0.844	-1.4792	1.1825	0.7155	0.4014
@682	-0.14035	239	0.143211	1.3151	5.3913	1.4375	5.0714	0.0026	0.3891	0.518

@698	2.159114	239	0.252818	1.1203	0.6611	1.2591	0.8713	0.9063	0.0753	0.2708
@1172	-1.64863	239	0.151406	1.0327	0.501	0.9754	-0.209	0.9584	0.6987	0.4342
@632	-0.2219	239	0.142285	0.9722	-0.529	1.0642	0.8911	1.0374	0.4059	0.4483
@657	-1.0334	239	0.141545	0.9831	-0.319	0.9964	-0.029	1.0439	0.5774	0.4531
@680	-0.73971	239	0.06978	0.9881	-0.109	1.0956	1.0611	1.0133	2.1715	0.9214
@675	0.526027	239	0.157014	0.9903	-0.099	0.973	-0.189	1.0169	0.2636	0.41
@674	2.614473	239	0.302943	1.0027	0.101	0.9025	-0.1191	1.0002	0.0502	0.2138
@667	-1.58055	239	0.149846	0.9746	-0.369	0.9124	-0.8891	1.0787	0.6862	0.4262
@1170	2.159114	239	0.252818	0.9746	-0.069	1.0407	0.231	1.0093	0.0753	0.2526
@692	0.575821	239	0.158521	1.0013	0.041	1.0391	0.361	0.9844	0.2552	0.4083
@679	0.477149	239	0.155603	0.8907	-1.5091	0.8054	-1.7792	1.2128	0.272	0.3923
@685	2.813469	239	0.329375	0.9641	-0.029	0.7809	-0.3992	1.0292	0.0418	0.1928
@666	0.024929	239	0.065929	1.3039	2.9813	1.2441	1.9712	0.7439	1.2385	1.1203
@701	2.159114	239	0.252818	0.9359	-0.2691	0.7243	-0.8793	1.0566	0.0753	0.2475
@700	-1.27834	239	0.144352	0.7903	-4.0592	0.7252	-3.7893	1.603	0.6276	0.3984
@697	-0.46154	239	0.140473	0.9873	-0.249	0.976	-0.349	1.0522	0.4561	0.4576
@694	0.782348	239	0.115952	0.9171	-0.7991	0.7889	-1.5492	1.1224	0.4017	0.5342
@676	2.709817	239	0.315233	1.0741	0.3611	1.1404	0.4611	0.9498	0.046	0.2127
@668	1.316269	239	0.190124	0.9267	-0.5791	0.9864	-0.009	1.0503	0.1506	0.3275
@650	0.601083	239	0.159313	0.8884	-1.4291	0.8549	-1.1791	1.1794	0.251	0.3827
@1169	0.550805	239	0.157755	1.0682	0.8911	1.1392	1.1411	0.8709	0.2594	0.4238
@669	0.039861	238	0.146191	1.0124	0.231	1.0135	0.191	0.9669	0.3529	0.4461
@663	1.868056	238	0.227732	0.8961	-0.5891	0.6929	-1.1993	1.0907	0.0966	0.2694
@656	-0.18988	238	0.142985	1.143	2.6211	1.1946	2.4812	0.5332	0.3992	0.4847
@655	-2.03686	238	0.163043	0.9513	-0.559	0.9183	-0.5891	1.0724	0.7647	0.3878
@1031	-0.74531	236	0.053173	1.0177	0.231	1.0347	0.401	1.0017	3.1186	1.235

Grade 7 Hawaiian Language Arts IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@1118	-2.74727	189	0.199189	1.0349	0.331	1.2277	1.2412	0.9271	0.8201	0.3715
@784	-1.11637	189	0.155679	1.0241	0.511	1.05	0.7611	0.8758	0.5185	0.4728
@888	-2.70802	189	0.197093	1.057	0.5211	1.1612	0.9412	0.9146	0.8148	0.3794
@883	0.528591	189	0.191	1.058	0.5611	1.0363	0.271	0.9375	0.2011	0.3917
@885	-2.32074	189	0.179524	0.9131	-0.9391	0.8683	-0.9691	1.138	0.7566	0.3872
@886	1.476741	189	0.256085	1.0546	0.3511	0.9624	-0.039	0.9735	0.0952	0.2917
@882	-1.9048	189	0.166377	0.9503	-0.689	1.1785	1.6912	1.0244	0.6825	0.4262
@763	-1.31135	189	0.156687	1.1096	2.0911	1.1416	1.9411	0.5487	0.5608	0.489
@762	0.320507	189	0.181779	1.0419	0.461	0.9329	-0.4291	0.9767	0.2328	0.4084
@1098	-0.26822	189	0.163637	1.0325	0.511	1.0756	0.8011	0.8936	0.3386	0.4517
@1175	-0.52803	189	0.159028	0.8432	-2.9392	0.7818	-2.9192	1.5605	0.3915	0.42
@871	-2.0175	189	0.169394	1.0595	0.8011	1.013	0.151	0.9037	0.7037	0.442
@790	-1.63786	189	0.160759	0.9541	-0.759	0.9554	-0.509	1.1336	0.6296	0.442
@774	0.565423	189	0.192799	0.977	-0.169	0.8717	-0.7391	1.0501	0.1958	0.3729
@1097	-0.63509	189	0.08841	0.8236	-1.8992	0.7905	-2.1092	1.2852	1.1429	0.7467
@1099	-0.80091	189	0.156274	0.9063	-1.9191	0.8682	-1.9591	1.4137	0.4497	0.4431
@1089	1.543918	189	0.262408	1.0199	0.171	0.8673	-0.3591	1.0008	0.0899	0.2799
@892	0.353809	189	0.18315	1.0013	0.051	1.3661	2.2914	0.936	0.2275	0.3974
@843	1.852362	189	0.294997	0.9785	-0.009	0.9443	-0.0391	1.0176	0.0688	0.2439
@1178	1.17724	188	0.231384	1.0448	0.331	0.8958	-0.3591	0.9883	0.1223	0.3222
@806	-0.22145	188	0.165115	1.0775	1.1511	1.3039	2.8313	0.7137	0.3298	0.4585
@878	0.531356	188	0.11574	0.8333	-1.0792	0.7109	-1.3993	1.0919	0.3883	0.5752
@808	-0.29353	188	0.074094	0.9039	-0.9491	0.88	-0.9291	1.0874	1.2074	0.9358
@1088	0.348137	188	0.183346	0.986	-0.109	0.9042	-0.6291	1.043	0.2287	0.395
@769	-1.52464	188	0.159499	1.0531	0.9411	1.1381	1.7011	0.7705	0.6064	0.4692
@803	-0.30238	188	0.163356	0.9219	-1.2291	0.8954	-1.1291	1.2253	0.3457	0.4287
@877	-0.884	188	0.15631	1.0392	0.801	1.0181	0.291	0.8595	0.4681	0.4756
@1185	0.798094	188	0.205841	1.2151	1.6112	1.8133	3.4418	0.6972	0.1649	0.3906
@777	-0.35543	188	0.162309	1.1362	2.1311	1.2695	2.7813	0.5505	0.3564	0.479
@903	2.384986	188	0.367847	1.0237	0.181	1.2689	0.6913	0.977	0.0426	0.2006
@887	-1.6796	188	0.162003	0.8886	-1.8591	0.8377	-1.9392	1.3421	0.6383	0.4244
@930	-0.53638	188	0.159359	1.0395	0.721	1.0169	0.241	0.8842	0.3936	0.4666

@880	0.75622	188	0.20341	1.0255	0.241	0.9195	-0.3691	0.9974	0.1702	0.3631
@1096	-0.59968	188	0.080083	1.0362	0.431	0.9666	-0.239	1.0025	1.1383	0.927
@875	-0.48534	188	0.160095	0.938	-1.0791	1.0149	0.211	1.1462	0.383	0.4412
@811	-0.13865	188	0.16712	1.0693	0.9811	1.0772	0.7511	0.843	0.3138	0.4513
@869	3.119319	188	0.510462	0.9522	0.051	0.51	-0.7095	1.0463	0.0213	0.1394
@879	0.004271	188	0.171082	1.246	2.9612	1.6284	4.6016	0.4203	0.2872	0.4759
@897	-0.48534	188	0.160095	0.943	-0.9891	0.9172	-0.9991	1.1948	0.383	0.4424
@1182	0.154736	188	0.17596	0.9112	-1.0391	0.9103	-0.6691	1.1445	0.2606	0.3956
@891	-0.08228	188	0.168606	0.9773	-0.289	1.0208	0.231	1.0259	0.3032	0.4276
@874	1.40854	188	0.250411	0.9558	-0.179	0.7548	-0.8692	1.0517	0.1011	0.2847
@1179	1.231751	188	0.235618	0.9881	-0.019	0.9666	-0.049	1.0078	0.117	0.3077
@870	2.035934	188	0.317988	0.8907	-0.3491	0.6426	-0.9194	1.0837	0.0585	0.2165
@872	1.013916	188	0.141337	0.9328	-0.1891	0.8118	-0.4892	1.0375	0.2021	0.4984
@889	0.728735	188	0.114067	0.7629	-1.7392	0.7956	-0.8192	1.108	0.383	0.5585
@829	-1.41642	187	0.158566	1.2238	3.9112	1.2249	2.8312	0.1991	0.5829	0.5102
@839	0.466971	186	0.189905	0.9485	-0.4591	1.1358	0.8711	1.0382	0.2097	0.376
@899	-0.01837	186	0.171598	0.9193	-1.0391	0.9112	-0.7491	1.1562	0.2903	0.4097
@876	0.69624	186	0.201516	1.1932	1.5412	1.4978	2.4015	0.7334	0.1774	0.3975
@770	0.342288	186	0.130571	0.8513	-1.4791	0.7714	-1.9392	1.2208	0.4624	0.5181
@834	0.616739	186	0.197258	0.958	-0.329	0.9128	-0.4491	1.0503	0.1882	0.3638
@884	1.15984	186	0.231746	1.0085	0.111	1.2184	0.9212	0.9541	0.1237	0.3177
@902	0.431208	186	0.188274	0.8926	-1.0391	0.7699	-1.5492	1.1641	0.2151	0.3679
@1104	0.102013	186	0.175396	1.1342	1.5611	1.2687	2.0113	0.7252	0.2688	0.4452
@822	2.020603	186	0.318266	1.0512	0.2811	1.2952	0.8213	0.9488	0.0591	0.2362
@1032	-1.15086	185	0.062163	1.0035	0.071	0.969	-0.269	1.0085	3.3189	1.1848

Grade 8 Hawaiian Language Arts IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@909	-2.77133	135	0.265215	0.8347	-0.9292	0.6512	-1.3193	1.1586	0.8593	0.2965
@917	-4.17753	135	0.435405	0.9017	-0.1591	0.5233	-0.7995	1.0801	0.9556	0.1877
@894	-0.3558	135	0.187646	1.0092	0.171	0.9638	-0.309	0.9979	0.437	0.4608
@867	0.273682	135	0.1995	1.1252	1.4511	1.1849	1.2212	0.7021	0.3111	0.4576
@913	1.353474	135	0.2551	1.005	0.091	0.8675	-0.3791	1.0152	0.1481	0.3382
@929	-2.9182	135	0.277329	0.7714	-1.2392	0.542	-1.6995	1.1994	0.8741	0.2726
@904	-2.07747	135	0.221266	1.0162	0.171	1.2331	1.2212	0.9312	0.7704	0.3921
@927	-2.12696	135	0.223739	0.8827	-0.9391	0.8886	-0.5391	1.1324	0.7778	0.3614
@1127	1.110828	135	0.238141	0.9358	-0.4091	0.8276	-0.6492	1.0831	0.1778	0.3496
@855	-0.49602	135	0.186799	0.9926	-0.099	0.9614	-0.359	1.0461	0.4667	0.459
@1126	-2.5108	135	0.246269	0.863	-0.8891	0.7608	-0.9892	1.1444	0.8296	0.3247
@848	-1.80051	135	0.209124	0.888	-1.0891	0.8198	-1.1692	1.198	0.7259	0.3878
@802	3.942176	135	0.719643	1.0182	0.251	0.5855	-0.2494	1.0079	0.0148	0.1207
@771	0.395448	135	0.203395	0.8341	-1.8992	0.7288	-1.7993	1.353	0.2889	0.3864
@785	-0.67028	135	0.186623	0.9434	-0.9191	0.9043	-0.9891	1.2391	0.5037	0.4479
@767	-0.5749	135	0.11747	0.8332	-1.8892	0.7401	-1.9293	1.3026	0.963	0.6688
@914	0.004842	135	0.192784	1.3345	4.2113	1.5142	3.5515	-0.0318	0.363	0.5157
@921	-0.81	135	0.187178	0.9694	-0.469	1.1257	1.2811	1.0021	0.5333	0.4527
@911	0.41443	135	0.129977	0.6692	-2.9593	0.651	-3.1093	1.4219	0.9037	0.5417
@833	-1.05822	135	0.189687	0.8803	-1.7891	0.8462	-1.5392	1.3858	0.5852	0.4257
@912	-0.14182	135	0.190173	1.0254	0.401	0.9484	-0.4091	0.9748	0.3926	0.4583
@916	0.395448	135	0.203395	1.1415	1.5111	1.3346	1.9313	0.6591	0.2889	0.4521
@796	-0.39098	135	0.187374	1.134	2.0911	1.2169	1.9912	0.4483	0.4444	0.4891
@793	3.519321	135	0.592249	0.9086	0.0109	0.3612	-0.8596	1.0733	0.0222	0.1385
@772	1.054926	135	0.234634	0.9566	-0.269	0.8231	-0.6992	1.0757	0.1852	0.3588
@810	3.21454	135	0.516793	1.0014	0.161	0.7112	-0.2393	1.0136	0.0296	0.1667
@1079	-0.06899	135	0.191379	0.9332	-0.9591	0.9188	-0.6491	1.1973	0.3778	0.4344
@761	0.079841	135	0.194403	0.8403	-2.2192	0.7655	-1.8792	1.4459	0.3481	0.4058
@910	-0.8451	135	0.187414	0.87	-2.1291	0.8121	-2.0292	1.4993	0.5407	0.4283
@906	-0.03221	135	0.192056	0.9539	-0.639	1.0746	0.6311	1.0644	0.3704	0.4377
@922	-0.46108	135	0.186951	0.9117	-1.4691	1.0869	0.8711	1.2335	0.4593	0.4396
@1190	-0.49602	135	0.186799	0.8641	-2.3191	0.8254	-1.8292	1.5312	0.4667	0.4283

@1105	0.65576	135	0.213603	1.1218	1.1211	1.2444	1.2512	0.7811	0.2444	0.4268
@893	0.796913	135	0.220264	1.198	1.6212	1.5672	2.4016	0.6538	0.2222	0.4277
@1078	0.748888	135	0.217906	1.1905	1.6112	1.296	1.4113	0.7108	0.2296	0.4309
@926	0.354331	135	0.202018	1.1563	1.7012	1.4402	2.5114	0.5882	0.2963	0.4581
@1210	-0.06899	135	0.191379	0.9793	-0.279	0.9426	-0.4391	1.0743	0.3778	0.445
@820	0.682768	135	0.100667	0.8601	-1.0191	0.7044	-1.3793	1.1192	0.7778	0.7929
@780	0.996467	134	0.102436	0.8064	-1.7492	0.6952	-1.6293	1.1791	0.8657	0.7573
@1212	-0.34173	134	0.188565	1.0332	0.541	1.0021	0.061	0.9009	0.4328	0.4657
@925	-0.69404	134	0.187384	1.0015	0.051	1.0087	0.121	0.9783	0.5075	0.4614
@905	-0.05173	134	0.192574	1.1853	2.4912	1.6329	4.3616	0.2839	0.3731	0.4884
@1214	0.380227	134	0.09375	1.3104	1.6913	1.067	0.3211	0.9429	0.7388	1.0548
@1192	-1.04935	134	0.1902	1.0164	0.261	0.9767	-0.189	0.9747	0.5821	0.4579
@1201	1.095939	134	0.238498	0.8208	-1.2892	0.6423	-1.5594	1.2203	0.1791	0.3282
@901	1.703827	134	0.286615	0.8373	-0.7792	0.5974	-1.2194	1.1428	0.1119	0.2758
@764	1.153743	134	0.242262	1.0473	0.361	1.0627	0.3211	0.9448	0.1716	0.3649
@924	0.505485	134	0.208462	1.1371	1.3611	1.3882	2.0414	0.6871	0.2687	0.4419
@805	-0.448	134	0.187788	1.103	1.6411	1.2675	2.4513	0.5451	0.4552	0.4831
@1092	0.295933	134	0.201168	1.3692	3.8514	1.7423	4.0417	0.07	0.306	0.5025
@920	0.593932	134	0.212043	0.9137	-0.8191	1.5326	2.5515	1.0389	0.2537	0.3894
@766	2.187948	134	0.340596	1.0614	0.3211	1.4529	1.0515	0.9287	0.0746	0.2613
@826	-0.07166	133	0.193097	1.1502	2.0512	1.3803	2.8114	0.4353	0.3759	0.4816
@778	0.003527	133	0.194571	1.0942	1.2611	1.4012	2.8214	0.661	0.3609	0.4662
@1034	-0.40495	133	0.072019	1.0871	0.7611	1.0415	0.361	0.9656	2.7744	1.2554

Grade 4 Science IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@287	0.797786	226	0.158991	1.1746	2.4412	1.6854	3.8917	0.5435	0.3363	0.4534
@284	-1.58965	226	0.177212	0.9738	-0.249	0.9657	-0.129	1.0304	0.7566	0.3704
@286	-0.53664	226	0.155762	1.0115	0.191	1.0597	0.5711	0.9507	0.5841	0.4295
@296	-0.20323	226	0.153324	1.3525	5.0014	1.5283	4.3715	0.157	0.5221	0.5046
@292	0.383009	226	0.154164	0.9324	-1.0891	0.8814	-0.9791	1.1644	0.4115	0.4166
@313	-0.70852	226	0.157822	0.9686	-0.419	0.9495	-0.3991	1.0586	0.615	0.4148
@305	-0.32115	226	0.15395	1.0901	1.3611	1.1226	1.1511	0.7997	0.5442	0.4511
@283	-0.20323	226	0.153324	0.9726	-0.409	0.9212	-0.7391	1.0827	0.5221	0.4279
@314	-1.31955	226	0.169629	0.9438	-0.6291	0.8433	-1.0092	1.1055	0.7168	0.381
@307	-0.56093	226	0.15602	0.9602	-0.559	0.8876	-1.0191	1.1049	0.5885	0.4178
@309	-0.25028	226	0.153542	1.0766	1.1811	1.099	0.9511	0.8227	0.531	0.4495
@289	-1.71816	226	0.18138	1.0183	0.221	0.8561	-0.7091	1.0162	0.7743	0.3701
@285	-0.88566	226	0.160516	0.9556	-0.569	1.0583	0.5011	1.0528	0.646	0.4051
@288	-1.09662	226	0.164492	1.0591	0.7411	0.9624	-0.229	0.9397	0.6814	0.4162
@290	3.237846	226	0.162218	0.8765	-1.4291	0.7314	-1.5593	1.1783	0.2832	0.3839
@297	-1.20637	226	0.166898	1.0924	1.1011	1.0444	0.351	0.8787	0.6991	0.4166
@299	0.311979	226	0.153701	0.9091	-1.4891	0.7998	-1.7892	1.2541	0.4248	0.4126
@294	1.519715	226	0.177051	0.8749	-1.3991	0.8152	-0.8192	1.1644	0.2212	0.3514
@301	1.129087	226	0.09281	0.85	-1.6292	0.8189	-1.2592	1.1536	0.8363	0.6608
@304	0.84858	226	0.159842	0.94	-0.8591	0.8723	-0.8191	1.1269	0.3274	0.4035
@324	0.417332	226	0.09133	0.9101	-0.9991	0.8656	-1.3991	1.1542	1.1858	0.6948
@310	-0.39243	226	0.154454	1.1063	1.5811	1.1468	1.3511	0.7562	0.5575	0.453
@315	0.672983	226	0.157147	1.2973	4.1413	1.7016	4.2317	0.2564	0.3584	0.4821
@291	-0.58529	226	0.15629	0.9633	-0.509	0.9921	-0.029	1.0597	0.5929	0.4177
@293	-0.91148	226	0.160957	0.8959	-1.3891	0.8259	-1.4192	1.1953	0.6504	0.3912
@295	-0.4163	226	0.154644	0.8791	-1.8691	0.8248	-1.7092	1.2702	0.5619	0.4033
@298	-0.65894	226	0.157172	0.7916	-3.1492	0.735	-2.5193	1.4079	0.6062	0.3766
@317	-0.29748	226	0.153804	1.0158	0.261	1.028	0.301	0.9547	0.5398	0.4359
@320	-0.27386	226	0.153668	1.005	0.101	0.9343	-0.5991	1.0205	0.5354	0.434
@321	-0.10947	226	0.153012	0.8546	-2.4091	0.7643	-2.3992	1.3669	0.5044	0.4019
@322	1.967324	226	0.195622	1.2223	1.8512	1.7105	2.2317	0.7138	0.1637	0.3759
@316	-0.87011	225	0.16075	0.8912	-1.4691	0.8643	-1.0991	1.1907	0.6444	0.3915

@318	-0.27724	225	0.103191	1.1891	2.1012	1.2724	2.0113	0.7451	1.0889	0.7045
@323	1.89074	225	0.192119	1.1021	0.9311	0.8646	-0.4491	0.9337	0.1733	0.3643
@300	1.679963	225	0.183116	0.9966	0.001	1.1329	0.6111	0.9815	0.2	0.3634
@306	0.025797	225	0.153154	0.957	-0.679	0.8688	-1.2391	1.1399	0.48	0.4258
@308	-0.068	225	0.153241	1.1548	2.3712	1.3351	2.8913	0.5751	0.4978	0.4675
@365	0.23318	225	0.113949	0.8896	-1.3391	0.8956	-1.1191	1.179	0.8889	0.5518
@367	0.625434	225	0.086636	0.9347	-0.6891	0.9075	-0.7091	1.0812	1.0711	0.744
@363	-0.28014	225	0.154058	0.9235	-1.1891	0.8624	-1.3291	1.1894	0.5378	0.4159

Grade 8 Science IRT Item Statistics

NAME	MEASURE	COUNT	MODLSE	IN.MSQ	IN.ZSTD	OUT.MSQ	OUT.ZSTD	DISCRIM	PVALUE	RMSR
@983	2.062668	133	0.512264	0.9949	0.141	1.0182	0.241	1.0016	0.0301	0.1688
@962	-1.95197	133	0.185182	0.8788	-2.1291	0.8694	-1.8191	1.5227	0.5639	0.439
@952	-0.75805	133	0.197845	1.0216	0.281	1.0046	0.081	0.9607	0.3083	0.443
@951	0.188484	133	0.246435	1.0017	0.061	0.9303	-0.2491	1.01	0.1579	0.3522
@977	-1.12992	133	0.188671	1.0309	0.481	1.0253	0.321	0.9003	0.3835	0.4666
@1109	-1.12992	133	0.188671	1.0754	1.1211	1.0642	0.7611	0.7544	0.3835	0.4766
@956	-1.20069	133	0.187478	1.083	1.2811	1.0582	0.7211	0.7248	0.3985	0.4813
@959	0	133	0	1	0	1	0	1	0	0
@955	0.684492	133	0.290118	1.1392	0.7011	1.4997	1.5615	0.8535	0.1053	0.319
@1238	-0.33564	133	0.214644	1.0413	0.401	1.137	0.8911	0.9161	0.2331	0.4122
@1205	2.780466	133	0.715866	1.0175	0.251	0.973	0.261	0.9853	0.015	0.1222
@1257	-1.88358	133	0.184613	1.0255	0.461	1.0051	0.101	0.9098	0.5489	0.4756
@932	0.77133	133	0.299362	0.9713	-0.059	0.7542	-0.7592	1.0446	0.0977	0.2855
@1111	0.071127	133	0.238145	1.096	0.6911	1.191	0.9412	0.8804	0.1729	0.3812
@1260	0.381765	133	0.261717	0.9276	-0.3591	0.7907	-0.8192	1.0826	0.1353	0.3191
@1265	-0.63822	133	0.201888	1.1014	1.1111	1.2467	1.8612	0.7338	0.2857	0.4507
@953	-0.59713	133	0.203402	1.1113	1.1811	1.1916	1.4312	0.7577	0.2782	0.4494
@954	-0.4699	133	0.208519	1.0699	0.7111	1.1226	0.8711	0.8598	0.2556	0.4301
@942	-1.88358	133	0.184613	1.031	0.551	1.0303	0.441	0.8678	0.5489	0.4769
@936	-0.75805	133	0.197845	0.9569	-0.489	0.8883	-0.9691	1.1322	0.3083	0.4287
@964	0.381765	133	0.261717	0.975	-0.079	0.9821	0.011	1.017	0.1353	0.3272
@937	-0.69302	133	0.086416	1.0134	0.151	0.9094	-0.4791	1.0038	1.0827	1.0101
@971	3.485895	133	1.00631	1.0119	0.341	1.1671	0.5212	0.9807	0.0075	0.0867
@972	1.632426	133	0.423217	0.9742	0.051	1.198	0.5412	1.0065	0.0451	0.2022
@1258	0.525357	133	0.274474	1.0044	0.091	0.9159	-0.2291	1.0085	0.1203	0.3166
@947	0.071127	133	0.238145	1.1384	0.9611	1.3817	1.7314	0.8068	0.1729	0.3885
@1114	-0.36631	133	0.116843	0.9339	-0.3791	0.8405	-0.5592	1.0511	0.4812	0.7172
@984	1.465835	133	0.394118	1.0134	0.151	0.8601	-0.1691	1.0029	0.0526	0.2215
@948	0.015279	133	0.234449	1.0302	0.261	0.9596	-0.139	0.9819	0.1805	0.3754
@950	-0.91112	133	0.193465	0.9549	-0.579	0.9451	-0.5091	1.1261	0.3383	0.438
@961	2.36269	133	0.588008	1.0036	0.191	1.2667	0.5813	0.9849	0.0226	0.1477
@987	0.071127	133	0.238145	0.8707	-0.8891	0.7933	-1.0092	1.147	0.1729	0.3397

@970	-1.40858	133	0.18496	1.1937	3.1212	1.2163	2.8112	0.1478	0.4436	0.5122
@985	-1.61249	133	0.183893	1.0478	0.861	1.0741	1.0811	0.7409	0.4887	0.4827
@949	-1.23576	133	0.186951	1.1296	1.9911	1.1592	1.9112	0.4896	0.406	0.493
@981	-0.33564	133	0.214644	0.9659	-0.269	0.9272	-0.4191	1.0575	0.2331	0.397
@946	-1.16542	133	0.188051	0.8881	-1.7491	0.8464	-1.8992	1.4248	0.391	0.4345
@1266	-0.75805	133	0.197845	0.9823	-0.179	1.0269	0.271	1.0085	0.3083	0.4344
@944	0.250375	133	0.251102	0.8243	-1.0992	0.6144	-1.8794	1.1952	0.1504	0.3135
@978	1.465835	133	0.394118	0.8936	-0.2191	0.4634	-1.3295	1.0953	0.0526	0.208
@945	-0.07669	133	0.119372	0.942	-0.2491	0.6678	-1.3293	1.0836	0.4361	0.705
@986	0.602722	133	0.281875	0.9872	0.001	1.0268	0.191	1.0115	0.1128	0.3056
@967	0.684492	133	0.290118	1.0431	0.271	1.1667	0.6312	0.9508	0.1053	0.3053
@969	-0.51302	133	0.206712	1.01	0.131	1.074	0.5711	0.9539	0.2632	0.4216
@980	2.36269	133	0.588008	1.048	0.271	2.3283	1.6023	0.9216	0.0226	0.151
@1267	-1.09418	133	0.189339	0.9563	-0.629	0.9131	-0.9791	1.1757	0.3759	0.4479
@965	-0.75805	133	0.197845	0.9369	-0.7391	0.9437	-0.4591	1.1365	0.3083	0.4242
@960	0.128802	133	0.242129	1.1244	0.8511	1.1187	0.6111	0.8756	0.1654	0.3797
@958	1.319826	133	0.370812	1.0001	0.101	1.0799	0.3311	0.9916	0.0602	0.2338
@938	-0.59713	133	0.203402	0.8551	-1.5991	0.739	-2.1693	1.3246	0.2782	0.3942
@979	0.864056	133	0.309814	0.9492	-0.1391	0.8222	-0.4592	1.0484	0.0902	0.2727
@939	-0.63822	133	0.201888	0.8492	-1.7192	0.787	-1.7892	1.3208	0.2857	0.3958
@974	0.77133	133	0.299362	0.873	-0.5191	0.6069	-1.3694	1.1195	0.0977	0.2706
@1056	0.963706	133	0.321744	1.1014	0.4811	1.5845	1.5416	0.8916	0.0827	0.2828
@1110	-0.79698	133	0.196649	1.1504	1.7812	1.2024	1.7412	0.6141	0.3158	0.4729
@1263	0.071127	133	0.238145	0.883	-0.7891	0.7635	-1.1892	1.1432	0.1729	0.3422
@975	0.77133	133	0.299362	0.9411	-0.1891	0.7886	-0.6292	1.0573	0.0977	0.281
@1054	-1.51083	133	0.184252	0.9362	-1.1191	0.9383	-0.8791	1.2828	0.4662	0.4553

Appendix G: Standard Error Statistics

Grade 3 Mathematics

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	274	73	0.29	-122	204	0	0	0	0	0
1	324	41	0.93	17	114	0	0	0	0	0
2	354	30	1.75	101	84	0	0	0	0	0
3	373	25	2.47	154	70	0	0	0	0	0
4	387	22	3.13	194	62	1	0.3	1	0.3	1
5	399	20	3.72	226	57	1	0.3	2	0.6	1
6	409	19	4.27	253	53	1	0.3	3	0.9	1
7	417	18	4.79	278	50	2	0.6	5	1.4	1
8	425	17	5.26	300	48	2	0.6	7	2	2
9	432	17	5.71	320	46	5	1.4	12	3.5	3
10	439	16	6.12	339	45	3	0.9	15	4.3	4
11	445	15	6.51	356	43	5	1.4	20	5.8	5
12	451	15	6.88	373	42	9	2.6	29	8.4	7
13	457	15	7.22	388	41	13	3.8	42	12.2	10
14	462	14	7.54	403	40	13	3.8	55	15.9	14
15	467	14	7.84	418	39	12	3.5	67	19.4	18
16	472	14	8.11	431	39	24	7	91	26.4	23
17	477	14	8.37	445	38	19	5.5	110	31.9	29
18	482	13	8.6	458	38	19	5.5	129	37.4	35
19	486	13	8.82	470	37	24	7	153	44.3	41
20	490	13	9.01	483	37	19	5.5	172	49.9	47
21	495	13	9.18	495	36	16	4.6	188	54.5	52
22	499	13	9.33	507	36	21	6.1	209	60.6	58
23	503	13	9.46	519	36	10	2.9	219	63.5	62
24	507	13	9.57	530	36	14	4.1	233	67.5	66
25	512	13	9.66	542	36	10	2.9	243	70.4	69
26	516	13	9.73	553	35	18	5.2	261	75.7	73
27	520	13	9.77	564	35	11	3.2	272	78.8	77
28	524	13	9.8	576	35	8	2.3	280	81.2	80
29	528	13	9.8	587	35	8	2.3	288	83.5	82

30	532	13	9.78	598	35	6	1.7	294	85.2	84
31	536	13	9.75	610	35	8	2.3	302	87.5	86
32	540	13	9.69	621	35	7	2	309	89.6	89
33	544	13	9.62	632	36	2	0.6	311	90.1	90
34	548	13	9.52	644	36	6	1.7	317	91.9	91
35	552	13	9.42	656	36	4	1.2	321	93	92
36	556	13	9.3	667	36	9	2.6	330	95.7	94
37	561	13	9.17	679	36	4	1.2	334	96.8	96
38	565	13	9.03	691	37	0	0	334	96.8	97
39	569	13	8.88	704	37	3	0.9	337	97.7	97
40	574	13	8.73	716	37	0	0	337	97.7	98
41	578	13	8.57	729	38	3	0.9	340	98.6	98
42	583	14	8.4	742	38	0	0	340	98.6	99
43	588	14	8.22	755	38	0	0	340	98.6	99
44	593	14	8.03	769	39	1	0.3	341	98.8	99
45	598	14	7.81	783	39	1	0.3	342	99.1	99
46	603	14	7.56	797	40	1	0.3	343	99.4	99
47	608	15	7.27	812	41	0	0	343	99.4	99
48	614	15	6.92	828	42	0	0	343	99.4	99
49	619	15	6.52	844	43	1	0.3	344	99.7	99
50	626	16	6.04	862	45	0	0	344	99.7	99
51	633	17	5.49	881	47	0	0	344	99.7	99
52	640	18	4.88	902	50	0	0	344	99.7	99
53	649	19	4.2	926	54	1	0.3	345	100	99
54	659	21	3.47	955	59	0	0	345	100	100
55	672	24	2.68	991	67	0	0	345	100	100
56	690	29	1.85	1040	81	0	0	345	100	100
57	719	40	0.96	1121	113	0	0	345	100	100
58	767	72	0.3	1258	203	0	0	345	100	100

Grade 4 Mathematics

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	157	125	0.3	-168	239	0	0	0	0	0
1	241	69	0.96	-8	133	0	0	0	0	0
2	291	50	1.86	87	95	1	0.4	1	0.4	1
3	321	41	2.7	145	79	0	0	1	0.4	1
4	343	36	3.49	187	70	0	0	1	0.4	1
5	361	33	4.25	221	63	0	0	1	0.4	1
6	376	31	4.96	249	58	0	0	1	0.4	1
7	389	29	5.64	274	55	0	0	1	0.4	1
8	400	27	6.29	296	52	1	0.4	2	0.9	1
9	410	26	6.9	315	49	2	0.9	4	1.8	1
10	420	25	7.49	333	48	5	2.2	9	4	3
11	428	24	8.04	350	46	6	2.6	15	6.6	5
12	437	23	8.55	366	44	6	2.6	21	9.3	8
13	444	23	9.03	381	43	6	2.6	27	11.9	11
14	452	22	9.48	395	42	10	4.4	37	16.3	14
15	459	22	9.89	408	41	4	1.8	41	18.1	17
16	466	21	10.27	421	41	9	4	50	22	20
17	472	21	10.61	433	40	8	3.5	58	25.6	24
18	478	21	10.91	446	39	9	4	67	29.5	28
19	485	20	11.18	457	39	18	7.9	85	37.4	33
20	491	20	11.41	469	38	13	5.7	98	43.2	40
21	496	20	11.61	480	38	7	3.1	105	46.3	45
22	502	20	11.78	491	38	13	5.7	118	52	49
23	508	20	11.91	502	38	14	6.2	132	58.1	55
24	514	20	12.01	513	38	8	3.5	140	61.7	60
25	519	20	12.08	524	37	8	3.5	148	65.2	63
26	525	20	12.12	535	37	10	4.4	158	69.6	67
27	531	20	12.14	545	37	6	2.6	164	72.2	71
28	536	20	12.12	556	37	8	3.5	172	75.8	74
29	542	20	12.08	567	37	5	2.2	177	78	77
30	547	20	12.01	578	38	7	3.1	184	81.1	80

31	553	20	11.92	588	38	5	2.2	189	83.3	82
32	559	20	11.79	599	38	2	0.9	191	84.1	84
33	565	20	11.64	611	38	8	3.5	199	87.7	86
34	571	20	11.47	622	38	4	1.8	203	89.4	89
35	577	20	11.27	633	39	2	0.9	205	90.3	90
36	583	20	11.04	645	39	5	2.2	210	92.5	91
37	589	21	10.78	657	40	2	0.9	212	93.4	93
38	595	21	10.5	669	40	2	0.9	214	94.3	94
39	602	21	10.19	682	41	3	1.3	217	95.6	95
40	609	22	9.85	695	41	3	1.3	220	96.9	96
41	616	22	9.49	708	42	2	0.9	222	97.8	97
42	623	23	9.1	722	43	0	0	222	97.8	98
43	631	23	8.69	737	44	2	0.9	224	98.7	98
44	639	24	8.24	752	45	0	0	224	98.7	99
45	647	24	7.78	768	47	3	1.3	227	100	99
46	656	25	7.29	785	48	0	0	227	100	100
47	666	26	6.77	804	50	0	0	227	100	100
48	676	27	6.23	824	52	0	0	227	100	100
49	688	29	5.68	846	55	0	0	227	100	100
50	700	30	5.11	870	58	0	0	227	100	100
51	715	32	4.52	897	61	0	0	227	100	100
52	731	34	3.93	928	66	0	0	227	100	100
53	750	37	3.33	964	71	0	0	227	100	100
54	772	41	2.72	1007	79	0	0	227	100	100
55	800	47	2.12	1061	89	0	0	227	100	100
56	838	55	1.5	1133	106	0	0	227	100	100
57	898	74	0.84	1247	142	0	0	227	100	100
58	989	128	0.28	1421	245	0	0	227	100	100

Grade 5 Mathematics

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	147	138	0.3	-205	275	0	0	0	0	0
1	239	76	0.96	-21	153	0	0	0	0	0
2	294	55	1.87	88	110	0	0	0	0	0
3	327	45	2.72	154	91	0	0	0	0	0
4	351	40	3.52	202	80	0	0	0	0	0
5	370	36	4.28	241	72	0	0	0	0	0
6	387	33	5.01	273	67	1	0.4	1	0.4	1
7	401	31	5.7	301	63	2	0.7	3	1.1	1
8	413	30	6.37	326	59	3	1.1	6	2.2	2
9	424	28	7.01	348	57	4	1.4	10	3.6	3
10	434	27	7.63	369	54	16	5.8	26	9.4	6
11	444	26	8.23	388	52	15	5.4	41	14.7	12
12	453	25	8.81	405	50	15	5.4	56	20.1	17
13	461	24	9.37	422	49	9	3.2	65	23.4	22
14	469	24	9.93	437	48	18	6.5	83	29.9	27
15	476	23	10.47	452	46	19	6.8	102	36.7	33
16	483	23	11	466	45	19	6.8	121	43.5	40
17	490	22	11.52	479	44	22	7.9	143	51.4	47
18	496	22	12.02	492	43	11	4	154	55.4	53
19	502	21	12.51	504	42	14	5	168	60.4	58
20	508	21	12.98	516	42	13	4.7	181	65.1	63
21	514	20	13.41	527	41	12	4.3	193	69.4	67
22	519	20	13.82	538	40	10	3.6	203	73	71
23	525	20	14.19	549	40	7	2.5	210	75.5	74
24	530	20	14.52	560	39	5	1.8	215	77.3	76
25	535	19	14.81	570	39	7	2.5	222	79.9	79
26	540	19	15.04	580	39	4	1.4	226	81.3	81
27	545	19	15.22	590	38	5	1.8	231	83.1	82
28	550	19	15.36	600	38	6	2.2	237	85.3	84
29	555	19	15.44	609	38	5	1.8	242	87.1	86
30	559	19	15.48	619	38	2	0.7	244	87.8	87

31	564	19	15.47	629	38	2	0.7	246	88.5	88
32	569	19	15.41	638	38	4	1.4	250	89.9	89
33	574	19	15.33	648	38	2	0.7	252	90.6	90
34	579	19	15.21	658	38	0	0	252	90.6	91
35	584	19	15.06	668	39	2	0.7	254	91.4	91
36	589	19	14.89	678	39	2	0.7	256	92.1	92
37	594	20	14.71	688	39	3	1.1	259	93.2	93
38	599	20	14.5	698	39	7	2.5	266	95.7	94
39	604	20	14.28	709	40	5	1.8	271	97.5	97
40	610	20	14.05	719	40	1	0.4	272	97.8	98
41	615	20	13.81	730	40	2	0.7	274	98.6	98
42	620	20	13.56	741	41	1	0.4	275	98.9	99
43	626	21	13.29	752	41	0	0	275	98.9	99
44	632	21	13.01	763	42	1	0.4	276	99.3	99
45	638	21	12.71	775	42	0	0	276	99.3	99
46	643	21	12.39	787	43	0	0	276	99.3	99
47	650	22	12.04	799	43	0	0	276	99.3	99
48	656	22	11.67	812	44	1	0.4	277	99.6	99
49	662	22	11.28	825	45	1	0.4	278	100	99
50	669	23	10.84	838	45	0	0	278	100	100
51	676	23	10.38	853	47	0	0	278	100	100
52	684	24	9.87	867	48	0	0	278	100	100
53	691	25	9.33	883	49	0	0	278	100	100
54	700	25	8.75	900	51	0	0	278	100	100
55	709	26	8.13	917	53	0	0	278	100	100
56	718	27	7.47	936	55	0	0	278	100	100
57	729	29	6.77	958	58	0	0	278	100	100
58	740	30	6.04	981	61	0	0	278	100	100
59	754	33	5.28	1007	65	0	0	278	100	100
60	769	35	4.48	1038	71	0	0	278	100	100
61	788	39	3.66	1075	78	0	0	278	100	100
62	811	45	2.8	1122	90	0	0	278	100	100
63	843	54	1.9	1186	109	0	0	278	100	100
64	897	76	0.97	1294	152	0	0	278	100	100
65	988	137	0.3	1477	275	0	0	278	100	100

Grade 6 Mathematics

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	173	132	0.3	-153	265	0	0	0	0	0
1	262	73	0.97	24	147	0	0	0	0	0
2	314	53	1.89	128	105	0	0	0	0	0
3	345	43	2.76	191	87	1	0.4	1	0.4	1
4	368	38	3.6	236	76	0	0	1	0.4	1
5	386	34	4.4	272	69	0	0	1	0.4	1
6	401	32	5.18	303	63	4	1.7	5	2.1	1
7	414	30	5.93	329	59	2	0.8	7	2.9	3
8	426	28	6.66	352	56	4	1.7	11	4.6	4
9	436	27	7.36	372	53	10	4.2	21	8.8	7
10	445	25	8.05	391	51	13	5.5	34	14.3	12
11	454	24	8.71	408	49	21	8.8	55	23.1	19
12	462	24	9.36	424	47	17	7.1	72	30.3	27
13	470	23	9.99	439	46	11	4.6	83	34.9	33
14	477	22	10.6	453	44	14	5.9	97	40.8	38
15	483	22	11.2	466	43	11	4.6	108	45.4	43
16	489	21	11.77	479	42	10	4.2	118	49.6	47
17	495	21	12.32	491	41	9	3.8	127	53.4	51
18	501	20	12.86	502	40	6	2.5	133	55.9	55
19	507	20	13.36	513	39	7	2.9	140	58.8	57
20	512	19	13.85	524	39	5	2.1	145	60.9	60
21	517	19	14.3	534	38	7	2.9	152	63.9	62
22	522	19	14.72	544	38	6	2.5	158	66.4	65
23	527	19	15.12	554	37	11	4.6	169	71	69
24	532	18	15.47	563	37	3	1.3	172	72.3	72
25	536	18	15.8	573	36	12	5	184	77.3	75
26	541	18	16.09	582	36	4	1.7	188	79	78
27	545	18	16.34	591	36	5	2.1	193	81.1	80
28	550	18	16.56	599	35	7	2.9	200	84	83
29	554	18	16.74	608	35	3	1.3	203	85.3	85
30	558	18	16.9	617	35	5	2.1	208	87.4	86

31	563	17	17.02	625	35	5	2.1	213	89.5	88
32	567	17	17.11	633	35	1	0.4	214	89.9	90
33	571	17	17.17	642	35	2	0.8	216	90.8	90
34	575	17	17.21	650	35	2	0.8	218	91.6	91
35	579	17	17.22	659	35	6	2.5	224	94.1	93
36	584	17	17.21	667	35	2	0.8	226	95	95
37	588	17	17.17	675	35	1	0.4	227	95.4	95
38	592	17	17.12	684	35	1	0.4	228	95.8	96
39	596	17	17.04	692	35	3	1.3	231	97.1	96
40	600	18	16.94	701	35	1	0.4	232	97.5	97
41	605	18	16.81	709	35	1	0.4	233	97.9	98
42	609	18	16.66	718	35	1	0.4	234	98.3	98
43	613	18	16.48	727	36	1	0.4	235	98.7	99
44	618	18	16.27	736	36	1	0.4	236	99.2	99
45	622	18	16.02	744	36	1	0.4	237	99.6	99
46	627	18	15.74	754	36	1	0.4	238	100	99
47	631	18	15.41	763	37	0	0	238	100	100
48	636	19	15.05	772	37	0	0	238	100	100
49	641	19	14.64	782	38	0	0	238	100	100
50	646	19	14.2	792	38	0	0	238	100	100
51	651	19	13.71	802	39	0	0	238	100	100
52	657	20	13.19	813	40	0	0	238	100	100
53	662	20	12.63	824	41	0	0	238	100	100
54	668	21	12.05	836	42	0	0	238	100	100
55	674	21	11.44	848	43	0	0	238	100	100
56	681	22	10.82	861	44	0	0	238	100	100
57	687	23	10.18	875	45	0	0	238	100	100
58	695	23	9.53	890	47	0	0	238	100	100
59	703	24	8.88	905	48	0	0	238	100	100
60	711	25	8.22	922	50	0	0	238	100	100
61	720	26	7.56	941	53	0	0	238	100	100
62	730	27	6.89	961	55	0	0	238	100	100
63	741	29	6.22	983	58	0	0	238	100	100
64	754	31	5.53	1007	61	0	0	238	100	100
65	768	33	4.83	1035	66	0	0	238	100	100
66	784	36	4.12	1067	71	0	0	238	100	100

67	803	39	3.38	1106	79	0	0	238	100	100
68	827	45	2.61	1154	89	0	0	238	100	100
69	860	54	1.8	1220	107	0	0	238	100	100
70	914	74	0.94	1329	149	0	0	238	100	100
71	1004	133	0.29	1509	266	0	0	238	100	100

Grade 7 Mathematics

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	157	155	0.3	-185	310	0	0	0	0	0
1	261	86	0.97	22	171	0	0	0	0	0
2	322	61	1.89	144	123	0	0	0	0	0
3	359	51	2.76	217	102	0	0	0	0	0
4	385	45	3.59	271	89	1	0.5	1	0.5	1
5	407	40	4.37	313	81	5	2.6	6	3.2	2
6	424	37	5.11	349	75	8	4.2	14	7.4	5
7	440	35	5.82	380	70	9	4.8	23	12.2	10
8	454	33	6.48	407	66	17	9	40	21.2	17
9	466	32	7.11	432	63	11	5.8	51	27	24
10	478	30	7.7	455	61	17	9	68	36	31
11	488	29	8.25	476	59	22	11.6	90	47.6	42
12	498	29	8.77	496	57	20	10.6	110	58.2	53
13	507	28	9.26	515	56	13	6.9	123	65.1	62
14	516	27	9.71	533	54	15	7.9	138	73	69
15	525	27	10.13	550	53	10	5.3	148	78.3	76
16	533	26	10.51	566	52	10	5.3	158	83.6	81
17	541	26	10.87	582	51	1	0.5	159	84.1	84
18	549	25	11.2	597	51	4	2.1	163	86.2	85
19	556	25	11.5	612	50	5	2.6	168	88.9	88
20	563	25	11.77	627	49	1	0.5	169	89.4	89
21	570	24	12.01	641	49	1	0.5	170	89.9	90
22	577	24	12.24	655	48	2	1.1	172	91	90
23	584	24	12.44	669	48	3	1.6	175	92.6	92
24	591	24	12.62	682	48	1	0.5	176	93.1	93
25	598	24	12.77	695	47	3	1.6	179	94.7	94
26	604	24	12.91	709	47	3	1.6	182	96.3	96
27	611	23	13.03	722	47	2	1.1	184	97.4	97
28	617	23	13.13	735	47	1	0.5	185	97.9	98
29	624	23	13.21	747	47	1	0.5	186	98.4	98
30	630	23	13.26	760	46	1	0.5	187	98.9	99
31	636	23	13.29	773	46	0	0	187	98.9	99

32	643	23	13.28	786	46	1	0.5	188	99.5	99
33	649	23	13.24	798	46	0	0	188	99.5	99
34	656	23	13.17	811	47	1	0.5	189	100	99
35	662	23	13.05	824	47	0	0	189	100	100
36	669	24	12.9	837	47	0	0	189	100	100
37	675	24	12.7	850	47	0	0	189	100	100
38	682	24	12.47	864	48	0	0	189	100	100
39	689	24	12.2	877	48	0	0	189	100	100
40	696	24	11.9	891	49	0	0	189	100	100
41	703	25	11.58	906	50	0	0	189	100	100
42	710	25	11.23	921	50	0	0	189	100	100
43	718	26	10.87	936	51	0	0	189	100	100
44	726	26	10.49	952	52	0	0	189	100	100
45	734	27	10.11	968	53	0	0	189	100	100
46	743	27	9.71	985	54	0	0	189	100	100
47	752	28	9.3	1003	55	0	0	189	100	100
48	761	28	8.88	1022	57	0	0	189	100	100
49	771	29	8.45	1041	58	0	0	189	100	100
50	781	30	8	1062	60	0	0	189	100	100
51	792	31	7.53	1083	62	0	0	189	100	100
52	803	32	7.04	1107	64	0	0	189	100	100
53	816	33	6.54	1132	66	0	0	189	100	100
54	829	34	6.02	1159	69	0	0	189	100	100
55	844	36	5.48	1188	72	0	0	189	100	100
56	860	38	4.92	1220	76	0	0	189	100	100
57	879	41	4.34	1257	81	0	0	189	100	100
58	899	44	3.73	1299	87	0	0	189	100	100
59	924	48	3.1	1349	96	0	0	189	100	100
60	955	54	2.43	1410	108	0	0	189	100	100
61	996	65	1.71	1492	129	0	0	189	100	100
62	1062	88	0.91	1624	177	0	0	189	100	100
63	1170	157	0.29	1839	313	0	0	189	100	100

Grade 8 Mathematics

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	199	133	0.3	-101	267	0	0	0	0	0
1	289	74	0.97	77	148	0	0	0	0	0
2	341	53	1.87	183	106	0	0	0	0	0
3	373	44	2.73	247	88	1	0.7	1	0.7	1
4	397	39	3.53	293	77	2	1.5	3	2.2	1
5	415	35	4.29	331	70	1	0.7	4	3	3
6	431	32	5.01	362	65	10	7.4	14	10.4	7
7	445	30	5.69	389	61	4	3	18	13.3	12
8	457	29	6.33	413	58	11	8.1	29	21.5	17
9	468	28	6.94	435	55	11	8.1	40	29.6	26
10	478	27	7.52	455	53	9	6.7	49	36.3	33
11	487	26	8.06	474	51	11	8.1	60	44.4	40
12	496	25	8.58	492	50	15	11.1	75	55.6	50
13	504	24	9.07	508	48	11	8.1	86	63.7	60
14	512	24	9.53	524	47	6	4.4	92	68.1	66
15	519	23	9.97	539	46	7	5.2	99	73.3	71
16	526	23	10.39	553	45	6	4.4	105	77.8	76
17	533	22	10.78	567	44	2	1.5	107	79.3	79
18	540	22	11.15	580	44	3	2.2	110	81.5	80
19	546	21	11.51	593	43	4	3	114	84.4	83
20	553	21	11.84	605	42	3	2.2	117	86.7	86
21	559	21	12.16	617	42	1	0.7	118	87.4	87
22	565	21	12.46	629	41	4	3	122	90.4	89
23	570	20	12.75	641	41	2	1.5	124	91.9	91
24	576	20	13.02	652	40	2	1.5	126	93.3	93
25	581	20	13.27	663	40	0	0	126	93.3	93
26	587	20	13.51	674	40	0	0	126	93.3	93
27	592	20	13.72	684	39	1	0.7	127	94.1	94
28	597	19	13.92	695	39	3	2.2	130	96.3	95
29	603	19	14.1	705	39	0	0	130	96.3	96
30	608	19	14.25	716	39	0	0	130	96.3	96

31	613	19	14.37	726	38	0	0	130	96.3	96
32	618	19	14.46	736	38	3	2.2	133	98.5	97
33	623	19	14.51	746	38	1	0.7	134	99.3	99
34	628	19	14.52	756	38	0	0	134	99.3	99
35	633	19	14.5	766	38	0	0	134	99.3	99
36	638	19	14.43	776	38	0	0	134	99.3	99
37	643	19	14.31	786	38	0	0	134	99.3	99
38	648	19	14.14	796	39	0	0	134	99.3	99
39	653	19	13.92	807	39	0	0	134	99.3	99
40	659	20	13.65	817	39	0	0	134	99.3	99
41	664	20	13.34	828	40	1	0.7	135	100	99
42	670	20	12.98	839	40	0	0	135	100	100
43	675	21	12.57	850	41	0	0	135	100	100
44	681	21	12.13	862	42	0	0	135	100	100
45	687	21	11.66	874	43	0	0	135	100	100
46	694	22	11.15	887	44	0	0	135	100	100
47	700	22	10.62	901	45	0	0	135	100	100
48	707	23	10.07	915	46	0	0	135	100	100
49	715	24	9.51	929	47	0	0	135	100	100
50	723	24	8.93	945	49	0	0	135	100	100
51	731	25	8.34	962	50	0	0	135	100	100
52	740	26	7.74	980	52	0	0	135	100	100
53	750	27	7.13	1000	54	0	0	135	100	100
54	761	28	6.51	1021	57	0	0	135	100	100
55	772	30	5.88	1044	60	0	0	135	100	100
56	785	32	5.24	1071	64	0	0	135	100	100
57	800	34	4.58	1100	68	0	0	135	100	100
58	817	37	3.91	1135	74	0	0	135	100	100
59	838	41	3.21	1176	81	0	0	135	100	100
60	863	46	2.48	1227	92	0	0	135	100	100
61	898	55	1.72	1297	111	0	0	135	100	100
62	955	76	0.91	1410	152	0	0	135	100	100
63	1048	135	0.29	1595	270	0	0	135	100	100

Grade 3 Hawaiian Language Arts

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	224	94	0.3	-71	195	0	0	0	0	0
1	287	52	0.96	60	108	0	0	0	0	0
2	324	37	1.86	138	78	0	0	0	0	0
3	347	31	2.69	185	65	1	0.3	1	0.3	1
4	363	27	3.48	220	57	0	0	1	0.3	1
5	377	25	4.22	247	52	0	0	1	0.3	1
6	388	23	4.92	270	48	0	0	1	0.3	1
7	397	22	5.59	291	45	1	0.3	2	0.6	1
8	406	20	6.22	309	43	3	0.9	5	1.5	1
9	414	20	6.82	325	41	7	2	12	3.5	2
10	421	19	7.39	340	39	6	1.7	18	5.2	4
11	428	18	7.93	354	38	7	2	25	7.3	6
12	434	18	8.44	367	37	7	2	32	9.3	8
13	440	17	8.91	379	36	16	4.7	48	14	12
14	445	17	9.36	391	35	9	2.6	57	16.6	15
15	451	16	9.78	402	34	12	3.5	69	20.1	18
16	456	16	10.16	412	33	9	2.6	78	22.7	21
17	461	16	10.52	423	33	7	2	85	24.7	24
18	466	15	10.84	433	32	9	2.6	94	27.3	26
19	470	15	11.14	442	32	13	3.8	107	31.1	29
20	475	15	11.41	452	31	11	3.2	118	34.3	33
21	479	15	11.65	461	31	16	4.7	134	39	37
22	483	15	11.87	470	31	13	3.8	147	42.7	41
23	488	15	12.06	479	31	12	3.5	159	46.2	44
24	492	15	12.23	487	30	12	3.5	171	49.7	48
25	496	14	12.38	496	30	4	1.2	175	50.9	50
26	500	14	12.51	505	30	15	4.4	190	55.2	53
27	504	14	12.62	513	30	7	2	197	57.3	56
28	508	14	12.71	522	30	8	2.3	205	59.6	58
29	512	14	12.78	530	30	14	4.1	219	63.7	62
30	516	14	12.84	538	30	7	2	226	65.7	65

31	520	14	12.88	546	30	15	4.4	241	70.1	68
32	524	14	12.91	555	30	9	2.6	250	72.7	71
33	528	14	12.91	563	30	7	2	257	74.7	74
34	532	14	12.9	571	30	8	2.3	265	77	76
35	536	14	12.87	579	30	6	1.7	271	78.8	78
36	540	14	12.82	588	30	8	2.3	279	81.1	80
37	544	14	12.74	596	30	10	2.9	289	84	83
38	548	14	12.64	604	30	3	0.9	292	84.9	84
39	552	14	12.52	613	30	3	0.9	295	85.8	85
40	556	14	12.36	621	30	4	1.2	299	86.9	86
41	560	15	12.18	630	30	4	1.2	303	88.1	88
42	564	15	11.97	639	31	4	1.2	307	89.2	89
43	569	15	11.74	648	31	4	1.2	311	90.4	90
44	573	15	11.47	657	31	6	1.7	317	92.2	91
45	578	15	11.17	666	32	11	3.2	328	95.3	94
46	582	15	10.84	676	32	5	1.5	333	96.8	96
47	587	16	10.49	686	33	1	0.3	334	97.1	97
48	592	16	10.1	696	33	0	0	334	97.1	97
49	597	16	9.69	707	34	4	1.2	338	98.3	98
50	603	17	9.25	718	35	4	1.2	342	99.4	99
51	608	17	8.79	730	36	1	0.3	343	99.7	99
52	614	18	8.3	742	37	1	0.3	344	100	99
53	620	18	7.79	755	38	0	0	344	100	100
54	627	19	7.25	770	39	0	0	344	100	100
55	635	20	6.68	785	41	0	0	344	100	100
56	643	21	6.09	801	43	0	0	344	100	100
57	651	22	5.46	820	45	0	0	344	100	100
58	661	23	4.81	841	48	0	0	344	100	100
59	673	25	4.11	864	52	0	0	344	100	100
60	686	28	3.39	893	58	0	0	344	100	100
61	703	31	2.62	928	66	0	0	344	100	100
62	727	38	1.81	977	79	0	0	344	100	100
63	765	52	0.95	1056	109	0	0	344	100	100
64	828	94	0.29	1188	196	0	0	344	100	100

Grade 4 Hawaiian Language Arts

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	186	104	0.3	-109	191	0	0	0	0	0
1	255	57	0.97	19	106	0	0	0	0	0
2	296	41	1.87	95	76	0	0	0	0	0
3	321	34	2.71	141	63	0	0	0	0	0
4	339	30	3.5	174	56	0	0	0	0	0
5	354	27	4.25	201	51	0	0	0	0	0
6	366	25	4.95	224	47	0	0	0	0	0
7	377	24	5.61	244	44	0	0	0	0	0
8	386	23	6.23	261	42	1	0.4	1	0.4	1
9	395	22	6.82	277	40	0	0	1	0.4	1
10	403	21	7.38	292	38	2	0.9	3	1.3	1
11	410	20	7.9	306	37	2	0.9	5	2.2	2
12	417	19	8.4	319	36	3	1.3	8	3.5	3
13	424	19	8.88	331	35	4	1.8	12	5.3	4
14	430	18	9.32	342	34	5	2.2	17	7.5	6
15	436	18	9.75	353	33	7	3.1	24	10.6	9
16	441	18	10.15	363	33	3	1.3	27	11.9	11
17	447	17	10.53	373	32	1	0.4	28	12.3	12
18	452	17	10.89	383	32	4	1.8	32	14.1	13
19	457	17	11.23	393	31	7	3.1	39	17.2	16
20	462	17	11.55	402	31	6	2.6	45	19.8	19
21	467	16	11.86	411	30	5	2.2	50	22	21
22	472	16	12.14	419	30	5	2.2	55	24.2	23
23	476	16	12.41	428	30	3	1.3	58	25.6	25
24	481	16	12.66	436	29	9	4	67	29.5	28
25	485	16	12.89	444	29	3	1.3	70	30.8	30
26	490	16	13.11	452	29	9	4	79	34.8	33
27	494	15	13.31	460	29	1	0.4	80	35.2	35
28	498	15	13.49	468	28	7	3.1	87	38.3	37
29	502	15	13.65	476	28	7	3.1	94	41.4	40
30	506	15	13.79	483	28	4	1.8	98	43.2	42
31	510	15	13.92	491	28	7	3.1	105	46.3	45

32	515	15	14.03	498	28	7	3.1	112	49.3	48
33	519	15	14.11	506	28	6	2.6	118	52	51
34	523	15	14.18	513	28	6	2.6	124	54.6	53
35	527	15	14.23	520	28	4	1.8	128	56.4	56
36	530	15	14.25	528	28	6	2.6	134	59	58
37	534	15	14.26	535	28	3	1.3	137	60.4	60
38	538	15	14.24	542	28	6	2.6	143	63	62
39	542	15	14.19	550	28	8	3.5	151	66.5	65
40	546	15	14.12	557	28	6	2.6	157	69.2	68
41	550	15	14.03	564	28	9	4	166	73.1	71
42	554	15	13.9	572	28	9	4	175	77.1	75
43	558	15	13.75	579	28	5	2.2	180	79.3	78
44	563	15	13.57	587	28	6	2.6	186	81.9	81
45	567	15	13.35	595	29	10	4.4	196	86.3	84
46	571	16	13.11	603	29	2	0.9	198	87.2	87
47	575	16	12.83	611	29	4	1.8	202	89	88
48	580	16	12.52	619	29	4	1.8	206	90.7	90
49	584	16	12.18	627	30	1	0.4	207	91.2	91
50	589	16	11.8	636	30	2	0.9	209	92.1	92
51	594	17	11.38	645	31	3	1.3	212	93.4	93
52	599	17	10.93	654	32	6	2.6	218	96	95
53	604	17	10.45	664	32	3	1.3	221	97.4	97
54	610	18	9.93	674	33	0	0	221	97.4	97
55	616	18	9.37	685	34	1	0.4	222	97.8	98
56	622	19	8.78	697	35	1	0.4	223	98.2	98
57	629	20	8.16	709	36	1	0.4	224	98.7	98
58	636	21	7.5	722	38	1	0.4	225	99.1	99
59	644	22	6.81	737	40	0	0	225	99.1	99
60	653	23	6.08	753	42	0	0	225	99.1	99
61	662	24	5.32	771	45	0	0	225	99.1	99
62	674	27	4.52	792	49	1	0.4	226	99.6	99
63	688	29	3.69	818	54	1	0.4	227	100	99
64	705	34	2.82	850	62	0	0	227	100	100
65	729	41	1.92	894	75	0	0	227	100	100
66	769	57	0.98	969	105	0	0	227	100	100
67	838	103	0.3	1096	191	0	0	227	100	100

Grade 5 Hawaiian Language Arts

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	215	97	0.29	-71	194	0	0	0	0	0
1	280	54	0.95	61	108	0	0	0	0	0
2	320	39	1.82	139	78	0	0	0	0	0
3	344	33	2.63	187	65	0	0	0	0	0
4	361	29	3.41	222	57	1	0.4	1	0.4	1
5	375	26	4.17	250	52	0	0	1	0.4	1
6	387	24	4.89	273	48	1	0.4	2	0.7	1
7	397	22	5.59	294	45	3	1.1	5	1.8	1
8	406	21	6.27	311	42	2	0.7	7	2.5	2
9	414	20	6.91	327	40	5	1.8	12	4.3	3
10	421	19	7.53	342	38	5	1.8	17	6.1	5
11	428	19	8.12	356	37	8	2.9	25	8.9	8
12	434	18	8.68	368	36	7	2.5	32	11.4	10
13	440	17	9.21	380	35	12	4.3	44	15.7	14
14	446	17	9.71	391	34	6	2.1	50	17.9	17
15	451	17	10.19	402	33	6	2.1	56	20	19
16	456	16	10.64	412	32	4	1.4	60	21.4	21
17	461	16	11.07	421	32	9	3.2	69	24.6	23
18	465	16	11.47	431	31	12	4.3	81	28.9	27
19	470	15	11.86	440	31	7	2.5	88	31.4	30
20	474	15	12.23	449	30	4	1.4	92	32.9	32
21	479	15	12.57	457	30	8	2.9	100	35.7	34
22	483	15	12.9	465	29	5	1.8	105	37.5	37
23	487	15	13.21	473	29	8	2.9	113	40.4	39
24	491	14	13.5	481	29	10	3.6	123	43.9	42
25	495	14	13.77	489	28	7	2.5	130	46.4	45
26	498	14	14.02	497	28	7	2.5	137	48.9	48
27	502	14	14.25	504	28	10	3.6	147	52.5	51
28	506	14	14.45	512	28	12	4.3	159	56.8	55
29	509	14	14.63	519	28	3	1.1	162	57.9	57
30	513	14	14.77	526	27	6	2.1	168	60	59
31	517	14	14.89	533	27	7	2.5	175	62.5	61

32	520	14	14.97	540	27	6	2.1	181	64.6	64
33	524	14	15.02	547	27	5	1.8	186	66.4	66
34	527	14	15.04	554		7	27	193	68.9	68
35	531	14	15.01	561	27	6	2.1	199	71.1	70
36	534	14	14.95	568	27	3	1.1	202	72.1	72
37	538	14	14.86	575	27	9	3.2	211	75.4	74
38	541	14	14.72	582	27	11	3.9	222	79.3	77
39	545	14	14.55	590	28	11	3.9	233	83.2	81
40	548	14	14.35	597	28	5	1.8	238	85	84
41	552	14	14.12	604	28	5	1.8	243	86.8	86
42	556	14	13.86	612	28	4	1.4	247	88.2	88
43	560	14	13.57	620	29	2	0.7	249	88.9	89
44	564	14	13.26	627	29	7	2.5	256	91.4	90
45	568	15	12.92	636	29	6	2.1	262	93.6	93
46	572	15	12.57	644	30	2	0.7	264	94.3	94
47	576	15	12.2	652	30	0	0	264	94.3	94
48	581	15	11.81	661	31	1	0.4	265	94.6	94
49	585	16	11.41	670	31	2	0.7	267	95.4	95
50	590	16	11	680	32	2	0.7	269	96.1	96
51	595	16	10.57	689	32	4	1.4	273	97.5	97
52	600	17	10.12	700	33	2	0.7	275	98.2	98
53	605	17	9.66	710	34	1	0.4	276	98.6	98
54	611	17	9.18	721	35	2	0.7	278	99.3	99
55	617	18	8.68	733	36	1	0.4	279	99.6	99
56	623	18	8.17	746	37	0	0	279	99.6	99
57	630	19	7.63	759	38	1	0.4	280	100	99
58	637	20	7.07	773	40	0	0	280	100	100
59	645	21	6.48	789	41	0	0	280	100	100
60	653	22	5.87	806	44	0	0	280	100	100
61	663	23	5.24	825	46	0	0	280	100	100
62	673	25	4.58	847	49	0	0	280	100	100
63	686	27	3.9	872	53	0	0	280	100	100
64	701	29	3.2	901	59	0	0	280	100	100
65	719	34	2.47	939	67	0	0	280	100	100
66	745	40	1.72	990	80	0	0	280	100	100
67	786	55	0.91	1072	110	0	0	280	100	100

68	853	98	0.29	1206	196	0	0	280	100	100

Grade 6 Hawaiian Language Arts

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	195	103	0.3	-110	206	0	0	0	0	0
1	264	57	0.97	27	114	0	0	0	0	0
2	305	41	1.87	109	82	0	0	0	0	0
3	329	34	2.73	158	68	0	0	0	0	0
4	347	30	3.55	194	60	0	0	0	0	0
5	361	27	4.33	223	54	1	0.4	1	0.4	1
6	373	25	5.08	247	50	0	0	1	0.4	1
7	384	23	5.8	267	47	2	0.8	3	1.3	1
8	393	22	6.5	286	44	2	0.8	5	2.1	2
9	401	21	7.18	302	42	3	1.3	8	3.3	3
10	408	20	7.84	317	40	4	1.7	12	5	4
11	415	19	8.47	331	39	2	0.8	14	5.9	5
12	422	19	9.08	343	37	6	2.5	20	8.4	7
13	428	18	9.67	355	36	3	1.3	23	9.6	9
14	433	18	10.24	367	35	0	0	23	9.6	10
15	439	17	10.79	377	34	5	2.1	28	11.7	11
16	444	17	11.31	387	33	4	1.7	32	13.4	13
17	449	16	11.81	397	33	6	2.5	38	15.9	15
18	453	16	12.29	407	32	4	1.7	42	17.6	17
19	458	16	12.74	415	31	7	2.9	49	20.5	19
20	462	15	13.17	424	31	1	0.4	50	20.9	21
21	466	15	13.57	433	30	5	2.1	55	23	22
22	470	15	13.95	441	30	9	3.8	64	26.8	25
23	474	15	14.3	449	30	9	3.8	73	30.5	29
24	478	15	14.62	456	29	6	2.5	79	33.1	32
25	482	15	14.91	464	29	11	4.6	90	37.7	35
26	486	14	15.18	471	29	6	2.5	96	40.2	39
27	489	14	15.42	479	29	4	1.7	100	41.8	41
28	493	14	15.63	486	28	8	3.3	108	45.2	44
29	497	14	15.81	493	28	7	2.9	115	48.1	47
30	500	14	15.97	500	28	9	3.8	124	51.9	50
31	504	14	16.09	507	28	12	5	136	56.9	54

32	507	14	16.19	514	28	7	2.9	143	59.8	58
33	511	14	16.26	521	28	4	1.7	147	61.5	61
34	514	14	16.31	528	28	1	0.4	148	61.9	62
35	517	14	16.32	535	28	8	3.3	156	65.3	64
36	521	14	16.31	542	28	7	2.9	163	68.2	67
37	524	14	16.28	549	28	6	2.5	169	70.7	69
38	528	14	16.22	555	28	7	2.9	176	73.6	72
39	531	14	16.13	562	28	6	2.5	182	76.2	75
40	535	14	16.02	569	28	4	1.7	186	77.8	77
41	538	14	15.88	576	28	3	1.3	189	79.1	78
42	542	14	15.72	583	28	4	1.7	193	80.8	80
43	545	14	15.54	591	28	3	1.3	196	82	81
44	549	14	15.33	598	29	6	2.5	202	84.5	83
45	553	14	15.09	605	29	3	1.3	205	85.8	85
46	556	15	14.83	613	29	5	2.1	210	87.9	87
47	560	15	14.55	620	29	3	1.3	213	89.1	88
48	564	15	14.25	628	30	6	2.5	219	91.6	90
49	568	15	13.92	636	30	1	0.4	220	92.1	92
50	572	15	13.58	644	30	1	0.4	221	92.5	92
51	576	15	13.22	653	31	2	0.8	223	93.3	93
52	581	16	12.84	661	31	2	0.8	225	94.1	94
53	585	16	12.45	670	32	2	0.8	227	95	95
54	590	16	12.04	679	32	3	1.3	230	96.2	96
55	594	16	11.62	689	33	0	0	230	96.2	96
56	599	17	11.19	699	34	2	0.8	232	97.1	97
57	604	17	10.76	709	34	3	1.3	235	98.3	98
58	610	17	10.31	720	35	2	0.8	237	99.2	99
59	615	18	9.86	731	36	1	0.4	238	99.6	99
60	621	18	9.4	742	37	0	0	238	99.6	99
61	627	19	8.94	755	38	1	0.4	239	100	99
62	634	19	8.47	767	39	0	0	239	100	100
63	641	20	8	781	40	0	0	239	100	100
64	648	20	7.52	796	41	0	0	239	100	100
65	655	21	7.04	811	42	0	0	239	100	100
66	664	22	6.55	827	44	0	0	239	100	100
67	673	23	6.05	845	46	0	0	239	100	100

68	682	24	5.53	865	48	0	0	239	100	100
69	693	25	5	886	50	0	0	239	100	100
70	705	27	4.44	910	53	0	0	239	100	100
71	718	29	3.85	937	57	0	0	239	100	100
72	734	31	3.22	969	63	0	0	239	100	100
73	754	35	2.53	1008	71	0	0	239	100	100
74	780	42	1.78	1060	84	0	0	239	100	100
75	823	58	0.94	1145	116	0	0	239	100	100
76	893	103	0.29	1285	207	0	0	239	100	100

Grade 7 Hawaiian Language Arts

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	196	111	0.3	-108	222	0	0	0	0	0
1	271	62	0.96	41	123	0	0	0	0	0
2	315	44	1.87	129	89	0	0	0	0	0
3	341	37	2.73	183	73	1	0.5	1	0.5	1
4	361	32	3.56	221	64	1	0.5	2	1.1	1
5	376	29	4.36	252	58	1	0.5	3	1.6	1
6	389	27	5.13	278	53	1	0.5	4	2.1	2
7	400	25	5.86	300	50	2	1.1	6	3.2	3
8	410	24	6.55	319	47	2	1.1	8	4.2	4
9	418	23	7.2	337	45	4	2.1	12	6.3	5
10	426	22	7.81	353	43	3	1.6	15	7.9	7
11	434	21	8.37	368	42	4	2.1	19	10.1	9
12	441	20	8.91	382	41	5	2.6	24	12.7	11
13	448	20	9.41	395	39	5	2.6	29	15.3	14
14	454	19	9.89	408	38	6	3.2	35	18.5	17
15	460	19	10.35	420	38	5	2.6	40	21.2	20
16	466	18	10.79	431	37	8	4.2	48	25.4	23
17	471	18	11.22	442	36	4	2.1	52	27.5	26
18	476	18	11.63	453	36	8	4.2	60	31.7	30
19	481	17	12.02	463	35	4	2.1	64	33.9	33
20	486	17	12.4	473	34	7	3.7	71	37.6	36
21	491	17	12.77	482	34	10	5.3	81	42.9	40
22	496	17	13.12	492	33	5	2.6	86	45.5	44
23	500	17	13.46	501	33	7	3.7	93	49.2	47
24	505	16	13.77	510	33	8	4.2	101	53.4	51
25	509	16	14.07	519	32	11	5.8	112	59.3	56
26	514	16	14.35	527	32	9	4.8	121	64	62
27	518	16	14.61	535	32	9	4.8	130	68.8	66
28	522	16	14.86	544	31	6	3.2	136	72	70
29	526	16	15.08	552	31	6	3.2	142	75.1	74
30	530	15	15.28	560	31	5	2.6	147	77.8	76
31	534	15	15.47	568	31	5	2.6	152	80.4	79

32	538	15	15.64	575	31	3	1.6	155	82	81
33	542	15	15.79	583	30	4	2.1	159	84.1	83
34	545	15	15.92	591	30	3	1.6	162	85.7	85
35	549	15	16.04	598	30	1	0.5	163	86.2	86
36	553	15	16.14	606	30	2	1.1	165	87.3	87
37	557	15	16.22	613	30	3	1.6	168	88.9	88
38	560	15	16.29	621	30	2	1.1	170	89.9	89
39	564	15	16.35	628	30	1	0.5	171	90.5	90
40	568	15	16.39	636	30	2	1.1	173	91.5	91
41	571	15	16.42	643	30	3	1.6	176	93.1	92
42	575	15	16.44	650	30	1	0.5	177	93.7	93
43	579	15	16.44	658	30	1	0.5	178	94.2	94
44	583	15	16.44	665	30	1	0.5	179	94.7	94
45	586	15	16.42	672	30	0	0	179	94.7	95
46	590	15	16.39	680	30	1	0.5	180	95.2	95
47	594	15	16.34	687	30	1	0.5	181	95.8	96
48	597	15	16.27	695	30	2	1.1	183	96.8	96
49	601	15	16.19	702	30	0	0	183	96.8	97
50	605	15	16.08	710	30	2	1.1	185	97.9	97
51	609	15	15.94	717	30	0	0	185	97.9	98
52	612	15	15.77	725	30	2	1.1	187	98.9	98
53	616	15	15.55	732	31	0	0	187	98.9	99
54	620	15	15.29	740	31	0	0	187	98.9	99
55	624	16	14.97	748	31	0	0	187	98.9	99
56	628	16	14.59	757	32	1	0.5	188	99.5	99
57	632	16	14.15	765	32	0	0	188	99.5	99
58	637	16	13.65	774	33	1	0.5	189	100	99
59	641	17	13.09	783	33	0	0	189	100	100
60	646	17	12.47	792	34	0	0	189	100	100
61	651	18	11.82	802	35	0	0	189	100	100
62	656	18	11.13	813	36	0	0	189	100	100
63	662	19	10.42	824	38	0	0	189	100	100
64	668	19	9.7	836	39	0	0	189	100	100
65	674	20	8.98	849	40	0	0	189	100	100
66	681	21	8.27	863	42	0	0	189	100	100
67	689	22	7.57	878	44	0	0	189	100	100

68	698	23	6.88	895	46	0	0	189	100	100
69	707	24	6.19	914	49	0	0	189	100	100
70	717	26	5.51	934	52	0	0	189	100	100
71	729	28	4.81	958	55	0	0	189	100	100
72	743	30	4.11	985	60	0	0	189	100	100
73	759	33	3.38	1017	66	0	0	189	100	100
74	779	37	2.62	1058	75	0	0	189	100	100
75	807	45	1.81	1113	90	0	0	189	100	100
76	852	62	0.95	1204	124	0	0	189	100	100
77	927	111	0.29	1354	223	0	0	189	100	100

Grade 8 Hawaiian Language Arts

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	200	98	0.29	-100	195	0	0	0	0	0
1	268	56	0.89	36	111	0	0	0	0	0
2	310	41	1.65	121	82	0	0	0	0	0
3	337	34	2.35	174	68	2	1.5	2	1.5	1
4	356	30	3.02	213	60	0	0	2	1.5	1
5	372	27	3.67	244	55	0	0	2	1.5	1
6	385	25	4.31	271	51	1	0.7	3	2.2	2
7	397	24	4.94	293	47	2	1.5	5	3.7	3
8	407	22	5.56	313	44	3	2.2	8	5.9	5
9	416	21	6.17	331	42	1	0.7	9	6.7	6
10	424	20	6.78	347	40	1	0.7	10	7.4	7
11	431	19	7.38	362	39	1	0.7	11	8.1	8
12	438	19	7.96	376	37	3	2.2	14	10.4	9
13	444	18	8.53	389	36	3	2.2	17	12.6	11
14	450	17	9.08	401	35	4	3	21	15.6	14
15	456	17	9.61	412	34	4	3	25	18.5	17
16	461	16	10.12	422	33	3	2.2	28	20.7	20
17	466	16	10.6	433	32	1	0.7	29	21.5	21
18	471	16	11.07	442	32	4	3	33	24.4	23
19	476	15	11.51	452	31	5	3.7	38	28.1	26
20	480	15	11.92	460	30	5	3.7	43	31.9	30
21	485	15	12.32	469	30	6	4.4	49	36.3	34
22	489	15	12.69	477	29	3	2.2	52	38.5	37
23	493	15	13.04	486	29	1	0.7	53	39.3	39
24	497	14	13.37	494	29	6	4.4	59	43.7	41
25	501	14	13.69	501	28	6	4.4	65	48.1	46
26	504	14	13.99	509	28	6	4.4	71	52.6	50
27	508	14	14.28	516	28	6	4.4	77	57	55
28	512	14	14.55	524	27	4	3	81	60	59
29	515	14	14.8	531	27	5	3.7	86	63.7	62
30	519	14	15.05	538	27	4	3	90	66.7	65
31	522	13	15.28	545	27	4	3	94	69.6	68

32	526	13	15.49	551	27	3	2.2	97	71.9	71
33	529	13	15.69	558	26	7	5.2	104	77	74
34	532	13	15.87	565	26	4	3	108	80	79
35	536	13	16.02	571	26	1	0.7	109	80.7	80
36	539	13	16.15	578	26	3	2.2	112	83	82
37	542	13	16.24	584	26	3	2.2	115	85.2	84
38	545	13	16.3	591	26	1	0.7	116	85.9	86
39	549	13	16.31	597	26	2	1.5	118	87.4	87
40	552	13	16.27	604	26	3	2.2	121	89.6	89
41	555	13	16.18	610	26	2	1.5	123	91.1	90
42	558	13	16.04	617	26	1	0.7	124	91.9	91
43	562	13	15.84	623	26	0	0	124	91.9	92
44	565	13	15.58	630	27	1	0.7	125	92.6	92
45	568	13	15.27	637	27	1	0.7	126	93.3	93
46	572	14	14.91	644	27	0	0	126	93.3	93
47	575	14	14.51	651	28	1	0.7	127	94.1	94
48	579	14	14.08	658	28	2	1.5	129	95.6	95
49	583	14	13.61	666	28	1	0.7	130	96.3	96
50	587	14	13.12	674	29	2	1.5	132	97.8	97
51	591	15	12.61	682	30	0	0	132	97.8	98
52	595	15	12.09	690	30	0	0	132	97.8	98
53	600	15	11.56	699	31	0	0	132	97.8	98
54	604	16	11.03	708	32	0	0	132	97.8	98
55	609	16	10.5	718	32	1	0.7	133	98.5	98
56	614	17	9.96	728	33	0	0	133	98.5	99
57	620	17	9.42	739	34	0	0	133	98.5	99
58	625	18	8.87	751	35	0	0	133	98.5	99
59	631	18	8.31	763	36	1	0.7	134	99.3	99
60	638	19	7.75	776	38	1	0.7	135	100	99
61	645	20	7.18	790	39	0	0	135	100	100
62	653	20	6.6	805	41	0	0	135	100	100
63	661	21	6.02	822	43	0	0	135	100	100
64	670	23	5.43	840	45	0	0	135	100	100
65	680	24	4.83	861	48	0	0	135	100	100
66	692	26	4.23	884	51	0	0	135	100	100
67	705	28	3.62	911	55	0	0	135	100	100

68	721	30	2.99	942	61	0	0	135	100	100
69	741	34	2.35	982	68	0	0	135	100	100
70	767	41	1.67	1034	81	0	0	135	100	100
71	809	55	0.9	1118	110	0	0	135	100	100
72	876	97	0.29	1252	195	0	0	135	100	100

Grade 4 Science

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	275	81	0.3	95	142	0	0	0	0	0
1	330	45	0.97	190	79	1	0.4	1	0.4	1
2	362	32	1.87	246	57	2	0.9	3	1.3	1
3	382	27	2.71	281	47	3	1.3	6	2.7	2
4	396	24	3.5	306	41	1	0.4	7	3.1	3
5	407	22	4.23	326	38	6	2.7	13	5.8	4
6	417	20	4.91	343	35	7	3.1	20	8.8	7
7	426	19	5.54	358	33	7	3.1	27	11.9	10
8	433	18	6.12	371	31	3	1.3	30	13.3	13
9	440	17	6.66	383	30	4	1.8	34	15	14
10	447	17	7.16	394	29	4	1.8	38	16.8	16
11	453	16	7.61	405	28	6	2.7	44	19.5	18
12	458	16	8.03	414	27	8	3.5	52	23	21
13	464	15	8.4	424	27	1	0.4	53	23.5	23
14	469	15	8.74	433	26	5	2.2	58	25.7	25
15	474	15	9.04	442	26	4	1.8	62	27.4	27
16	479	15	9.3	450	25	4	1.8	66	29.2	28
17	483	14	9.53	458	25	7	3.1	73	32.3	31
18	488	14	9.72	466	25	5	2.2	78	34.5	33
19	492	14	9.88	474	25	6	2.7	84	37.2	36
20	497	14	10.01	482	24	6	2.7	90	39.8	38
21	501	14	10.1	490	24	8	3.5	98	43.4	42
22	506	14	10.17	497	24	4	1.8	102	45.1	44
23	510	14	10.2	505	24	10	4.4	112	49.6	47
24	514	14	10.2	513	24	11	4.9	123	54.4	52
25	519	14	10.17	520	24	6	2.7	129	57.1	56
26	523	14	10.11	528	24	8	3.5	137	60.6	59
27	528	14	10.02	536	24	7	3.1	144	63.7	62
28	532	14	9.91	543	25	8	3.5	152	67.3	65
29	536	14	9.76	551	25	3	1.3	155	68.6	68
30	541	14	9.59	559	25	10	4.4	165	73	71
31	546	14	9.39	567	25	9	4	174	77	75

32	551	15	9.15	576	26	2	0.9	176	77.9	77
33	555	15	8.9	584	26	4	1.8	180	79.6	79
34	561	15	8.61	593	26	8	3.5	188	83.2	81
35	566	15	8.3	602	27	7	3.1	195	86.3	85
36	571	16	7.95	612	27	7	3.1	202	89.4	88
37	577	16	7.58	622	28	4	1.8	206	91.2	90
38	583	17	7.18	632	29	3	1.3	209	92.5	92
39	589	17	6.74	643	30	5	2.2	214	94.7	94
40	596	18	6.26	655	31	4	1.8	218	96.5	96
41	604	18	5.75	668	32	1	0.4	219	96.9	97
42	612	19	5.19	682	34	3	1.3	222	98.2	98
43	621	21	4.59	698	36	1	0.4	223	98.7	98
44	631	22	3.95	716	39	2	0.9	225	99.6	99
45	643	25	3.26	738	43	1	0.4	226	100	99
46	659	28	2.53	765	49	0	0	226	100	100
47	680	33	1.75	801	59	0	0	226	100	100
48	714	46	0.92	861	81	0	0	226	100	100
49	770	82	0.29	959	143	0	0	226	100	100

Grade 8 Science

SCORE	MEASURE	S.E.	INFO	NORMED	S.E.NORMED	FREQ	FREQ%	CUM.FREQ	CUMFREQ%	PERCENTILE
0	221	124	0.3	-59	249	0	0	0	0	0
1	304	69	0.97	108	138	0	0	0	0	0
2	353	49	1.88	206	99	1	0.8	1	0.8	1
3	383	41	2.75	265	82	0	0	1	0.8	1
4	404	36	3.57	308	72	4	3	5	3.8	2
5	421	32	4.36	343	65	4	3	9	6.8	5
6	436	30	5.12	371	60	6	4.5	15	11.3	9
7	448	28	5.86	396	56	8	6	23	17.3	14
8	459	26	6.57	418	53	14	10.5	37	27.8	23
9	469	25	7.26	437	50	5	3.8	42	31.6	30
10	478	24	7.93	455	48	9	6.8	51	38.3	35
11	486	23	8.57	472	46	5	3.8	56	42.1	40
12	494	22	9.19	487	45	6	4.5	62	46.6	44
13	501	22	9.78	501	43	6	4.5	68	51.1	49
14	507	21	10.34	515	42	10	7.5	78	58.6	55
15	514	21	10.86	528	41	9	6.8	87	65.4	62
16	520	20	11.34	540	40	4	3	91	68.4	67
17	526	20	11.79	552	40	3	2.3	94	70.7	70
18	531	19	12.19	563	39	3	2.3	97	72.9	72
19	537	19	12.56	574	38	5	3.8	102	76.7	75
20	542	19	12.9	584	38	9	6.8	111	83.5	80
21	547	19	13.2	595	37	3	2.3	114	85.7	85
22	553	18	13.46	605	37	0	0	114	85.7	86
23	558	18	13.7	615	37	3	2.3	117	88	87
24	562	18	13.91	625	36	3	2.3	120	90.2	89
25	567	18	14.08	635	36	1	0.8	121	91	91
26	572	18	14.23	644	36	0	0	121	91	91
27	577	18	14.34	654	36	4	3	125	94	92
28	582	18	14.43	663	36	0	0	125	94	94
29	586	18	14.47	672	36	1	0.8	126	94.7	94
30	591	18	14.49	682	36	0	0	126	94.7	95
31	596	18	14.47	691	36	2	1.5	128	96.2	95

32	600	18	14.41	701	36	2	1.5	130	97.7	97
33	605	18	14.31	710	36	2	1.5	132	99.2	98
34	610	18	14.17	720	36	1	0.8	133	100	99
35	615	18	14	729	36	0	0	133	100	100
36	619	18	13.79	739	37	0	0	133	100	100
37	624	18	13.56	749	37	0	0	133	100	100
38	629	19	13.29	759	37	0	0	133	100	100
39	635	19	13	769	38	0	0	133	100	100
40	640	19	12.68	780	38	0	0	133	100	100
41	645	19	12.35	791	39	0	0	133	100	100
42	651	20	12	802	39	0	0	133	100	100
43	657	20	11.64	813	40	0	0	133	100	100
44	663	20	11.27	825	40	0	0	133	100	100
45	669	21	10.89	837	41	0	0	133	100	100
46	675	21	10.5	850	42	0	0	133	100	100
47	682	21	10.11	863	43	0	0	133	100	100
48	688	22	9.7	877	44	0	0	133	100	100
49	696	22	9.29	891	45	0	0	133	100	100
50	703	23	8.87	906	46	0	0	133	100	100
51	711	23	8.44	922	47	0	0	133	100	100
52	719	24	7.99	938	48	0	0	133	100	100
53	728	25	7.53	956	49	0	0	133	100	100
54	737	26	7.06	974	51	0	0	133	100	100
55	747	26	6.56	994	53	0	0	133	100	100
56	758	28	6.05	1016	55	0	0	133	100	100
57	770	29	5.52	1039	58	0	0	133	100	100
58	783	30	4.97	1065	61	0	0	133	100	100
59	797	32	4.4	1094	65	0	0	133	100	100
60	814	35	3.79	1127	70	0	0	133	100	100
61	833	38	3.15	1167	76	0	0	133	100	100
62	857	43	2.47	1215	86	0	0	133	100	100
63	890	51	1.73	1280	103	0	0	133	100	100
64	942	71	0.92	1385	141	0	0	133	100	100
65	1028	125	0.29	1556	251	0	0	133	100	100

Appendix H: Differential Item Functioning Statistics

Grade 3 Mathematics, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.01	-3.3518	0.276	M	-0.01	-3.1561	0.2816	-0.195733	0.3943	-0.5	336	0.6199	0.019	0.8904	-0.1771	29	1	@178
F	-0.01	-0.54202	0.1552	M	0.01	-0.62501	0.1747	0.082984	0.2337	0.36	324	0.7227	0.2073	0.6489	0.14924	29	2	@182
F	-0.03	-1.3564	0.1621	M	0.04	-1.7489	0.191	0.392467	0.2505	1.57	317	0.1182	1.5551	0.2124	0.37639	29	3	@206
F	0	2.53133	0.3191	M	0	2.51102	0.3648	0.020311	0.4847	0.04	322	0.9666	0.0033	0.9545	0.12411	29	4	@1303
F	0.02	0.130956	0.1627	M	-0.03	0.398077	0.1946	-0.267121	0.2536	-1.05	314	0.2931	1.1964	0.274	-0.3184	29	5	@225
F	-0.02	-2.6035	0.2129	M	0.03	-3.1562	0.2816	0.552733	0.353	1.57	296	0.1185	1.5117	0.2189	0.56462	29	6	@215
F	0.03	-1.0017	0.1569	M	-0.04	-0.68596	0.1746	-0.315735	0.2347	-1.35	326	0.1795	0.8213	0.3648	-0.2631	29	7	@169
F	-0.01	0.026265	0.1607	M	0.01	-0.05903	0.1817	0.085292	0.2426	0.35	323	0.7253	0.0006	0.9801	0.03352	29	8	@231
F	0.04	0.909126	0.1873	M	-0.06	1.80036	0.283	-0.891237	0.3393	-2.63	271	0.0091	7.394	0.0065	-1.02	29	9	@219
F	0.03	-3.0775	0.2493	M	-0.03	-2.5203	0.229	-0.557208	0.3385	-1.65	342	0.1007	4.0498	0.0442	-0.9221	29	10	@202
F	0	0.377136	0.1685	M	-0.01	0.436002	0.196	-0.058866	0.2584	-0.23	319	0.82	0.003	0.9563	-0.0201	29	11	@221
F	-0.01	3.6348	0.5112	M	0.01	2.98777	0.4388	0.647032	0.6737	0.96	342	0.3376	0.1005	0.7512	0.07019	29	12	@992
F	0	0.465572	0.1712	M	0	0.465572	0.1974	0	0.2613	0	320	1	0.0192	0.8897	0.00011	29	13	@371
F	0.04	-0.33251	0.1567	M	-0.05	0.144399	0.1866	-0.476907	0.2436	-1.96	315	0.0512	2.9586	0.0854	-0.4623	29	14	@173
F	-0.01	1.37921	0.2125	M	0.01	1.20687	0.2354	0.172337	0.3171	0.54	326	0.5872	0.091	0.763	0.16943	29	15	@226
F	0.02	2.00858	0.2493	M	-0.02	2.66836	0.423	-0.659777	0.491	-1.34	250	0.1803	0.7063	0.4007	-0.9793	29	16	@233

F	-0.01	-0.57577	0.1555	M	0.01	-0.65551	0.1747	0.079737	0.2339	0.34	324	0.7334	1.3227	0.2501	0.37058	29	17	@174
F	0.01	2.11307	0.2708	M	-0.01	2.51125	0.3648	-0.398177	0.4543	-0.88	292	0.3815	0.0674	0.7951	-0.234	29	18	@1036
F	-0.03	0.83549	0.1845	M	0.04	0.398066	0.1946	0.437423	0.2682	1.63	332	0.1038	0.3937	0.5304	0.21811	29	19	@210
F	-0.01	-1.0891	0.1583	M	0.02	-1.2417	0.1785	0.152615	0.2386	0.64	323	0.5228	1.3499	0.2453	0.3449	29	20	@207
F	-0.01	-0.45462	0.1559	M	0.01	-0.56393	0.175	0.109307	0.2344	0.47	324	0.6413	0.8677	0.3516	0.29563	29	21	@212
F	-0.03	0.259427	0.1659	M	0.04	-0.12427	0.1804	0.383696	0.2451	1.57	328	0.1184	1.8945	0.1687	0.46641	29	22	@172
F	0.01	-2.5077	0.2076	M	-0.01	-2.3222	0.2168	-0.185556	0.3001	-0.62	333	0.5368	0.0884	0.7662	-0.1596	29	23	@198
F	0.02	0.835458	0.1845	M	-0.02	1.09931	0.2285	-0.263856	0.2937	-0.9	308	0.3697	0.3508	0.5536	-0.2727	29	24	@368
F	0.03	-0.13382	0.1587	M	-0.04	0.250538	0.1897	-0.384362	0.2473	-1.55	314	0.1212	2.5419	0.1109	-0.474	29	25	@191
F	0.03	-0.86673	0.1563	M	-0.03	-0.59457	0.1749	-0.272161	0.2345	-1.16	324	0.2467	2.2616	0.1326	-0.4081	29	26	@193
F	0.03	-2.3434	0.1981	M	-0.03	-1.9377	0.198	-0.40571	0.2801	-1.45	337	0.1485	1.7955	0.1803	-0.4275	29	27	@189
F	0	0.533322	0.1739	M	0	0.533322	0.199	0	0.2643	0	321	1	0	0.9958	-0.0393	29	28	@995
F	0	-0.45458	0.1559	M	0.01	-0.50242	0.1754	0.047841	0.2347	0.2	323	0.8386	0.0011	0.9738	0.04007	29	29	@229
F	0.02	0.343011	0.168	M	-0.02	0.554087	0.2006	-0.211076	0.2616	-0.81	314	0.4204	0.4828	0.4872	-0.2128	29	30	@374
F	0.02	2.0742	0.2178	M	-0.02	2.50837	0.3111	-0.434169	0.3798	-1.14	281	0.2539	0.9707	0.3245	-0.573	29	31	@234
F	0.01	-2.0865	0.1856	M	-0.01	-1.9377	0.198	-0.14878	0.2714	-0.55	330	0.5839	0.024	0.8768	-0.0849	29	32	@184
F	-0.03	-0.15896	0.1584	M	0.03	-0.44067	0.1759	0.28171	0.2367	1.19	325	0.2349	0.4458	0.5044	0.20543	29	33	@186
F	0.03	-0.05776	0.1598	M	-0.04	0.28673	0.1908	-0.344494	0.2489	-1.38	314	0.1673	1.2004	0.2732	-0.3075	29	34	@1035
F	-0.02	-1.5629	0.1674	M	0.02	-1.7856	0.1922	0.222629	0.2549	0.87	320	0.3831	0.687	0.4072	0.26982	29	35	@201
F	-0.01	0.608511	0.176	M	0.01	0.514178	0.199	0.094333	0.2656	0.36	323	0.7227	0	0.9965	0.03972	29	36	@211
F	-0.05	-0.54109	0.1561	M	0.06	-1.0224	0.1758	0.481303	0.2351	2.05	323	0.0414	5.5903	0.0181	0.65536	29	37	@216
F	-0.02	0.599384	0.1762	M	0.02	0.398075	0.1946	0.201309	0.2625	0.77	325	0.4437	0.957	0.3279	0.33416	29	38	@209
F	-0.01	0.477956	0.1723	M	0.01	0.36047	0.1933	0.117487	0.2589	0.45	323	0.6503	0.0056	0.9402	0.02069	29	39	@213
F	0.01	0.008245	0.1613	M	-0.02	0.179397	0.1876	-0.171152	0.2474	-0.69	318	0.4896	0.9021	0.3422	-0.2852	29	40	@224
F	0.02	-0.88258	0.1568	M	-0.02	-0.68592	0.1746	-0.196658	0.2347	-0.84	324	0.4026	0.5884	0.443	-0.2281	29	41	@204
F	-0.01	0.861365	0.1862	M	0.02	0.677958	0.206	0.183407	0.2777	0.66	325	0.5094	0.0005	0.982	0.04543	29	42	@230
F	0	-1.6896	0.1708	M	0	-1.7125	0.1898	0.022937	0.2553	0.09	325	0.9285	0.0175	0.8947	0.07075	29	43	@190

F	0.02	2.5661	0.2429	M	-0.02	3.12544	0.351	-0.559342	0.4269	-1.31	279	0.1912	1.6711	0.1961	-0.753	29	44	@235
F	-0.05	0.034354	0.1618	M	0.07	-0.53311	0.1752	0.567459	0.2385	2.38	328	0.0179	5.7195	0.0168	0.63925	29	45	@180
F	0.03	-1.3923	0.1638	M	-0.03	-1.1156	0.1767	-0.276724	0.241	-1.15	328	0.2516	2.4236	0.1195	-0.4756	29	46	@188
F	0	-0.46925	0.1563	M	0	-0.46925	0.1757	0	0.2351	0	323	1	0.0215	0.8835	0.06988	29	47	@214
F	0.02	-0.19603	0.1584	M	-0.03	0.041474	0.1839	-0.237499	0.2428	-0.98	318	0.3287	0.6419	0.423	-0.2295	29	48	@223
F	-0.06	0.390224	0.1698	M	0.07	-0.25276	0.1782	0.64298	0.2461	2.61	332	0.0094	5.4023	0.0201	0.63208	29	49	@205
F	0.01	1.15911	0.2004	M	-0.01	1.26319	0.2392	-0.104084	0.3121	-0.33	314	0.739	0.0264	0.8709	-0.1051	29	50	@217
F	0	2.10689	0.2709	M	-0.01	2.26836	0.3334	-0.161478	0.4296	-0.38	309	0.7073	0.0215	0.8835	-0.1664	29	51	@1305
F	-0.04	-1.5851	0.1684	M	0.05	-2.1427	0.2073	0.557692	0.267	2.09	309	0.0376	5.9972	0.0143	0.78098	29	52	@187
F	0.02	0.113572	0.1633	M	-0.02	0.323364	0.192	-0.209793	0.252	-0.83	316	0.4058	0.0117	0.9139	-0.0796	29	53	@208
F	-0.01	0.896316	0.1877	M	0.01	0.764452	0.21	0.131863	0.2817	0.47	324	0.64	0.0021	0.9634	-0.0527	29	54	@218
F	-0.02	3.03421	0.3928	M	0.03	1.9688	0.2997	1.065413	0.494	2.16	333	0.0318	1.5392	0.2147	0.80819	29	55	@185

Grade 4 Mathematics, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.01	-1.4289	0.1985	M	-0.01	-1.3668	0.2231	-0.062172	0.2986	-0.21	210	0.8353	0.4198	0.517	-0.3252	27	1	@135
F	0.06	-1.3511	0.1964	M	-0.08	-0.70738	0.2141	-0.643737	0.2905	-2.22	213	0.0278	5.0279	0.0249	-0.7582	27	2	@140
F	-0.03	-0.87381	0.1883	M	0.04	-1.1721	0.2185	0.298337	0.2885	1.03	206	0.3022	1.2071	0.2719	0.40004	27	3	@109
F	0.02	0.170125	0.1974	M	-0.02	0.374455	0.2382	-0.20433	0.3094	-0.66	202	0.5097	0.0047	0.9455	0.0346	27	4	@257
F	-0.05	-0.31073	0.1887	M	0.07	-0.8451	0.2145	0.534375	0.2857	1.87	208	0.0628	2.0137	0.1559	0.5389	27	5	@157
F	0.02	-0.45223	0.1876	M	-0.03	-0.19474	0.2194	-0.257483	0.2887	-0.89	205	0.3735	0.1547	0.6941	-0.2136	27	6	@236
F	-0.02	-0.16707	0.1905	M	0.02	-0.33744	0.2169	0.170375	0.2886	0.59	208	0.5557	0.0391	0.8433	-0.1074	27	7	@170
F	-0.02	0.28893	0.2007	M	0.03	0.052629	0.2259	0.236301	0.3022	0.78	210	0.4351	2.6686	0.1023	0.6204	27	8	@1009
F	0.06	-1.0939	0.1214	M	-0.08	-0.85141	0.1341	-0.242479	0.1809	-1.34	211	0.1816	1.9472	0.1629	-0.4121	27	9	@262
F	0.02	0.131368	0.1964	M	-0.03	0.431854	0.2409	-0.300486	0.3108	-0.97	200	0.3348	2.4931	0.1143	-0.5741	27	10	@238
F	0.03	-1.5494	0.2022	M	-0.04	-1.2201	0.2195	-0.329303	0.2985	-1.1	213	0.2711	0.4233	0.5153	-0.2651	27	11	@268
F	0	0.370471	0.2033	M	0.01	0.31812	0.2357	0.052351	0.3113	0.17	206	0.8666	0	0.9989	0.06188	27	12	@264
F	-0.03	0.540867	0.2096	M	0.04	0.156203	0.2294	0.384664	0.3107	1.24	212	0.2171	1.6344	0.2011	0.48001	27	13	@276
F	0	3.88113	0.717	M	0	3.45529	0.7211	0.425844	1.017	0.42	219	0.6758	0.0009	0.9767	-0.449	27	14	@244
F	0.01	0.248875	0.1995	M	-0.02	0.431848	0.2409	-0.182973	0.3128	-0.58	202	0.5593	1.0636	0.3024	-0.4918	27	15	@166
F	0.03	-0.23924	0.1895	M	-0.04	0.104033	0.2276	-0.343269	0.2961	-1.16	202	0.2477	1.4328	0.2313	-0.4834	27	16	@247
F	-0.01	-0.09442	0.1916	M	0.02	-0.24269	0.2185	0.148274	0.2906	0.51	208	0.6105	0.0192	0.8899	-0.1072	27	17	@171
F	-0.01	-2.0938	0.2266	M	0.01	-2.23	0.2646	0.136203	0.3484	0.39	205	0.6962	0.0579	0.8098	0.2194	27	18	@1005
F	-0.01	0.054757	0.1946	M	0.01	-0.04851	0.2229	0.103271	0.2959	0.35	208	0.7274	0.1175	0.7318	-0.1559	27	19	@254
F	0.01	2.55781	0.3962	M	-0.01	3.03012	0.5943	-0.472306	0.7142	-0.66	174	0.5093	0.0537	0.8167	-0.4543	27	20	@239

F	0.01	-0.16714	0.1905	M	-0.01	-0.09765	0.2217	-0.069493	0.2923	-0.24	206	0.8123	0.0036	0.9519	-0.0762	27	21	@165
F	0.01	-0.62762	0.1872	M	-0.01	-0.52369	0.2148	-0.103928	0.2849	-0.36	207	0.7156	0.0002	0.9875	-0.0423	27	22	@265
F	0	0.676018	0.2153	M	0.01	0.612351	0.2504	0.063668	0.3303	0.19	206	0.8473	0.0802	0.777	0.17775	27	23	@259
F	-0.03	0.370554	0.2033	M	0.04	0.001948	0.2244	0.368606	0.3028	1.22	212	0.2248	0.648	0.4208	0.34488	27	24	@256
F	-0.01	-0.45228	0.1876	M	0.01	-0.56983	0.2145	0.117546	0.285	0.41	208	0.6804	0.6325	0.4264	0.29782	27	25	@250
F	-0.03	0.412185	0.2048	M	0.03	0.104023	0.2276	0.308162	0.3061	1.01	211	0.3152	0.2208	0.6384	0.20779	27	26	@164
F	-0.02	-0.59248	0.1872	M	0.03	-0.84494	0.2145	0.252465	0.2847	0.89	208	0.3762	0.2344	0.6283	0.19149	27	27	@263
F	-0.01	0.630236	0.2133	M	0.01	0.490589	0.2439	0.139647	0.324	0.43	208	0.6669	0.0223	0.8812	0.11511	27	28	@261
F	0.02	0.454411	0.2063	M	-0.03	0.741964	0.2582	-0.287553	0.3305	-0.87	197	0.3853	0.0819	0.7747	-0.1786	27	29	@1006
F	-0.02	0.017268	0.1938	M	0.03	-0.24269	0.2185	0.259959	0.292	0.89	209	0.3744	0.0337	0.8543	0.13132	27	30	@168
F	0.03	-1.7178	0.2084	M	-0.04	-1.3669	0.2231	-0.350928	0.3053	-1.15	214	0.2516	0.8271	0.3631	-0.3399	27	31	@163
F	0	-0.13716	0.191	M	0	-0.13716	0.2205	0	0.2917	0	207	1	0.1964	0.6577	-0.2247	27	32	@103
F	0.02	0.054965	0.1946	M	-0.02	0.263267	0.2334	-0.208302	0.3039	-0.69	202	0.4939	0.0036	0.9524	-0.0924	27	33	@245
F	0.04	-0.69788	0.1873	M	-0.05	-0.29024	0.2176	-0.407644	0.2871	-1.42	206	0.1572	1.9527	0.1623	-0.4588	27	34	@167
F	0	4.58838	1.007	M	0	4.16862	1.01	0.41976	1.426	0.29	219	0.7688	0.125	0.7237	.	27	35	@1010
F	-0.02	-0.31096	0.1887	M	0.02	-0.47738	0.2152	0.16642	0.2862	0.58	208	0.5615	0.0565	0.812	0.1443	27	36	@277
F	-0.03	2.55878	0.3963	M	0.05	1.47127	0.3196	1.08751	0.5091	2.14	224	0.0338	1.1766	0.278	0.81998	27	37	@240
F	0	-0.84126	0.188	M	0	-0.84126	0.2145	0	0.2852	0	208	1	0.7792	0.3774	0.3683	27	38	@154
F	0.03	-1.1258	0.1915	M	-0.04	-0.79914	0.2143	-0.326615	0.2874	-1.14	210	0.2571	0.4885	0.4846	-0.2771	27	39	@271
F	-0.01	0.329357	0.202	M	0.01	0.263	0.2334	0.066356	0.3087	0.21	207	0.83	0.0715	0.7891	-0.1515	27	40	@253
F	-0.02	0.141682	0.1441	M	0.03	0.021747	0.1653	0.119935	0.2193	0.55	207	0.5851	0.7783	0.3777	0.25659	27	41	@375
F	-0.01	-1.2369	0.1937	M	0.01	-1.3172	0.2218	0.080357	0.2944	0.27	208	0.7852	1.2304	0.2673	0.4316	27	42	@267
F	0.01	-2.5588	0.2585	M	-0.01	-2.3757	0.2755	-0.183123	0.3778	-0.48	215	0.6284	0.0576	0.8103	-0.0019	27	43	@242
F	-0.09	0.412308	0.2048	M	0.12	-0.61563	0.2143	1.027933	0.2964	3.47	216	0.0006	11.5264	0.0007	1.1406	27	44	@274
F	0.01	0.722986	0.2175	M	-0.02	0.952999	0.2728	-0.230012	0.3489	-0.66	197	0.5105	0.0037	0.9517	0.05991	27	45	@246
F	0.01	-1.2369	0.1937	M	-0.01	-1.172	0.2185	-0.064906	0.292	-0.22	209	0.8243	0.0797	0.7777	0.1776	27	46	@272
F	0.02	0.170125	0.1974	M	-0.02	0.374455	0.2382	-0.20433	0.3094	-0.66	202	0.5097	0.1586	0.6904	-0.2	27	47	@373

F	0.04	-0.09409	0.1916	M	-0.06	0.431887	0.2409	-0.525976	0.3079	-1.71	197	0.0891	3.8178	0.0507	-0.8284	27	48	@278
F	-0.04	1.02727	0.2338	M	0.05	0.431756	0.2409	0.595515	0.3357	1.77	218	0.0775	3.3379	0.0677	0.7437	27	49	@1007
F	-0.03	-0.31073	0.1887	M	0.04	-0.66153	0.2142	0.350803	0.2854	1.23	209	0.2204	1.2696	0.2598	0.41278	27	50	@377
F	0	0.497195	0.2079	M	-0.01	0.550617	0.247	-0.053422	0.3228	-0.17	203	0.8687	0.0001	0.9928	-0.0704	27	51	@243
F	0.01	-0.76791	0.1875	M	-0.01	-0.70738	0.2141	-0.060529	0.2846	-0.21	208	0.8318	0.1179	0.7313	-0.1809	27	52	@378
F	-0.02	0.819636	0.2222	M	0.02	0.550808	0.247	0.268827	0.3323	0.81	211	0.4194	0.022	0.882	-0.0191	27	53	@241
F	-0.02	2.55797	0.3962	M	0.02	1.95211	0.3795	0.605861	0.5486	1.1	222	0.2707	0.2796	0.5969	0.66355	27	54	@252
F	0.04	-0.66264	0.1872	M	-0.05	-0.24269	0.2185	-0.419955	0.2877	-1.46	206	0.1459	0.5474	0.4594	-0.2716	27	55	@258
F	0.04	-0.48738	0.1874	M	-0.05	-0.09748	0.2217	-0.389905	0.2903	-1.34	204	0.1807	0.3857	0.5346	-0.2587	27	56	@249

Grade 5 Mathematics, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.03	-0.95768	0.1799	M	-0.02	-0.73858	0.1768	-0.219106	0.2522	-0.87	275	0.3857	0.7957	0.3724	-0.306	30	1	@422
F	0	-1.1003	0.1804	M	0	-1.1003	0.1764	0	0.2523	0	275	1	0	0.9953	0.03316	30	2	@1128
F	0.02	-0.11813	0.191	M	-0.02	0.065245	0.1933	-0.183375	0.2717	-0.67	275	0.5003	0.0216	0.8832	-0.0794	30	3	@459
F	0.02	-0.36511	0.1851	M	-0.02	-0.18559	0.1858	-0.179517	0.2622	-0.68	275	0.4942	0.154	0.6948	-0.1422	30	4	@455
F	0.02	0.965095	0.2458	M	-0.02	1.3657	0.2739	-0.400607	0.368	-1.09	274	0.2773	1.5737	0.2097	-0.5754	30	5	@1217
F	0.04	-0.95791	0.1799	M	-0.03	-0.64444	0.1776	-0.313468	0.2528	-1.24	275	0.216	1.1333	0.2871	-0.3272	30	6	@434
F	0.02	0.687218	0.2268	M	-0.01	0.914864	0.2369	-0.227646	0.3279	-0.69	275	0.4881	0.2542	0.6141	-0.2201	30	7	@432
F	0	1.29677	0.2742	M	0	1.29677	0.2671	0	0.3828	0	275	1	0.01	0.9204	0.04556	30	8	@417
F	-0.01	-0.82822	0.18	M	0.01	-0.89407	0.176	0.065848	0.2517	0.26	275	0.7939	0.0055	0.941	-0.0148	30	9	@424
F	-0.01	-1.3849	0.1839	M	0.01	-1.4596	0.1804	0.074633	0.2576	0.29	275	0.7722	0.6747	0.4114	0.25889	30	10	@441
F	0	-0.22324	0.1881	M	0	-0.22324	0.1849	0	0.2638	0	275	1	0.2899	0.5903	-0.1869	30	11	@1136
F	0.06	-0.6328	0.1812	M	-0.05	-0.11589	0.1876	-0.516913	0.2608	-1.98	275	0.0485	3.9911	0.0457	-0.5813	30	12	@431
F	-0.03	1.02673	0.2505	M	0.02	0.65457	0.2203	0.372161	0.3336	1.12	269	0.2656	1.4911	0.222	0.51514	30	13	@1223
F	0	1.22138	0.2292	M	0	1.20106	0.2155	0.020317	0.3146	0.06	273	0.9486	0.006	0.9381	0.04238	30	14	@463
F	0.02	-1.3514	0.1834	M	-0.02	-1.1423	0.1766	-0.209107	0.2546	-0.82	274	0.4121	0.203	0.6523	-0.1733	30	15	@413
F	0.02	0.069775	0.197	M	-0.02	0.258908	0.2006	-0.189133	0.2812	-0.67	275	0.5017	0.0002	0.9877	0.03679	30	16	@442
F	-0.02	0.148526	0.1999	M	0.02	-0.0805	0.1886	0.229029	0.2749	0.83	273	0.4054	0.1845	0.6675	0.17608	30	17	@450
F	0	0.435579	0.2132	M	0	0.435579	0.2081	0	0.2979	0	275	1	0.0021	0.9638	0.07357	30	18	@1202
F	-0.02	-0.56689	0.1819	M	0.02	-0.76978	0.1766	0.202896	0.2535	0.8	275	0.4242	1.3716	0.2415	0.4042	30	19	@1130
F	0.17	-0.42002	0.0837	M	-0.16	-0.05274	0.0981	-0.367279	0.129	-2.85	271	0.0047	6.6513	0.0099	-0.816	30	20	@414

F	-0.02	0.491951	0.2156	M	0.02	0.258903	0.2006	0.233049	0.2945	0.79	273	0.4294	0.121	0.7279	0.14099	30	21	@444
F	0.05	-2.1803	0.2105	M	-0.05	-1.6591	0.1846	-0.521169	0.28	-1.86	269	0.0638	3.06	0.0802	-0.5628	30	22	@460
F	-0.01	0.793102	0.2336	M	0.01	0.606683	0.2175	0.186419	0.3192	0.58	273	0.5596	0.01	0.9204	0.09249	30	23	@1232
F	-0.02	2.84098	0.513	M	0.02	1.80229	0.3215	1.038692	0.6054	1.72	226	0.0876	2.3519	0.1251	1.5882	30	24	@420
F	-0.02	0.636514	0.2237	M	0.02	0.38289	0.2061	0.253624	0.3042	0.83	272	0.4051	0.048	0.8266	0.11554	30	25	@462
F	0.01	0.229482	0.2032	M	-0.01	0.299256	0.2023	-0.069774	0.2867	-0.24	275	0.8079	0.0272	0.869	-0.0921	30	26	@436
F	0.04	0.636396	0.2237	M	-0.04	1.29275	0.2671	-0.656358	0.3484	-1.88	270	0.0606	1.505	0.2199	-0.5831	30	27	@1229
F	-0.03	0.06978	0.197	M	0.03	-0.25398	0.1841	0.323764	0.2696	1.2	273	0.2309	0.8327	0.3615	0.28767	30	28	@439
F	0.03	0.687158	0.2267	M	-0.03	1.22297	0.2609	-0.535811	0.3457	-1.55	272	0.1223	1.8381	0.1752	-0.5372	30	29	@440
F	-0.07	0.188843	0.2015	M	0.06	-0.45272	0.1801	0.641567	0.2703	2.37	270	0.0183	4.5364	0.0332	0.64293	30	30	@415
F	0	0.048239	0.1957	M	0	0.048239	0.1933	0	0.275	0	275	1	0.0049	0.944	0.02096	30	31	@429
F	-0.02	0.271388	0.205	M	0.02	0.028129	0.192	0.243258	0.2809	0.87	273	0.3872	1.071	0.3007	0.36744	30	32	@445
F	-0.03	0.636537	0.2237	M	0.03	0.218962	0.199	0.417575	0.2994	1.39	270	0.1642	0.5331	0.4653	0.34323	30	33	@412
F	0.04	-0.2259	0.1881	M	-0.04	0.219	0.199	-0.444898	0.2739	-1.62	275	0.1054	1.3587	0.2438	-0.4014	30	34	@426
F	-0.09	0.229828	0.2032	M	0.08	-0.61284	0.1779	0.842664	0.2701	3.12	269	0.002	7.5333	0.0061	0.8254	30	35	@448
F	0.01	-1.1198	0.1806	M	-0.01	-1.0179	0.1761	-0.101925	0.2522	-0.4	275	0.6865	0.0791	0.7785	-0.1033	30	36	@421
F	0.01	-0.46692	0.1833	M	-0.01	-0.42022	0.1807	-0.046701	0.2574	-0.18	275	0.8562	0.0757	0.7832	-0.1064	30	37	@446
F	0.03	1.01065	0.2007	M	-0.03	1.47338	0.2541	-0.46273	0.3238	-1.43	265	0.1542	3.6974	0.0545	-1.073	30	38	@1093
F	0.01	0.587118	0.2208	M	-0.01	0.754224	0.2262	-0.167106	0.3161	-0.53	275	0.5975	0.1226	0.7263	-0.182	30	39	@443
F	0	-0.1352	0.191	M	0	-0.1352	0.1867	0	0.2671	0	275	1	0.0161	0.8989	-0.0766	30	40	@454
F	0.02	-0.36511	0.1851	M	-0.02	-0.18559	0.1858	-0.179517	0.2622	-0.68	275	0.4942	0.3003	0.5837	-0.1775	30	41	@425
F	-0.07	0.401101	0.211	M	0.06	-0.28775	0.1833	0.688851	0.2795	2.46	268	0.0143	4.9936	0.0254	0.67865	30	42	@419
F	-0.01	-0.53376	0.1823	M	0	-0.58117	0.1783	0.047409	0.255	0.19	275	0.8527	0.0752	0.784	0.11416	30	43	@433
F	0	-2.2249	0.2128	M	0	-2.2455	0.2069	0.020551	0.2969	0.07	275	0.9449	0.0643	0.7998	-0.1234	30	44	@458
F	-0.02	-0.59991	0.1815	M	0.02	-0.80092	0.1764	0.201008	0.2531	0.79	275	0.4278	0.6963	0.404	0.26243	30	45	@416
F	-0.01	-0.53393	0.1823	M	0.01	-0.64462	0.1776	0.110696	0.2545	0.43	275	0.664	0.0232	0.879	0.07854	30	46	@456
F	0	1.15718	0.2613	M	0	1.22252	0.2609	-0.065336	0.3692	-0.18	275	0.8597	0.0252	0.8739	-0.0136	30	47	@449

F	0.07	-0.07897	0.1	M	-0.07	0.129028	0.1062	-0.207999	0.1459	-1.43	275	0.155	1.8674	0.1718	-0.3791	30	48	@435
F	-0.05	-0.36511	0.1851	M	0.05	-0.80092	0.1764	0.435807	0.2557	1.7	274	0.0894	2.5295	0.1117	0.44516	30	49	@452
F	-0.02	-0.29607	0.1865	M	0.02	-0.51725	0.1791	0.221185	0.2586	0.86	274	0.3932	1.8482	0.174	0.4854	30	50	@1187
F	-0.05	-0.33072	0.1858	M	0.05	-0.80092	0.1764	0.470195	0.2562	1.84	274	0.0675	2.4858	0.1149	0.48151	30	51	@451
F	0	0.148421	0.1999	M	0	0.102761	0.1946	0.04566	0.279	0.16	275	0.8701	0.3102	0.5776	0.21038	30	52	@1058
F	0	1.4205	0.1632	M	0	1.4205	0.1602	0	0.2287	0	275	1	0.0684	0.7936	-0.0756	30	53	@464
F	0	0.144469	0.1999	M	0	0.144469	0.196	0	0.28	0	275	1	0.0286	0.8657	0.08947	30	54	@437
F	-0.02	-0.39925	0.1845	M	0.02	-0.61285	0.1779	0.213594	0.2563	0.83	274	0.4053	0.0084	0.927	0.05981	30	55	@1121
F	-0.02	1.30081	0.2742	M	0.02	0.914825	0.2369	0.385981	0.3624	1.07	267	0.2878	0.8402	0.3593	0.46962	30	56	@453
F	-0.03	0.401031	0.211	M	0.03	0.065238	0.1933	0.335793	0.2861	1.17	272	0.2416	1.2298	0.2675	0.36863	30	57	@428

Grade 6 Mathematics, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	-0.01	0.27237	0.2211	M	0.01	0.121334	0.2334	0.151036	0.3215	0.47	231	0.639	0.3367	0.5617	0.27136	27	1	@581
F	-0.08	-0.55841	0.1919	M	0.1	-1.3737	0.2023	0.815311	0.2788	2.92	231	0.0038	6.9291	0.0085	0.86211	27	2	@568
F	0.02	-1.0208	0.1864	M	-0.03	-0.80292	0.2036	-0.217858	0.276	-0.79	229	0.4308	2.3039	0.1291	-0.5333	27	3	@579
F	0.02	0.321825	0.2237	M	-0.02	0.613054	0.2657	-0.291229	0.3473	-0.84	221	0.4026	0.6184	0.4316	-0.3739	27	4	@470
F	-0.05	-0.59511	0.1912	M	0.05	-1.0487	0.2015	0.453576	0.2778	1.63	231	0.1039	1.1721	0.279	0.413	27	5	@468
F	0.01	-0.91598	0.187	M	-0.01	-0.84436	0.2031	-0.071616	0.2761	-0.26	229	0.7956	0.0018	0.9662	-0.0643	27	6	@1200
F	0	0.17657	0.2164	M	0	0.121133	0.2334	0.055437	0.3182	0.17	230	0.8619	0.9329	0.3341	0.41857	27	7	@551
F	-0.04	0.372578	0.2265	M	0.05	-0.18505	0.2194	0.557632	0.3154	1.77	235	0.0783	1.3994	0.2368	0.44739	27	8	@480
F	0.11	-0.66098	0.084	M	-0.13	-0.43166	0.0943	-0.229311	0.1263	-1.82	226	0.0708	2.2613	0.1326	-0.4459	27	9	@469
F	-0.01	1.60049	0.3368	M	0.02	1.20803	0.3244	0.392458	0.4676	0.84	235	0.4022	0.0703	0.7909	0.28967	27	10	@585
F	0.01	-0.08905	0.2052	M	-0.02	0.067518	0.2306	-0.156571	0.3087	-0.51	226	0.6125	0.0266	0.8705	0.00665	27	11	@578
F	-0.01	2.16492	0.4243	M	0.02	1.56891	0.3729	0.596005	0.5648	1.06	235	0.2924	1.1575	0.282	1.0888	27	12	@1251
F	0	-0.61411	0.1912	M	0	-0.63499	0.2064	0.02088	0.2814	0.07	229	0.9409	0.01	0.9202	0.01457	27	13	@490
F	0	0.280693	0.2211	M	0	0.280693	0.2431	0	0.3286	0	228	1	0.0085	0.9267	-0.0926	27	14	@1256
F	-0.01	0.433964	0.1334	M	0.02	0.364572	0.1437	0.069391	0.1961	0.35	230	0.7238	0.0077	0.9301	-0.03	27	15	@502
F	-0.06	0.424635	0.2295	M	0.07	-0.27988	0.216	0.704518	0.3152	2.24	235	0.0263	6.2596	0.0124	0.96771	27	16	@484
F	0.13	-0.33224	0.0856	M	-0.15	-0.04786	0.1004	-0.284376	0.132	-2.15	222	0.0322	3.9016	0.0482	-0.6759	27	17	@1131
F	0.04	0.571924	0.1316	M	-0.05	0.834373	0.1843	-0.262449	0.2265	-1.16	201	0.2479	2.7019	0.1002	-0.6876	27	18	@1062
F	0.01	-0.71498	0.19	M	-0.01	-0.63512	0.2064	-0.079858	0.2805	-0.28	228	0.7761	0.1374	0.7109	-0.1825	27	19	@537
F	-0.02	-0.37966	0.1967	M	0.02	-0.549	0.2083	0.169342	0.2865	0.59	230	0.555	0.0019	0.9654	0.06793	27	20	@567

F	-0.01	1.38612	0.3114	M	0.01	1.20807	0.3244	0.178053	0.4496	0.4	231	0.6925	0.3563	0.5506	0.39608	27	21	@577
F	-0.02	-0.67869	0.1905	M	0.02	-0.88545	0.2027	0.206762	0.2782	0.74	230	0.458	0.2372	0.6262	0.20786	27	22	@1142
F	0.01	0.169364	0.2167	M	-0.01	0.291366	0.2431	-0.122001	0.3256	-0.37	226	0.7083	0.994	0.3188	-0.4033	27	23	@487
F	0.03	0.032512	0.2106	M	-0.03	0.413354	0.251	-0.380841	0.3276	-1.16	220	0.2463	0.2351	0.6278	-0.2396	27	24	@580
F	0.01	-0.569	0.1924	M	-0.01	-0.46178	0.2104	-0.107217	0.2852	-0.38	228	0.7073	0.2578	0.6116	-0.2025	27	25	@526
F	0.04	-0.05473	0.2071	M	-0.04	0.413388	0.251	-0.468118	0.3254	-1.44	218	0.1517	1.6618	0.1974	-0.5523	27	26	@1253
F	0.02	0.583085	0.24	M	-0.03	1.01229	0.3024	-0.42921	0.3861	-1.11	214	0.2675	0.1704	0.6798	-0.2839	27	27	@534
F	-0.02	1.99296	0.3954	M	0.02	1.31744	0.3379	0.675515	0.5201	1.3	233	0.1953	0.2743	0.6005	0.44554	27	28	@1225
F	0.03	-0.41817	0.1958	M	-0.03	-0.1364	0.2214	-0.281775	0.2955	-0.95	225	0.3413	0.0728	0.7873	-0.1592	27	29	@520
F	0.02	1.22046	0.184	M	-0.02	1.38189	0.203	-0.161429	0.2739	-0.59	227	0.5563	0.1121	0.7378	-0.1182	27	30	@472
F	-0.02	-1.4376	0.1876	M	0.02	-1.6227	0.2056	0.185088	0.2783	0.67	228	0.5066	0.2361	0.6271	0.19202	27	31	@535
F	-0.01	-2.282	0.2096	M	0.01	-2.4217	0.2335	0.139681	0.3138	0.45	227	0.6566	0.0124	0.9114	0.10971	27	32	@571
F	-0.03	-0.08905	0.2052	M	0.03	-0.37175	0.213	0.282699	0.2958	0.96	232	0.3401	0.0022	0.9624	0.04889	27	33	@553
F	0.01	-1.0206	0.1864	M	-0.02	-0.88567	0.2027	-0.13489	0.2753	-0.49	229	0.6247	0.0003	0.9871	-0.0549	27	34	@563
F	0	-0.94038	0.1867	M	0	-0.94038	0.2023	0	0.2753	0	229	1	0.0007	0.9784	0.04335	27	35	@550
F	0	-0.59439	0.1912	M	0	-0.59439	0.2073	0	0.282	0	229	1	0.0607	0.8053	0.13436	27	36	@515
F	0.04	-0.8105	0.188	M	-0.05	-0.41682	0.2117	-0.393689	0.2831	-1.39	226	0.1657	1.2037	0.2726	-0.3761	27	37	@509
F	-0.07	-0.29235	0.1985	M	0.08	-0.96731	0.202	0.674962	0.2832	2.38	233	0.0179	5.976	0.0145	0.82734	27	38	@495
F	0.01	-0.08905	0.2052	M	-0.02	0.067518	0.2306	-0.156571	0.3087	-0.51	226	0.6125	0.9876	0.3203	-0.409	27	39	@574
F	-0.02	0.040309	0.2103	M	0.03	-0.23275	0.2177	0.273057	0.3026	0.9	232	0.3679	0.9121	0.3396	0.39742	27	40	@478
F	-0.01	1.29763	0.3008	M	0.01	1.0122	0.3024	0.28543	0.4265	0.67	234	0.504	0.0042	0.9484	0.15416	27	41	@575
F	0.01	-0.00794	0.1194	M	-0.01	-0.00794	0.1335	0	0.1791	0	227	1	0.0088	0.9254	0.03415	27	42	@491
F	0.02	0.073	0.2126	M	-0.02	0.291372	0.2431	-0.218371	0.3229	-0.68	224	0.4996	0.0302	0.862	-0.1188	27	43	@512
F	0	0.692212	0.2484	M	0	0.692212	0.2715	0	0.368	0	228	1	0.3473	0.5557	-0.3413	27	44	@521
F	0.01	-0.82726	0.1886	M	-0.01	-0.71975	0.2049	-0.107511	0.2785	-0.39	228	0.6998	0.1317	0.7167	-0.1567	27	45	@1101
F	-0.03	-0.05907	0.2072	M	0.04	-0.41684	0.2117	0.357773	0.2962	1.21	232	0.2283	0.4665	0.4946	0.27107	27	46	@572
F	-0.04	1.38309	0.3115	M	0.05	0.543502	0.2603	0.839585	0.4059	2.07	232	0.0397	2.6975	0.1005	0.85694	27	47	@476

F	0.01	-0.61034	0.1918	M	-0.02	-0.46137	0.2104	-0.148969	0.2847	-0.52	228	0.6013	0.0023	0.9621	-0.0755	27	48	@1203
F	0	1.8411	0.372	M	0	1.71658	0.396	0.124529	0.5433	0.23	230	0.8189	0.7479	0.3871	0.93003	27	49	@524
F	-0.02	-0.38423	0.1968	M	0.03	-0.63495	0.2064	0.250721	0.2852	0.88	231	0.3802	0.0022	0.9625	0.0368	27	50	@514
F	0.02	-0.79145	0.1891	M	-0.02	-0.59217	0.2073	-0.199285	0.2806	-0.71	228	0.4782	0.3352	0.5626	-0.2388	27	51	@1063
F	-0.02	1.11836	0.2836	M	0.02	0.760598	0.278	0.357764	0.3972	0.9	234	0.3686	1.3491	0.2454	0.79213	27	52	@570
F	0.02	0.261133	0.2215	M	-0.02	0.54391	0.2603	-0.282777	0.3418	-0.83	222	0.4089	0.004	0.9498	0.04926	27	53	@545
F	0	-0.25129	0.2001	M	0	-0.25129	0.2177	0	0.2957	0	228	1	0.882	0.3476	-0.3796	27	54	@517
F	0.03	0.522324	0.2364	M	-0.04	1.10691	0.3126	-0.584587	0.392	-1.49	208	0.1374	1.1548	0.2826	-0.5333	27	55	@466
F	-0.01	2.353	0.462	M	0.02	1.71643	0.396	0.636571	0.6085	1.05	233	0.2966	0.5392	0.4628	0.62413	27	56	@482
F	-0.05	-1.2134	0.187	M	0.06	-1.7079	0.2073	0.494594	0.2791	1.77	227	0.0778	4.1584	0.0414	0.6977	27	57	@1254

Grade 7 Mathematics, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	-0.03	-1.7326	0.2133	M	0.03	-1.9904	0.2149	0.257771	0.3028	0.85	186	0.3957	0.5447	0.4605	0.3063	17	1	@616
F	0.02	-1.2024	0.1404	M	-0.02	-1.122	0.1452	-0.080382	0.202	-0.4	186	0.6912	0.8169	0.3661	-0.3165	17	2	@562
F	0.01	-1.1793	0.2185	M	-0.01	-1.0466	0.2266	-0.132648	0.3148	-0.42	186	0.6739	0.0052	0.9427	-0.0423	17	3	@533
F	0.02	1.02738	0.2594	M	-0.02	1.35203	0.3186	-0.324653	0.4108	-0.79	178	0.4304	0.695	0.4045	-0.4187	17	4	@467
F	0	1.71044	0.5171	M	0.01	1.45258	0.5149	0.257858	0.7298	0.35	186	0.7242	2.6636	0.1027	.	17	5	@471
F	-0.04	0.947882	0.3776	M	0.04	0.134055	0.3047	0.813827	0.4852	1.68	180	0.0952	1.744	0.1866	0.79314	17	6	@543
F	0.02	-0.04126	0.2715	M	-0.02	0.230227	0.3149	-0.271486	0.4158	-0.65	182	0.5146	0.0848	0.7709	-0.2455	17	7	@474
F	0.05	-1.2264	0.2176	M	-0.05	-0.77814	0.2376	-0.448217	0.3221	-1.39	185	0.1658	0.806	0.3693	-0.4037	17	8	@565
F	0.01	0.112635	0.2837	M	-0.01	0.333018	0.3266	-0.220384	0.4326	-0.51	182	0.611	0.222	0.6375	0.38038	17	9	@522
F	0.03	-1.2264	0.2176	M	-0.03	-0.94222	0.2304	-0.284136	0.3169	-0.9	185	0.3711	0.5266	0.468	-0.3232	17	10	@489
F	0	-0.77786	0.2304	M	0	-0.77786	0.2376	0	0.3309	0	186	1	0.0168	0.8969	0.10665	17	11	@540
F	-0.03	-1.413	0.2147	M	0.04	-1.7154	0.2141	0.30233	0.3033	1	186	0.3201	0.2303	0.6313	0.22382	17	12	@523
F	0.04	-0.25036	0.257	M	-0.04	0.444215	0.3401	-0.694574	0.4263	-1.63	172	0.1051	0.6119	0.4341	-0.576	17	13	@527
F	-0.05	-1.3668	0.2153	M	0.05	-1.807	0.214	0.440197	0.3036	1.45	186	0.1487	1.1002	0.2942	0.40093	17	14	@1241
F	-0.04	0.2821	0.2988	M	0.04	-0.34327	0.2634	0.625366	0.3983	1.57	184	0.1181	0.6085	0.4354	0.48114	17	15	@1244
F	-0.02	4.34207	1.837	M	0.02	1.45046	0.5145	2.891607	1.907	1.52	108	0.1325	0.6183	0.4317	.	17	16	@1264
F	-0.06	-0.28168	0.2572	M	0.06	-0.94227	0.2304	0.660596	0.3453	1.91	184	0.0573	4.115	0.0425	0.87758	17	17	@1259
F	0.01	-1.7233	0.2141	M	-0.01	-1.6695	0.2143	-0.053858	0.3029	-0.18	185	0.8591	0.0013	0.9709	0.06564	17	18	@1065
F	-0.01	-0.25074	0.257	M	0.01	-0.34384	0.2633	0.093104	0.368	0.25	186	0.8005	0.2503	0.6168	0.3068	17	19	@475
F	-0.01	-0.61497	0.2372	M	0.01	-0.72106	0.2404	0.106091	0.3377	0.31	186	0.7537	0.0026	0.9593	-0.0895	17	20	@564

F	0.01	-1.0334	0.222	M	-0.02	-0.88863	0.2326	-0.144763	0.3216	-0.45	186	0.6531	0.0108	0.9173	0.02731	17	21	@505
F	-0.03	0.471709	0.3179	M	0.03	-0.04101	0.2878	0.512721	0.4288	1.2	185	0.2334	0.0258	0.8725	0.04032	17	22	@516
F	-0.04	-1.5052	0.2139	M	0.05	-1.8989	0.2143	0.393682	0.3028	1.3	186	0.1951	1.4243	0.2327	0.45084	17	23	@508
F	0.04	0.471107	0.3178	M	-0.04	1.75679	0.5907	-1.28568	0.6707	-1.92	141	0.0573	2.0765	0.1496	-1.197	17	24	@525
F	0	2.43838	0.7193	M	0	2.17597	0.7177	0.262413	1.016	0.26	186	0.7965	0.0025	0.9598	0.65291	17	25	@1066
F	-0.04	0.195192	0.2908	M	0.04	-0.34323	0.2634	0.538426	0.3924	1.37	185	0.1716	0.0176	0.8945	0.12708	17	26	@488
F	-0.05	0.576626	0.3295	M	0.05	-0.19893	0.2744	0.77556	0.4288	1.81	182	0.0721	1.6134	0.204	0.70196	17	27	@477
F	0.02	-0.88259	0.2266	M	-0.02	-0.66255	0.2434	-0.220039	0.3326	-0.66	185	0.509	0.772	0.3796	-0.4246	17	28	@494
F	-0.01	-0.11844	0.2664	M	0.01	-0.1993	0.2743	0.080862	0.3824	0.21	185	0.8328	0.1104	0.7397	-0.2093	17	29	@506
F	0.03	-0.77824	0.2303	M	-0.03	-0.47705	0.2543	-0.301192	0.3431	-0.88	184	0.3812	0.3963	0.529	-0.3135	17	30	@496
F	0	2.43836	0.7193	M	0	2.88419	1.007	-0.445829	1.238	-0.36	167	0.7192	0.0368	0.8479	-0.8769	17	31	@538
F	0.04	-0.04138	0.2715	M	-0.04	0.698502	0.3748	-0.73988	0.4628	-1.6	168	0.1118	0.2998	0.584	-0.4866	17	32	@479
F	0.06	-0.37861	0.2493	M	-0.07	0.699086	0.3749	-1.0777	0.4502	-2.39	160	0.0178	8.4983	0.0036	-1.583	17	33	@483
F	0.09	-0.8827	0.2266	M	-0.09	0.23097	0.315	-1.11367	0.388	-2.87	168	0.0046	6.9178	0.0085	-1.09	17	34	@559
F	-0.05	0.034122	0.2773	M	0.05	-0.60257	0.2467	0.636695	0.3712	1.72	185	0.0879	0.2499	0.6172	0.30473	17	35	@486
F	-0.03	0.195141	0.2908	M	0.03	-0.19878	0.2744	0.393922	0.3998	0.99	186	0.3258	0.2522	0.6156	0.28651	17	36	@1234
F	0	2.43836	0.7193	M	0	2.88419	1.007	-0.445829	1.238	-0.36	167	0.7192	1.5313	0.2159	.	17	37	@1247
F	0	-0.65465	0.1566	M	0	-0.65465	0.1654	0	0.2278	0	186	1	0.0141	0.9054	-0.0482	17	38	@481
F	0.01	1.09841	0.4004	M	-0.02	1.75557	0.5903	-0.657161	0.7133	-0.92	162	0.3583	0.0428	0.8361	0.62889	17	39	@519
F	-0.04	-0.37834	0.2493	M	0.04	-0.79461	0.2382	0.416275	0.3448	1.21	185	0.2289	0.9204	0.3374	0.51375	17	40	@498
F	0.03	-1.0334	0.222	M	-0.03	-0.73721	0.241	-0.296185	0.3276	-0.9	184	0.3672	0.0991	0.7529	-0.1855	17	41	@485
F	0.01	0.281957	0.2987	M	-0.01	0.431567	0.3404	-0.149609	0.4529	-0.33	181	0.7415	0.0811	0.7758	-0.2912	17	42	@1237
F	0.02	0.99685	0.3661	M	-0.02	2.22596	0.9553	-1.22911	1.023	-1.2	117	0.232	0.7	0.4028	.	17	43	@555
F	-0.02	-0.98379	0.2234	M	0.02	-1.1664	0.2241	0.182648	0.3165	0.58	185	0.5645	0.0735	0.7862	0.14333	17	44	@557
F	0.01	1.71041	0.5171	M	-0.01	2.16527	0.7178	-0.454865	0.8847	-0.51	166	0.6078	0.1446	0.7037	0.1394	17	45	@552
F	0.05	-1.5505	0.2136	M	-0.05	-1.0646	0.2273	-0.485967	0.3119	-1.56	184	0.121	0.7963	0.3722	-0.3747	17	46	@536
F	-0.06	-0.3152	0.253	M	0.07	-1.0126	0.2291	0.697367	0.3413	2.04	184	0.0425	2.0353	0.1537	0.57873	17	47	@549

F	0.03	-1.1308	0.2196	M	-0.04	-0.79459	0.2382	-0.33626	0.3239	-1.04	184	0.3006	0.0014	0.9706	-0.0526	17	48	@541
F	-0.02	1.4702	0.4664	M	0.02	0.686019	0.375	0.784182	0.5984	1.31	179	0.1918	0.8729	0.3502	0.93198	17	49	@501
F	0.02	0.105201	0.1955	M	-0.01	0.254335	0.2761	-0.149134	0.3383	-0.44	165	0.6599	0.0259	0.8722	-0.1105	17	50	@547
F	-0.01	4.3654	1.831	M	0.01	2.87398	1.008	1.49142	2.09	0.71	147	0.4766	0.125	0.7237	.	17	51	@513
F	0.01	-0.9838	0.2234	M	-0.01	-0.85071	0.2356	-0.13309	0.3247	-0.41	184	0.6824	0.0402	0.8412	-0.1344	17	52	@503
F	0	2.01553	0.5922	M	0	1.74446	0.5905	0.271062	0.8363	0.32	185	0.7462	0.5897	0.4425	1.3926	17	53	@1252
F	0.01	-0.88287	0.2266	M	-0.01	-0.79499	0.2382	-0.087878	0.3287	-0.27	185	0.7895	0.375	0.5403	-0.2695	17	54	@493
F	-0.02	0.034019	0.2773	M	0.02	-0.28676	0.2691	0.320774	0.3864	0.83	185	0.4075	2.1401	0.1435	0.90374	17	55	@561
F	0.01	-0.04125	0.2715	M	-0.01	0.12117	0.3051	-0.162423	0.4084	-0.4	182	0.6913	0.4278	0.5131	-0.4236	17	56	@492
F	0	-0.19659	0.2614	M	0	-0.19659	0.2748	0	0.3793	0	185	1	1.121	0.2897	-0.5536	17	58	@511

Grade 8 Mathematics, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.01	-0.03094	0.2964	M	-0.01	0.122848	0.3568	-0.153786	0.4638	-0.33	122	0.7408	0.044	0.8338	0.24919	18	1	@602
F	0	-0.92338	0.2527	M	0	-0.92338	0.282	0	0.3787	0	126	1	0.0044	0.9473	0.0577	18	2	@594
F	-0.01	-0.43152	0.2716	M	0.02	-0.60679	0.2977	0.175269	0.403	0.43	127	0.6644	0.0267	0.8701	-0.1797	18	3	@593
F	0.01	-0.17459	0.2018	M	-0.01	-0.12623	0.2351	-0.048359	0.3098	-0.16	124	0.8762	0.289	0.5909	0.24868	18	4	@583
F	0	-0.11593	0.2904	M	0	-0.11593	0.3335	0	0.4422	0	125	1	0.0189	0.8906	-0.1867	18	5	@544
F	0	-0.11593	0.2904	M	0	-0.11593	0.3335	0	0.4422	0	125	1	0.0248	0.8749	-0.0379	18	6	@604
F	0	0.469436	0.3406	M	0	0.399476	0.3895	0.06996	0.5174	0.14	125	0.8927	0.0064	0.936	0.20391	18	7	@597
F	-0.04	-0.03091	0.2964	M	0.04	-0.51663	0.3031	0.485723	0.424	1.15	130	0.254	0.468	0.4939	0.47369	18	8	@1236
F	0	-0.34304	0.2756	M	0	-0.34304	0.3162	0	0.4195	0	125	1	0.1558	0.693	-0.3333	18	9	@569
F	-0.02	-0.43152	0.2716	M	0.03	-0.694	0.293	0.262481	0.3995	0.66	128	0.5124	0.0583	0.8093	0.18733	18	10	@1230
F	0.03	0.230934	0.2405	M	-0.04	0.675319	0.3915	-0.444385	0.4595	-0.97	100	0.3358	0.7813	0.3768	-0.7904	18	11	@1135
F	0	0.469436	0.3406	M	0	0.399476	0.3895	0.06996	0.5174	0.14	125	0.8927	0.0861	0.7692	0.01058	18	12	@590
F	-0.02	0.590152	0.3537	M	0.03	0.122769	0.3567	0.467384	0.5024	0.93	131	0.3539	0.1555	0.6933	0.39161	18	13	@573
F	-0.04	-0.97201	0.251	M	0.05	-1.3966	0.2709	0.424626	0.3693	1.15	128	0.2523	0.0447	0.8325	0.14823	18	14	@596
F	-0.07	1.6583	0.5251	M	0.09	-0.11459	0.3335	1.772884	0.622	2.85	121	0.0051	5.5531	0.0184	1.5795	18	15	@615
F	-0.01	0.251563	0.3194	M	0.01	0.122844	0.3568	0.128719	0.4788	0.27	126	0.7885	0.0157	0.9004	-0.0946	18	16	@531
F	-0.02	0.252438	0.3195	M	0.02	0.000114	0.3442	0.252324	0.4696	0.54	128	0.592	0.1606	0.6887	0.33534	18	17	@601
F	-0.02	-2.1248	0.252	M	0.02	-2.2879	0.2815	0.16308	0.3778	0.43	126	0.6668	0.0008	0.977	0.07904	18	18	@618
F	0.01	0.332235	0.257	M	-0.02	0.542001	0.3743	-0.209766	0.4541	-0.46	108	0.6451	0.8851	0.3468	-1.139	18	19	@1138
F	-0.01	2.40343	0.7254	M	0.01	1.94392	0.7252	0.459514	1.026	0.45	131	0.6549	0.0062	0.937	-0.734	18	20	@620

F	-0.02	-0.43152	0.2716	M	0.03	-0.694	0.293	0.262481	0.3995	0.66	128	0.5124	0.0306	0.8611	0.15516	18	21	@607
F	0	-0.34304	0.2756	M	0	-0.34304	0.3162	0	0.4195	0	125	1	0.0036	0.9519	-0.0747	18	22	@1270
F	0	0.058732	0.3032	M	0	0.122449	0.3567	-0.063717	0.4682	-0.14	123	0.892	0.0744	0.7851	-0.0017	18	23	@1273
F	-0.02	0.86357	0.3876	M	0.03	0.399942	0.3896	0.463628	0.5495	0.84	131	0.4004	0.018	0.8932	0.09019	18	24	@576
F	0.03	-1.2185	0.246	M	-0.03	-0.94139	0.282	-0.277143	0.3743	-0.74	125	0.4604	0.1152	0.7343	-0.252	18	25	@1269
F	0.03	1.08295	0.3054	M	-0.04	1.79944	0.5088	-0.716496	0.5934	-1.21	98	0.2302	0.1478	0.7006	-0.2447	18	26	@582
F	0	1.96117	0.5994	M	0	1.96117	0.7252	0	0.9408	0	121	1	0.1822	0.6695	-0.0726	18	27	@548
F	-0.01	-0.43178	0.2716	M	0.01	-0.51706	0.3031	0.085277	0.407	0.21	126	0.8344	0.0113	0.9152	-0.119	18	28	@598
F	0	0.140248	0.3108	M	0	0.140248	0.3567	0	0.4732	0	125	1	0.0124	0.9112	-0.0715	18	29	@617
F	-0.02	1.97212	0.5995	M	0.02	1.19849	0.5254	0.773637	0.7971	0.97	132	0.3336	0.1355	0.7128	1.269	18	30	@591
F	0.01	0.389802	0.1877	M	0	0.389802	0.2407	0	0.3052	0	117	1	0.0298	0.8629	0.08833	18	31	@613
F	-0.03	-1.2789	0.2453	M	0.04	-1.6153	0.2695	0.336423	0.3644	0.92	127	0.3576	0.453	0.5009	0.3699	18	32	@592
F	0.01	-0.71274	0.2591	M	-0.01	-0.60744	0.2977	-0.105295	0.3947	-0.27	125	0.7901	0.0302	0.862	-0.0178	18	33	@621
F	0.02	0.720536	0.3691	M	-0.02	1.19893	0.5255	-0.478391	0.6422	-0.74	110	0.4579	0.0789	0.7788	-0.4511	18	34	@1218
F	0	-0.34304	0.2756	M	0	-0.34304	0.3162	0	0.4195	0	125	1	0.0267	0.8702	0.1663	18	35	@529
F	0.03	-0.90862	0.2527	M	-0.03	-0.60678	0.2977	-0.301833	0.3905	-0.77	123	0.441	0.0152	0.9019	-0.1502	18	36	@1141
F	0.01	-0.43193	0.2716	M	-0.01	-0.32598	0.3161	-0.105951	0.4168	-0.25	124	0.7998	0.0226	0.8805	-0.049	18	37	@584
F	-0.04	0.058984	0.3032	M	0.05	-0.51666	0.3031	0.575646	0.4287	1.34	131	0.1817	1.3727	0.2414	0.83389	18	38	@566
F	-0.03	1.65887	0.5252	M	0.03	0.740303	0.4393	0.918569	0.6847	1.34	132	0.182	2.3229	0.1275	1.9833	18	39	@1268
F	0.03	-0.90862	0.2527	M	-0.03	-0.60678	0.2977	-0.301833	0.3905	-0.77	123	0.441	0.9017	0.3423	-0.4577	18	40	@1228
F	0.02	1.40921	0.4749	M	-0.02	2.66446	1.014	-1.25525	1.119	-1.12	84	0.2653	0.2645	0.607	-1.286	18	41	@588
F	0.03	-0.35668	0.2756	M	-0.04	0.122929	0.3568	-0.479612	0.4508	-1.06	117	0.2896	0.1101	0.7401	-0.4211	18	42	@612
F	0.01	1.97177	0.5994	M	-0.01	2.66321	1.013	-0.69144	1.177	-0.59	97	0.5583	0.1239	0.7248	-1.242	18	43	@542
F	0.03	-0.43153	0.2716	M	-0.04	0.00018	0.3442	-0.431713	0.4385	-0.98	118	0.3268	0.5414	0.4619	-0.6255	18	44	@1274
F	0.08	-2.0617	0.2503	M	-0.1	-1.2487	0.2733	-0.813025	0.3706	-2.19	127	0.0301	3.4998	0.0614	-0.7827	18	45	@600
F	-0.01	-1.5176	0.2438	M	0.01	-1.6153	0.2695	0.097706	0.3634	0.27	127	0.7885	0.0366	0.8482	0.00504	18	46	@614
F	0	-0.42782	0.2716	M	0	-0.42782	0.3092	0	0.4116	0	125	1	0.0407	0.8402	-0.0048	18	47	@586

F	0.04	-1.3986	0.2442	M	-0.05	-1.0201	0.2793	-0.37846	0.371	-1.02	125	0.3096	0.6427	0.4227	-0.4147	18	48	@608
F	0	-0.95867	0.251	M	0	-0.95867	0.282	0	0.3775	0	126	1	0.0152	0.9018	0.02712	18	49	@611
F	-0.05	0.059016	0.3032	M	0.06	-0.6069	0.2977	0.665919	0.4249	1.57	131	0.1195	1.1829	0.2768	0.56637	18	50	@556
F	-0.01	-0.57572	0.2647	M	0.01	-0.6948	0.293	0.119083	0.3949	0.3	127	0.7635	0.0118	0.9136	0.12854	18	51	@532
F	0.03	-0.97201	0.251	M	-0.04	-0.60678	0.2977	-0.365237	0.3894	-0.94	123	0.3501	0.0002	0.9879	-0.0775	18	52	@530
F	-0.01	1.20177	0.4382	M	0.01	0.949483	0.4756	0.252285	0.6468	0.39	128	0.6971	0.0706	0.7904	0.4674	18	53	@603
F	0	0.140248	0.3108	M	0	0.140248	0.3567	0	0.4732	0	125	1	0.0001	0.9939	0.2033	18	54	@599
F	0.04	-1.1578	0.247	M	-0.05	-0.69398	0.293	-0.463793	0.3832	-1.21	123	0.2285	0.2623	0.6085	-0.2652	18	55	@589
F	0.01	3.1232	1.013	M	-0.01	3.88517	1.833	-0.761974	2.094	-0.36	93	0.7168	0.3333	0.5637	.	18	56	@1140

Grade 3 Hawaiian Language Arts, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.03	-2.3463	0.2205	M	-0.04	-1.8473	0.1972	-0.498959	0.2958	-1.69	341	0.0925	1.7358	0.1877	-0.4675	40	1	@93
F	0	0.009047	0.1578	M	0	0.009047	0.1844	0	0.2427	0	318	1	0.3832	0.5359	0.22825	40	2	@101
F	0.03	-0.31626	0.1573	M	-0.03	-0.02191	0.1838	-0.29435	0.2419	-1.22	318	0.2246	0.0011	0.9735	-0.0278	40	3	@381
F	-0.04	0.005523	0.1578	M	0.05	-0.41447	0.1787	0.419997	0.2384	1.76	323	0.0791	3.6709	0.0554	0.58152	40	4	@108
F	0	-2.0407	0.2016	M	0	-2.0407	0.2052	0	0.2877	0	335	1	0.0132	0.9085	0.08231	40	5	@94
F	0	-0.37204	0.1575	M	0	-0.35045	0.1792	-0.021586	0.2386	-0.09	322	0.928	0.0076	0.9303	0.05927	40	6	@99
F	-0.04	-0.29155	0.1572	M	0.06	-0.7626	0.1777	0.47105	0.2372	1.99	323	0.0479	4.3731	0.0365	0.65392	40	7	@89
F	0	0.386994	0.1618	M	-0.01	0.442312	0.1954	-0.055318	0.2537	-0.22	312	0.8275	0.4489	0.5029	0.24805	40	8	@1026
F	0.01	-1.5342	0.1792	M	-0.01	-1.4463	0.1857	-0.087847	0.2581	-0.34	334	0.7338	0.0904	0.7637	0.13414	40	9	@84
F	0	0.154226	0.1589	M	0	0.154226	0.1874	0	0.2457	0	316	1	0.0001	0.9927	0.04241	40	10	@88
F	0.03	-2.7304	0.2503	M	-0.03	-2.1792	0.2112	-0.551217	0.3274	-1.68	341	0.0932	1.2098	0.2714	-0.4477	40	11	@90
F	-0.03	-1.8798	0.1936	M	0.04	-2.4663	0.227	0.586456	0.2983	1.97	317	0.0502	4.5273	0.0334	0.78666	40	12	@91
F	0.03	0.601133	0.1656	M	-0.04	0.991272	0.2177	-0.390139	0.2736	-1.43	297	0.1549	1.6957	0.1929	-0.4294	40	13	@87
F	0.03	-0.54012	0.1584	M	-0.03	-0.25353	0.1803	-0.286598	0.24	-1.19	322	0.2332	0.0021	0.9637	-0.0258	40	14	@92
F	-0.03	1.0715	0.1786	M	0.04	0.599261	0.2008	0.472241	0.2687	1.76	324	0.0798	2.02	0.1552	0.45295	40	15	@1023
F	0.01	0.334772	0.161	M	-0.01	0.442475	0.1954	-0.107704	0.2532	-0.43	311	0.6709	0.0007	0.9789	-0.028	40	16	@95
F	-0.02	-0.14332	0.1573	M	0.02	-0.31825	0.1795	0.17493	0.2387	0.73	321	0.4641	1.2756	0.2587	0.33321	40	17	@97
F	0.02	0.684333	0.1675	M	-0.02	0.898376	0.2132	-0.214043	0.2711	-0.79	303	0.4305	0.0162	0.8988	-0.0775	40	18	@96
F	0	-0.49771	0.158	M	0	-0.49771	0.1781	0	0.2381	0	323	1	0.0053	0.9417	-0.0496	40	19	@107
F	0.04	1.03967	0.1775	M	-0.05	1.80449	0.2722	-0.76482	0.325	-2.35	268	0.0193	0.9525	0.3291	-0.4664	40	20	@104

F	-0.04	-0.59041	0.1588	M	0.05	-1.0166	0.179	0.426242	0.2393	1.78	323	0.0758	1.0138	0.314	0.28729	40	21	@383
F	0.02	-0.89976	0.1628	M	-0.02	-0.73092	0.1776	-0.168838	0.2409	-0.7	328	0.4839	0.2154	0.6425	-0.1549	40	22	@161
F	0.03	-1.2018	0.1691	M	-0.03	-0.88913	0.1781	-0.312688	0.2456	-1.27	332	0.2039	0.8344	0.361	-0.2811	40	23	@162
F	-0.03	1.56788	0.2	M	0.04	1.03895	0.2202	0.528926	0.2975	1.78	327	0.0763	2.9216	0.0874	0.53844	40	24	@1025
F	-0.02	0.387048	0.1618	M	0.03	0.115197	0.1866	0.271851	0.247	1.1	320	0.2718	0.3951	0.5296	0.20852	40	25	@110
F	0.01	1.73517	0.2094	M	-0.02	2.04469	0.2946	-0.309518	0.3614	-0.86	284	0.3925	0.6634	0.4154	-0.3785	40	26	@113
F	-0.01	0.704349	0.0909	M	0.01	0.704349	0.1166	0	0.1479	0	302	1	0.0142	0.9052	0.03182	40	27	@1024
F	0.03	-1.1733	0.1684	M	-0.03	-0.88913	0.1781	-0.284201	0.2451	-1.16	331	0.2472	1.7395	0.1872	-0.3842	40	28	@117
F	0.04	0.90199	0.1178	M	-0.05	1.18742	0.1632	-0.285434	0.2013	-1.42	287	0.1573	1.4828	0.2233	-0.3787	40	29	@1020
F	0.01	0.005481	0.1578	M	-0.01	0.08033	0.1858	-0.074849	0.2438	-0.31	317	0.759	0.0054	0.9413	-0.0126	40	30	@114
F	0.02	2.02083	0.2281	M	-0.03	2.69785	0.3751	-0.677015	0.439	-1.54	255	0.1243	0.9972	0.318	-0.5862	40	31	@112
F	-0.05	0.360951	0.1614	M	0.07	-0.25353	0.1803	0.614481	0.242	2.54	324	0.0116	0.0061	0.9377	0.0434	40	32	@1022
F	0	-0.06903	0.1575	M	0.01	-0.12237	0.1821	0.053345	0.2407	0.22	319	0.8248	0.4899	0.484	-0.198	40	33	@119
F	0	1.98195	0.1674	M	-0.01	2.05375	0.2265	-0.071798	0.2817	-0.25	292	0.799	0.1966	0.6575	-0.1675	40	34	@379
F	-0.03	0.232103	0.1597	M	0.04	-0.12229	0.1821	0.354389	0.2422	1.46	322	0.1444	0.0519	0.8198	-0.0911	40	35	@130
F	-0.01	-0.64079	0.1593	M	0.01	-0.76259	0.1777	0.1218	0.2386	0.51	325	0.6101	0.0781	0.7798	0.11074	40	36	@125
F	0	0.964552	0.1755	M	0	0.94421	0.2154	0.020342	0.2779	0.07	309	0.9417	0.7717	0.3797	-0.3311	40	37	@143
F	-0.04	0.080468	0.1583	M	0.05	-0.31825	0.1795	0.398719	0.2394	1.67	322	0.0968	1.077	0.2994	0.28879	40	38	@123
F	0.06	-0.64099	0.1593	M	-0.07	-0.02191	0.1838	-0.619086	0.2432	-2.55	320	0.0114	3.7602	0.0525	-0.5418	40	39	@137
F	0	3.15557	0.3483	M	-0.01	3.45288	0.5155	-0.297307	0.6221	-0.48	274	0.6331	0.0228	0.8799	-0.1679	40	40	@127
F	-0.04	0.360945	0.1614	M	0.05	-0.08904	0.1826	0.449985	0.2437	1.85	323	0.0658	0.6696	0.4132	0.2513	40	41	@158
F	0.01	-1.0892	0.1665	M	-0.01	-0.95247	0.1785	-0.136759	0.2441	-0.56	330	0.5757	0.168	0.6819	-0.1318	40	42	@1021
F	-0.03	-0.79487	0.1611	M	0.04	-1.1458	0.1804	0.350956	0.2419	1.45	324	0.1478	0.2757	0.5995	0.16301	40	43	@384
F	-0.01	0.413284	0.1622	M	0.02	0.256956	0.19	0.156328	0.2498	0.63	317	0.5319	0.0014	0.9698	0.02822	40	44	@156
F	0.03	-1.7705	0.1886	M	-0.03	-1.4122	0.1849	-0.358235	0.2642	-1.36	338	0.176	0.0569	0.8115	-0.1154	40	45	@150
F	0.01	1.39071	0.1355	M	-0.02	1.50859	0.1753	-0.117872	0.2216	-0.53	300	0.5952	0.0027	0.9585	0.01497	40	46	@138
F	0	-1.2047	0.1691	M	0	-1.2047	0.1813	0	0.248	0	330	1	0.9811	0.3219	0.37379	40	47	@145

F	0	-0.70473	0.1604	M	0	-0.70473	0.1776	0	0.2393	0	325	1	0.177	0.674	-0.1304	40	48	@152
F	0.01	-0.65989	0.1598	M	-0.01	-0.57326	0.1778	-0.086629	0.2391	-0.36	324	0.7174	0.1694	0.6806	-0.1339	40	49	@122
F	0.03	-1.5302	0.1794	M	-0.04	-1.1784	0.1809	-0.351796	0.2548	-1.38	335	0.1682	1.1785	0.2777	-0.321	40	50	@141
F	-0.02	0.588542	0.1659	M	0.03	0.293243	0.191	0.2953	0.253	1.17	320	0.244	1.1632	0.2808	0.33472	40	51	@155
F	-0.03	1.02865	0.1778	M	0.04	0.55924	0.1994	0.469415	0.2671	1.76	323	0.0798	0.5721	0.4494	0.2373	40	52	@159
F	0	0.692965	0.1684	M	0	0.692965	0.2039	0	0.2645	0	311	1	0.3212	0.5709	-0.1903	40	53	@134
F	0.02	1.84055	0.2179	M	-0.02	2.33232	0.3262	-0.49177	0.3923	-1.25	272	0.2111	0.9255	0.336	-0.4515	40	54	@139
F	0.02	0.494252	0.0741	M	-0.02	0.519583	0.0864	-0.02533	0.1139	-0.22	308	0.8241	0.2429	0.6221	-0.1159	39	55	@394

Grade 4 Hawaiian Language Arts, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	-0.05	-0.86687	0.2121	M	0.07	-1.6258	0.2625	0.758956	0.3375	2.25	199	0.0256	4.369	0.0366	0.95392	31	1	@18
F	0.02	-1.9195	0.2697	M	-0.03	-1.4915	0.2551	-0.427989	0.3712	-1.15	223	0.2502	0.0006	0.9803	-0.1397	31	2	@389
F	0	0.225454	0.1931	M	0	0.248125	0.2234	-0.022671	0.2953	-0.08	207	0.9389	0.0008	0.9776	-0.044	31	3	@21
F	0	-1.8478	0.2642	M	-0.01	-1.7674	0.2713	-0.080354	0.3787	-0.21	218	0.8321	0	0.9967	0.11017	31	4	@7
F	-0.01	-1.0528	0.2191	M	0.02	-1.2435	0.2436	0.190699	0.3277	0.58	211	0.5612	2.0039	0.1569	0.61205	31	5	@12
F	0.06	-2.6446	0.3424	M	-0.08	-1.4274	0.2519	-1.21728	0.4251	-2.86	219	0.0046	0.7858	0.3754	-0.7434	31	6	@64
F	0.04	-1.1506	0.2233	M	-0.06	-0.59228	0.2253	-0.558355	0.3172	-1.76	219	0.0797	0.4936	0.4823	-0.444	31	7	@8
F	0.02	0.13312	0.1933	M	-0.03	0.348509	0.2247	-0.215389	0.2964	-0.73	206	0.4683	1.157	0.2821	-0.4503	31	8	@9
F	0	-2.1529	0.2895	M	0	-2.0866	0.2951	-0.066254	0.4134	-0.16	218	0.8728	0.0769	0.7815	0.28049	31	9	@13
F	0.03	1.43891	0.2141	M	-0.04	1.91792	0.3013	-0.479007	0.3697	-1.3	182	0.1967	0.1303	0.7181	-0.2294	31	10	@11
F	0	0.657774	0.1952	M	-0.01	0.713129	0.2327	-0.055354	0.3038	-0.18	203	0.8556	0.1196	0.7295	0.22947	31	11	@1019
F	0.01	-1.5285	0.2428	M	-0.01	-1.3647	0.2489	-0.163797	0.3477	-0.47	218	0.6381	0.0089	0.9248	-0.0623	31	12	@14
F	-0.01	-1.0052	0.2172	M	0.02	-1.1847	0.2413	0.179501	0.3247	0.55	211	0.5809	0.4845	0.4864	-0.3674	31	13	@16
F	0.01	-1.3049	0.2305	M	-0.01	-1.1847	0.2413	-0.120208	0.3337	-0.36	216	0.7191	0.3138	0.5754	-0.4327	31	14	@15
F	0.02	0.506497	0.1939	M	-0.03	0.767792	0.2343	-0.261295	0.3041	-0.86	201	0.3913	2.2209	0.1362	-0.6206	31	15	@17
F	0.02	-1.9939	0.2757	M	-0.03	-1.5575	0.2586	-0.436359	0.378	-1.15	223	0.2496	0.6623	0.4157	-0.5256	31	16	@65
F	0.01	-1.7137	0.2546	M	-0.01	-1.5576	0.2586	-0.156166	0.3629	-0.43	219	0.6674	0.5414	0.4618	0.58503	31	17	@20
F	-0.03	0.619772	0.1948	M	0.04	0.298168	0.224	0.321604	0.2969	1.08	207	0.2799	1.2235	0.2687	0.42012	31	18	@22
F	-0.02	0.581653	0.1945	M	0.02	0.399183	0.2255	0.18247	0.2978	0.61	206	0.5407	0.3252	0.5685	-0.24	31	19	@23
F	-0.04	0.468967	0.1936	M	0.06	0.001176	0.2215	0.467791	0.2942	1.59	208	0.1133	1.2753	0.2588	0.44569	31	20	@30

F	0.05	-0.69185	0.2066	M	-0.06	-0.1458	0.2213	-0.546048	0.3028	-1.8	214	0.0727	0.3221	0.5703	-0.278	31	21	@34
F	-0.01	1.52208	0.1459	M	0.01	1.48864	0.1868	0.033436	0.237	0.14	194	0.888	0.1463	0.7021	0.19062	31	22	@35
F	0.01	0.239116	0.1935	M	-0.02	0.399185	0.2255	-0.16007	0.2972	-0.54	205	0.5907	0.0219	0.8824	-0.0165	31	23	@24
F	0.01	1.57782	0.22	M	-0.02	1.82932	0.2936	-0.251503	0.3668	-0.69	189	0.4938	0.0003	0.9858	-0.1354	31	24	@28
F	0.01	-1.1218	0.2233	M	-0.01	-1.014	0.2353	-0.107822	0.3244	-0.33	215	0.74	0.0189	0.8906	-0.1393	31	25	@39
F	-0.02	0.276758	0.1935	M	0.03	0.001181	0.2215	0.275577	0.2941	0.94	207	0.3499	0.541	0.462	0.30604	31	26	@36
F	-0.05	1.88755	0.2352	M	0.07	1.11414	0.2476	0.773408	0.3415	2.26	215	0.0245	0.0014	0.9706	-0.0973	31	27	@25
F	-0.04	0.351835	0.1936	M	0.05	-0.09683	0.2213	0.44866	0.294	1.53	207	0.1286	0.8705	0.3508	0.4039	31	28	@26
F	-0.01	-0.49514	0.2024	M	0.01	-0.59211	0.2253	0.096973	0.3029	0.32	210	0.7491	0.0418	0.8379	0.15155	31	29	@27
F	-0.03	-0.02448	0.1949	M	0.04	-0.34237	0.2222	0.317889	0.2956	1.08	208	0.2834	0.0539	0.8164	0.1432	31	30	@37
F	0	-1.1765	0.2256	M	0	-1.1765	0.2413	0	0.3303	0	214	1	0.0079	0.929	0.11411	31	31	@38
F	-0.01	-0.06235	0.1953	M	0.02	-0.19478	0.2214	0.132423	0.2952	0.45	208	0.6542	0.0255	0.8731	-0.1055	31	32	@31
F	-0.06	-0.13912	0.1961	M	0.08	-0.79882	0.2294	0.659702	0.3018	2.19	205	0.03	3.895	0.0484	0.74899	31	33	@54
F	-0.01	0.351477	0.1936	M	0.01	0.247938	0.2234	0.103539	0.2956	0.35	206	0.7265	0.319	0.5722	-0.2709	31	34	@40
F	0	0.837377	0.1983	M	0	0.837377	0.2361	0	0.3083	0	203	1	0.0032	0.9552	-0.0393	31	35	@55
F	0	1.02605	0.2015	M	0	1.05394	0.2449	-0.027889	0.3171	-0.09	200	0.93	1.0368	0.3086	-0.4535	31	36	@41
F	0	1.2509	0.2082	M	0	1.2509	0.2538	0	0.3282	0	200	1	1.4212	0.2332	-0.5262	31	37	@56
F	-0.01	1.34608	0.211	M	0.02	1.17675	0.2506	0.169333	0.3276	0.52	203	0.6058	0.0363	0.8489	0.12808	31	38	@57
F	-0.01	1.26102	0.1156	M	0.01	1.26102	0.1422	0	0.1833	0	199	1	0.3774	0.539	-0.2168	31	39	@42
F	-0.01	0.164197	0.1937	M	0.01	0.050153	0.2217	0.114044	0.2944	0.39	207	0.6989	0.1241	0.7247	0.18712	31	40	@387
F	0.04	0.126715	0.1939	M	-0.06	0.606337	0.2299	-0.479622	0.3007	-1.6	203	0.1123	4.3386	0.0373	-0.8297	31	41	@46
F	-0.09	0.577459	0.1948	M	0.12	-0.39186	0.2227	0.969321	0.2959	3.28	207	0.0012	6.3986	0.0114	0.97142	31	42	@47
F	0.02	-1.2237	0.228	M	-0.03	-0.90522	0.2321	-0.318465	0.3254	-0.98	218	0.3288	0.0192	0.8899	-0.1762	31	43	@48
F	-0.01	0.388964	0.1937	M	0.01	0.297993	0.224	0.090971	0.2961	0.31	206	0.759	0.5453	0.4603	0.37015	31	44	@50
F	0.01	-1.3301	0.2334	M	-0.02	-1.127	0.2391	-0.203132	0.3342	-0.61	217	0.5439	1.0988	0.2945	0.60014	31	45	@49
F	0.01	0.501721	0.1942	M	-0.01	0.605938	0.2298	-0.104217	0.3009	-0.35	204	0.7295	0.0013	0.9714	-0.0718	31	46	@51
F	0	0.350547	0.1936	M	0	0.350547	0.2247	0	0.2966	0	206	1	0.4756	0.4904	-0.3172	31	47	@62

F	0	-0.86747	0.2138	M	0	-0.86747	0.2307	0	0.3145	0	213	1	0.4719	0.4921	0.40093	31	48	@60
F	0.01	0.051364	0.1943	M	-0.02	0.198133	0.2228	-0.14677	0.2956	-0.5	207	0.6201	0.3727	0.5416	-0.2659	31	49	@61
F	-0.02	1.4828	0.2161	M	0.03	1.17672	0.2506	0.306082	0.3309	0.93	206	0.356	0.315	0.5746	0.26446	31	50	@63
F	-0.01	0.768896	0.1971	M	0.02	0.606304	0.2299	0.162591	0.3028	0.54	205	0.5918	0.1519	0.6967	0.20856	31	51	@1016
F	0.01	-0.13904	0.1961	M	-0.01	-0.04785	0.2214	-0.091191	0.2957	-0.31	209	0.7581	0.2463	0.6197	-0.2145	31	52	@1015
F	0.07	0.808046	0.1977	M	-0.1	1.91771	0.3013	-1.10967	0.3603	-3.08	172	0.0024	9.1452	0.0025	-1.373	31	53	@1014
F	0	0.746003	0.1965	M	0	0.767723	0.2343	-0.02172	0.3058	-0.07	203	0.9435	0.0959	0.7569	-0.1884	31	54	@1011
F	-0.01	0.886601	0.199	M	0.01	0.767782	0.2343	0.118819	0.3074	0.39	204	0.6995	0.514	0.4734	0.3606	31	55	@1012
F	0	1.41085	0.2126	M	0	1.44177	0.2652	-0.030918	0.3399	-0.09	197	0.9276	0.0564	0.8123	-0.0009	31	56	@1017
F	0.08	0.468888	0.1062	M	-0.11	0.766877	0.1288	-0.29799	0.167	-1.78	201	0.0758	4.1223	0.0423	-0.7187	31	57	@1013
F	-0.05	0.482248	0.0844	M	0.07	0.371828	0.0988	0.110421	0.13	0.85	201	0.3966	3.2998	0.0693	0.5554	31	58	@395

Grade 5 Hawaiian Language Arts, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.01	-0.08354	0.1891	M	0	-0.03495	0.1875	-0.048592	0.2663	-0.18	277	0.8553	0.0815	0.7753	0.13589	36	1	@642
F	0.01	-3.1185	0.327	M	-0.01	-2.8805	0.2568	-0.238002	0.4158	-0.57	258	0.5676	0.0134	0.9078	0.1906	36	2	@644
F	-0.04	-0.54713	0.1896	M	0.04	-0.93168	0.181	0.384549	0.2621	1.47	276	0.1435	0.9098	0.3402	0.32614	36	3	@636
F	-0.06	0.750684	0.2044	M	0.06	0.071776	0.1899	0.678908	0.279	2.43	274	0.0156	1.797	0.1801	0.46537	36	4	@716
F	0	3.54827	0.514	M	0	3.9589	0.7177	-0.410629	0.8828	-0.47	256	0.6422	0.2175	0.6409	-0.0282	36	5	@717
F	-0.03	-0.26145	0.1886	M	0.02	-0.50755	0.1811	0.246103	0.2615	0.94	276	0.3474	0.0105	0.9182	-0.075	36	6	@633
F	0	0.287531	0.193	M	0	0.287531	0.196	0	0.2751	0	277	1	0.6025	0.4376	0.30858	36	7	@723
F	0.03	0.132809	0.1909	M	-0.03	0.412231	0.1998	-0.279423	0.2764	-1.01	277	0.3129	0.0922	0.7614	-0.1406	36	8	@1072
F	-0.04	0.668112	0.2018	M	0.04	0.218843	0.1937	0.449268	0.2798	1.61	276	0.1094	1.3805	0.24	0.37442	36	9	@711
F	0.02	-0.29725	0.1886	M	-0.02	-0.10468	0.1861	-0.192574	0.265	-0.73	277	0.468	0.1185	0.7306	-0.1567	36	10	@690
F	0.01	-2.9194	0.3049	M	-0.01	-2.7537	0.247	-0.165696	0.3924	-0.42	262	0.6732	1.5171	0.2181	-0.6813	36	11	@1074
F	0.04	-0.01187	0.1895	M	-0.04	0.372576	0.1985	-0.384444	0.2744	-1.4	277	0.1624	0.5419	0.4617	-0.3192	36	12	@713
F	0.07	-1.8581	0.2258	M	-0.06	-1.1297	0.1826	-0.728333	0.2904	-2.51	262	0.0127	5.3145	0.0211	-0.916	36	13	@721
F	0.01	-0.08358	0.1891	M	-0.01	0.000211	0.1882	-0.083795	0.2668	-0.31	277	0.7537	2.9033	0.0884	-0.5323	36	14	@726
F	0.01	-0.2972	0.1886	M	-0.01	-0.20777	0.1844	-0.089425	0.2638	-0.34	277	0.7348	2.5828	0.108	-0.4876	36	15	@724
F	0	-0.52663	0.1894	M	0	-0.52663	0.181	0	0.2619	0	276	1	0.6919	0.4055	0.30266	36	16	@725
F	0	-0.59522	0.1899	M	0	-0.59522	0.1806	0	0.2621	0	275	1	0.2767	0.5989	-0.1807	36	17	@627
F	0.1	0.053548	0.1074	M	-0.09	0.373726	0.1118	-0.320178	0.155	-2.07	277	0.0398	5.5081	0.0189	-0.6736	36	18	@722
F	-0.07	0.66819	0.2018	M	0.06	-0.03497	0.1875	0.703158	0.2755	2.55	274	0.0112	2.0035	0.1569	0.46734	36	19	@1215
F	-0.01	-0.19052	0.1887	M	0.01	-0.30909	0.183	0.118568	0.2628	0.45	276	0.6523	1.4461	0.2292	-0.394	36	20	@672

F	-0.05	0.280156	0.193	M	0.05	-0.20764	0.1844	0.487795	0.2669	1.83	276	0.0687	1.3853	0.2392	0.39758	36	21	@1183
F	0.01	0.878537	0.2088	M	-0.01	1.04715	0.2297	-0.168613	0.3105	-0.54	277	0.5875	0.1169	0.7324	0.221	36	22	@681
F	0.01	1.30465	0.2282	M	-0.01	1.39515	0.2535	-0.090501	0.3411	-0.27	276	0.791	0.0069	0.9338	0.04351	36	23	@673
F	0.01	-1.2681	0.2028	M	-0.01	-1.1967	0.1835	-0.071426	0.2734	-0.26	272	0.7941	2.139	0.1436	-0.4524	36	24	@729
F	0.04	0.469765	0.1967	M	-0.03	0.894925	0.2211	-0.425161	0.2959	-1.44	276	0.1519	0.292	0.5889	-0.2565	36	25	@640
F	-0.04	1.4122	0.2344	M	0.04	0.799131	0.2162	0.613069	0.3188	1.92	274	0.0555	1.3101	0.2524	0.45595	36	26	@718
F	0.06	-0.40398	0.1888	M	-0.05	0.14466	0.1917	-0.548638	0.2691	-2.04	277	0.0424	0.5071	0.4764	-0.2725	36	27	@1193
F	0.01	-1.6622	0.2168	M	-0.01	-1.5082	0.1891	-0.154042	0.2877	-0.54	270	0.5927	0.0003	0.9862	-0.0564	36	28	@689
F	0.06	-0.61929	0.1903	M	-0.06	-0.03487	0.1875	-0.584415	0.2671	-2.19	277	0.0295	0.7852	0.3756	-0.3167	36	29	@631
F	-0.04	-0.54713	0.1896	M	0.04	-0.96446	0.1812	0.417328	0.2623	1.59	276	0.1127	2.4231	0.1196	0.54231	36	30	@648
F	-0.05	1.52545	0.2414	M	0.05	0.799021	0.2162	0.72643	0.3241	2.24	272	0.0258	0.7743	0.3789	0.36128	36	31	@1222
F	-0.01	0.024025	0.1898	M	0.01	-0.07015	0.1868	0.094175	0.2663	0.35	277	0.7239	0.0002	0.9894	0.06768	36	32	@629
F	0.02	-0.87694	0.1938	M	-0.02	-0.6709	0.1805	-0.20605	0.2648	-0.78	274	0.4371	0.0867	0.7685	-0.1326	36	33	@728
F	-0.01	1.0126	0.2141	M	0.01	0.894868	0.2211	0.117736	0.3078	0.38	277	0.7024	0.0038	0.9507	0.04083	36	34	@693
F	0.02	2.7978	0.3731	M	-0.02	3.96056	0.7183	-1.16276	0.8094	-1.44	215	0.1523	1.2032	0.2727	-1.14	36	35	@677
F	-0.06	-0.54713	0.1896	M	0.06	-1.1298	0.1826	0.58264	0.2633	2.21	276	0.0277	4.3003	0.0381	0.68499	36	36	@625
F	-0.01	0.750569	0.2044	M	0.01	0.619703	0.2079	0.130866	0.2915	0.45	277	0.6539	0.0563	0.8124	0.13796	36	37	@702
F	-0.07	0.469851	0.1967	M	0.06	-0.20767	0.1844	0.677519	0.2696	2.51	275	0.0126	1.261	0.2615	0.38677	36	38	@730
F	-0.04	-0.69199	0.1911	M	0.03	-1.0303	0.1816	0.338273	0.2636	1.28	275	0.2005	2.6815	0.1015	0.56191	36	39	@709
F	-0.01	-0.72835	0.1915	M	0.01	-0.83367	0.1805	0.105316	0.2632	0.4	275	0.6894	0.7326	0.392	0.32007	36	40	@646
F	0.04	-1.394	0.2067	M	-0.04	-0.99731	0.1814	-0.396697	0.275	-1.44	270	0.1503	0.0008	0.9773	-0.0705	36	41	@696
F	-0.01	0.792623	0.2058	M	0.01	0.649614	0.2102	0.143009	0.2941	0.49	276	0.6272	0.6565	0.4178	0.38406	36	42	@637
F	0.01	0.317182	0.1936	M	-0.01	0.437925	0.2017	-0.120743	0.2796	-0.43	276	0.6662	0.4872	0.4852	0.39394	36	43	@708
F	0.04	0.637376	0.0873	M	-0.03	0.718571	0.0952	-0.081194	0.1292	-0.63	276	0.5302	0.5733	0.449	-0.2776	36	44	@712
F	0	0.1309	0.1909	M	0	0.1309	0.1921	0	0.2709	0	276	1	0.0122	0.912	0.08724	36	45	@720
F	0.03	-0.04774	0.1893	M	-0.03	0.24125	0.1952	-0.288987	0.2719	-1.06	276	0.2888	0.5978	0.4394	-0.3349	36	46	@714
F	-0.04	0.09644	0.1905	M	0.04	-0.25944	0.1844	0.355876	0.2652	1.34	275	0.1807	0.0163	0.8983	-0.007	36	47	@630

F	-0.02	0.967164	0.2122	M	0.02	0.739672	0.2143	0.227492	0.3016	0.75	276	0.4514	1.9485	0.1627	0.60562	36	48	@727
F	0.03	-0.08352	0.1891	M	-0.02	0.165854	0.1931	-0.249377	0.2703	-0.92	276	0.3569	0.0006	0.9808	-0.0548	36	49	@684
F	0	-1.1332	0.1995	M	0	-1.1332	0.1831	0	0.2708	0	273	1	0.0278	0.8676	-0.1066	36	50	@699
F	-0.05	1.64592	0.2496	M	0.04	0.931309	0.2241	0.714606	0.3355	2.13	271	0.0341	2.5246	0.1121	0.78497	36	51	@707
F	-0.01	1.79046	0.1884	M	0.01	1.65268	0.2033	0.137787	0.2772	0.5	276	0.6195	1.2176	0.2698	0.46517	36	52	@706
F	0	-1.3939	0.2067	M	0	-1.4142	0.188	0.020236	0.2794	0.07	272	0.9423	0.3655	0.5454	0.23321	36	53	@626
F	0.07	-1.8076	0.2233	M	-0.06	-1.0872	0.1828	-0.720462	0.2886	-2.5	263	0.0131	3.368	0.0665	-0.6743	36	54	@634
F	0.01	0.242731	0.1924	M	-0.01	0.357701	0.1989	-0.11497	0.2767	-0.42	276	0.6781	0.1847	0.6673	0.296	36	55	@719
F	-0.06	1.77497	0.2593	M	0.06	0.833491	0.2189	0.94148	0.3393	2.77	266	0.0059	4.9859	0.0256	1.0825	36	56	@1208
F	0.1	-0.7374	0.075	M	-0.1	-0.59532	0.0705	-0.142081	0.103	-1.38	270	0.1688	2.3358	0.1264	-0.3892	36	57	@1030

Grade 6 Hawaiian Language Arts, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.02	-1.6785	0.2139	M	-0.02	-1.4806	0.2114	-0.197902	0.3007	-0.66	235	0.5111	0.1728	0.6776	-0.187	35	1	@624
F	0.01	-2.7199	0.2801	M	-0.01	-2.5264	0.2556	-0.193452	0.3792	-0.51	236	0.6104	0.0005	0.9818	-0.0636	35	2	@635
F	0.03	-2.6434	0.2734	M	-0.03	-2.2231	0.238	-0.420278	0.3625	-1.16	236	0.2474	3.2769	0.0703	-0.7564	35	3	@638
F	0.03	-0.50014	0.1911	M	-0.04	-0.15078	0.2132	-0.349362	0.2863	-1.22	228	0.2236	0.9131	0.3393	-0.3599	35	4	@641
F	0	-1.3413	0.2022	M	0	-1.3413	0.2088	0	0.2907	0	234	1	0.0075	0.9311	0.07633	35	5	@704
F	-0.02	-1.0569	0.196	M	0.02	-1.2617	0.2075	0.204776	0.2854	0.72	232	0.4737	0.1744	0.6763	0.1805	35	6	@703
F	0.01	-1.6332	0.2121	M	-0.02	-1.4806	0.2114	-0.152529	0.2995	-0.51	235	0.611	0.6713	0.4126	-0.3312	35	7	@628
F	-0.03	-0.39063	0.1912	M	0.03	-0.6716	0.2051	0.280968	0.2805	1	231	0.3175	0.0234	0.8785	-0.0001	35	8	@645
F	0	2.7339	0.398	M	0	2.66212	0.5141	0.07178	0.6502	0.11	213	0.9122	0.1635	0.686	0.56738	35	9	@660
F	0.01	-0.0197	0.1947	M	-0.01	0.035377	0.2186	-0.055072	0.2927	-0.19	228	0.8509	0.0218	0.8825	-0.1022	35	10	@1171
F	-0.07	0.292444	0.2009	M	0.08	-0.41632	0.2079	0.708763	0.2891	2.45	233	0.015	0.9756	0.3233	0.40009	35	11	@661
F	-0.03	-0.49986	0.1911	M	0.03	-0.79747	0.2046	0.297619	0.28	1.06	231	0.2888	0.973	0.3239	0.36359	35	12	@659
F	0.11	-0.96499	0.1017	M	-0.13	-0.64939	0.1067	-0.315596	0.1474	-2.14	233	0.0333	6.0511	0.0139	-0.6762	35	13	@643
F	0.02	-0.13242	0.1932	M	-0.03	0.132572	0.222	-0.264995	0.2943	-0.9	226	0.3688	0.0414	0.8387	-0.1388	35	14	@665
F	0.01	-0.98054	0.1947	M	-0.01	-0.92304	0.2047	-0.057497	0.2825	-0.2	233	0.8389	0.2587	0.611	0.24436	35	15	@678
F	-0.02	-0.90521	0.1936	M	0.03	-1.1335	0.2059	0.228334	0.2827	0.81	232	0.42	0.3323	0.5643	0.24565	35	16	@652
F	-0.03	0.212469	0.199	M	0.04	-0.15081	0.2132	0.363283	0.2917	1.25	231	0.2142	0.7093	0.3997	0.31525	35	17	@639
F	-0.03	-0.31763	0.1916	M	0.04	-0.6716	0.2051	0.353975	0.2807	1.26	231	0.2085	2.0405	0.1532	0.47858	35	18	@1075
F	0	-0.79551	0.1924	M	0	-0.79551	0.2046	0	0.2809	0	232	1	0.0008	0.9769	-0.0443	35	19	@662
F	0.04	0.030451	0.1032	M	-0.04	0.137477	0.117	-0.107026	0.156	-0.69	227	0.4933	0.0026	0.9589	-0.0156	35	20	@664

F	-0.02	0.018367	0.1953	M	0.02	-0.19603	0.2121	0.2144	0.2883	0.74	230	0.4579	0.933	0.3341	0.37889	35	21	@647
F	0	3.1017	0.4643	M	0	3.38523	0.7172	-0.283533	0.8544	-0.33	190	0.7404	0.3189	0.5723	-0.6891	35	22	@691
F	-0.04	0.373998	0.203	M	0.05	-0.10512	0.2144	0.479119	0.2953	1.62	232	0.1061	4.1518	0.0416	0.7865	35	23	@688
F	0.01	1.41532	0.2521	M	-0.01	1.54728	0.3258	-0.131961	0.412	-0.32	213	0.749	0.0225	0.8809	-0.044	35	24	@687
F	0.01	0.332655	0.2019	M	-0.01	0.445504	0.2357	-0.112849	0.3104	-0.36	224	0.7165	0.121	0.728	-0.1851	35	25	@1309
F	0	1.2922	0.244	M	0	1.34917	0.3039	-0.056978	0.3897	-0.15	217	0.8839	0.0013	0.9707	-0.0946	35	26	@651
F	0	-2.0754	0.2332	M	-0.01	-2.0062	0.228	-0.069153	0.3261	-0.21	236	0.8322	0.0102	0.9197	-0.0344	35	27	@683
F	-0.05	-0.05743	0.1941	M	0.06	-0.54477	0.2062	0.48734	0.2832	1.72	232	0.0866	1.6303	0.2017	0.45736	35	28	@649
F	0.07	-0.01812	0.1061	M	-0.09	0.233815	0.1249	-0.251931	0.1639	-1.54	223	0.1258	0.0282	0.8667	-0.0481	35	29	@1173
F	-0.03	-0.16966	0.1928	M	0.04	-0.50214	0.2067	0.332478	0.2826	1.18	231	0.2407	0.2278	0.6332	0.1993	35	30	@1083
F	0.04	-1.9697	0.2274	M	-0.04	-1.5255	0.2124	-0.444166	0.3112	-1.43	236	0.1548	0.3525	0.5527	-0.2778	35	31	@653
F	-0.09	0.333059	0.2019	M	0.11	-0.67177	0.2051	1.004829	0.2879	3.49	234	0.0006	2.757	0.0968	0.54867	35	32	@682
F	-0.04	2.73545	0.3982	M	0.04	1.54728	0.3258	1.188166	0.5145	2.31	233	0.0218	1.7199	0.1897	0.93074	35	33	@698
F	-0.01	-1.5885	0.2104	M	0.01	-1.71	0.2173	0.121451	0.3025	0.4	234	0.6884	0.101	0.7506	0.16411	35	34	@1172
F	0.01	-0.2807	0.1918	M	-0.01	-0.15079	0.2132	-0.129906	0.2868	-0.45	229	0.651	0.0826	0.7738	0.14294	35	35	@632
F	-0.04	-0.83057	0.1928	M	0.05	-1.2617	0.2075	0.431089	0.2832	1.52	231	0.1293	0.977	0.3229	0.34476	35	36	@657
F	0.11	-0.87713	0.0984	M	-0.13	-0.59275	0.1002	-0.284388	0.1405	-2.02	234	0.0441	2.6358	0.1045	-0.4326	35	37	@680
F	-0.03	0.67593	0.213	M	0.03	0.33689	0.2304	0.33904	0.3138	1.08	231	0.281	1.2236	0.2686	0.46524	35	38	@675
F	-0.01	2.904	0.4269	M	0.02	2.22801	0.4259	0.67599	0.603	1.12	235	0.2634	0.0074	0.9316	0.36881	35	39	@674
F	-0.01	-1.5443	0.2088	M	0.01	-1.6165	0.2147	0.072185	0.2995	0.24	234	0.8097	0	0.9985	-0.0544	35	40	@667
F	0.03	1.84655	0.287	M	-0.03	2.96698	0.5902	-1.12043	0.6563	-1.71	159	0.0897	0.5879	0.4432	-0.9282	35	41	@1170
F	-0.02	0.675924	0.213	M	0.02	0.445491	0.2357	0.230434	0.3177	0.73	229	0.4689	0.0148	0.9032	0.11256	35	42	@692
F	0.03	0.332977	0.2019	M	-0.03	0.679803	0.249	-0.346827	0.3206	-1.08	218	0.2805	0.358	0.5496	-0.2871	35	43	@679
F	0.01	2.58493	0.3749	M	-0.01	3.38564	0.7174	-0.800712	0.8094	-0.99	166	0.324	0.105	0.7459	-0.7924	35	44	@685
F	-0.11	0.134782	0.0897	M	0.13	-0.11234	0.0963	0.247125	0.1316	1.88	231	0.0617	0.4627	0.4963	0.19914	35	45	@666
F	-0.01	2.33073	0.34	M	0.01	1.91088	0.3741	0.419857	0.5055	0.83	229	0.4071	1.8201	0.1773	1.0056	35	46	@701
F	0.03	-1.4586	0.206	M	-0.04	-1.0912	0.2056	-0.367365	0.291	-1.26	235	0.208	0.0203	0.8866	0.01519	35	47	@700

F	-0.02	-0.39062	0.1912	M	0.02	-0.54475	0.2062	0.154136	0.2812	0.55	231	0.5842	0.0176	0.8946	-0.0077	35	48	@697
F	0.01	0.782348	0.1503	M	-0.01	0.803164	0.1824	-0.020816	0.2363	-0.09	220	0.9299	0.0149	0.9027	-0.0431	35	49	@694
F	-0.01	2.90389	0.4269	M	0.01	2.42524	0.4633	0.478645	0.63	0.76	230	0.4482	0.0484	0.8258	-0.0964	35	50	@676
F	0	1.2922	0.244	M	0	1.34917	0.3039	-0.056978	0.3897	-0.15	217	0.8839	0.9082	0.3406	0.57412	35	51	@668
F	0.03	0.415435	0.2042	M	-0.04	0.875469	0.2623	-0.460034	0.3324	-1.38	214	0.1678	0.3825	0.5362	-0.3254	35	52	@650
F	-0.02	0.675927	0.213	M	0.03	0.390581	0.233	0.285345	0.3156	0.9	230	0.3669	0.3447	0.5571	0.30729	35	53	@1169
F	-0.01	0.081139	0.1972	M	0.01	-0.01236	0.2171	0.093503	0.2933	0.32	229	0.7502	0.2436	0.6216	0.1997	35	54	@669
F	0.02	1.68254	0.2735	M	-0.02	2.22856	0.426	-0.546029	0.5062	-1.08	189	0.2821	0.0391	0.8433	0.08241	35	55	@663
F	0.02	-0.29708	0.1926	M	-0.03	-0.0588	0.2157	-0.238279	0.2892	-0.82	227	0.4108	2.7373	0.098	-0.5541	35	56	@656
F	0	-2.0123	0.2306	M	0	-2.0588	0.2302	0.046558	0.3258	0.14	234	0.8865	0.0529	0.8181	-0.1549	35	57	@655
F	0.08	-0.79765	0.073	M	-0.09	-0.68501	0.078	-0.112639	0.1068	-1.05	229	0.2929	1.6103	0.2044	-0.3319	35	58	@1031

Grade 7 Hawaiian Language Arts, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	-0.02	-2.5992	0.2849	M	0.02	-2.875	0.2766	0.275785	0.3971	0.69	186	0.4882	0.046	0.8302	-0.0144	29	1	@1118
F	0	-1.0956	0.2182	M	0	-1.137	0.2218	0.041409	0.3112	0.13	186	0.8943	0.0364	0.8488	-0.1486	29	2	@784
F	0.01	-2.77	0.2999	M	-0.01	-2.657	0.2623	-0.112939	0.3984	-0.28	184	0.7771	0.0079	0.929	-0.1545	29	3	@888
F	-0.03	0.734274	0.2644	M	0.03	0.281253	0.2731	0.453022	0.3801	1.19	186	0.2348	1.1002	0.2942	0.58031	29	4	@883
F	-0.01	-2.2327	0.2585	M	0.01	-2.3977	0.2483	0.164905	0.3584	0.46	186	0.646	0.9501	0.3297	0.59543	29	5	@885
F	0.01	1.40177	0.3205	M	-0.01	1.60002	0.4296	-0.198255	0.536	-0.37	170	0.7119	0.0192	0.8899	-0.1515	29	6	@886
F	-0.01	-1.8635	0.239	M	0.01	-1.9413	0.2311	0.077845	0.3325	0.23	186	0.8151	0.0047	0.9452	0.12758	29	7	@882
F	-0.04	-1.1434	0.2188	M	0.04	-1.4814	0.2226	0.337981	0.3121	1.08	186	0.2803	0.6036	0.4372	0.36042	29	8	@763
F	-0.06	0.665654	0.26	M	0.06	-0.06129	0.2517	0.726946	0.3619	2.01	186	0.046	0.012	0.9128	0.17255	29	9	@762
F	-0.04	-0.08741	0.2267	M	0.04	-0.47132	0.2341	0.383916	0.3259	1.18	186	0.2403	1.0423	0.3073	0.46451	29	10	@1098
F	0	-0.52803	0.2181	M	0	-0.52803	0.2324	0	0.3187	0	185	1	0.6315	0.4268	0.40804	29	11	@1175
F	-0.03	-1.8638	0.239	M	0.03	-2.1614	0.2383	0.297639	0.3375	0.88	186	0.3789	0.5929	0.4413	0.3995	29	12	@871
F	0.08	-2.1034	0.2509	M	-0.09	-1.2353	0.2215	-0.868143	0.3347	-2.59	185	0.0102	5.4172	0.0199	-1.081	29	13	@790
F	0.03	0.41036	0.2458	M	-0.03	0.798661	0.3188	-0.388301	0.4026	-0.96	173	0.3361	0.1092	0.741	-0.2784	29	14	@774
F	0.07	-0.73201	0.1186	M	-0.07	-0.51518	0.1347	-0.216829	0.1795	-1.21	182	0.2286	0.5937	0.441	-0.2767	29	15	@1097
F	0	-0.80091	0.2166	M	0	-0.80091	0.2259	0	0.313	0	186	1	0.0087	0.9256	-0.0403	29	16	@1099
F	0	1.5077	0.332	M	0	1.59876	0.4294	-0.091063	0.5427	-0.17	173	0.8669	0.0001	0.9919	-0.2131	29	17	@1089
F	0	0.353809	0.243	M	0	0.353809	0.2788	0	0.3698	0	182	1	0.5819	0.4456	0.50411	29	18	@892
F	0.03	1.50782	0.332	M	-0.03	2.77205	0.7203	-1.26423	0.7931	-1.59	128	0.1134	1.0897	0.2965	-1.091	29	19	@843
F	-0.01	1.2953	0.3107	M	0.01	1.01727	0.3437	0.278026	0.4633	0.6	183	0.5492	0.9042	0.3417	0.64594	29	20	@1178

F	0.02	-0.30212	0.2227	M	-0.02	-0.12358	0.2485	-0.178536	0.3337	-0.54	182	0.5933	1.1846	0.2764	-0.5666	29	21	@806
F	0.08	0.36948	0.137	M	-0.09	0.881078	0.2313	-0.511598	0.2688	-1.9	148	0.0589	2.4131	0.1203	-0.697	29	22	@878
F	0.11	-0.39871	0.0983	M	-0.12	-0.15821	0.1153	-0.240495	0.1515	-1.59	180	0.1142	2.003	0.157	-0.5372	29	23	@808
F	0	0.348137	0.2435	M	0	0.348137	0.2788	0	0.3702	0	181	1	0.0099	0.9209	0.13824	29	24	@1088
F	-0.02	-1.4143	0.2252	M	0.02	-1.6312	0.2244	0.216881	0.318	0.68	185	0.496	0.2407	0.6237	0.24898	29	25	@769
F	0.02	-0.40049	0.221	M	-0.02	-0.1846	0.2456	-0.215888	0.3303	-0.65	183	0.5142	0.067	0.7957	0.17995	29	26	@803
F	-0.03	-0.73632	0.2179	M	0.03	-1.0384	0.2224	0.302066	0.3114	0.97	185	0.3333	0.8255	0.3636	0.4092	29	27	@877
F	-0.01	0.871086	0.2748	M	0.01	0.700213	0.3087	0.170873	0.4133	0.41	182	0.6798	0.0114	0.9148	0.1676	29	28	@1185
F	-0.01	-0.30235	0.2227	M	0.01	-0.41604	0.236	0.113699	0.3245	0.35	184	0.7264	0.2202	0.6389	-0.2479	29	29	@777
F	0.01	2.20506	0.4314	M	-0.01	2.77008	0.7196	-0.565017	0.8391	-0.67	149	0.5017	0.8864	0.3464	-1.609	29	30	@903
F	0.01	-1.7306	0.2351	M	-0.01	-1.631	0.2244	-0.099613	0.325	-0.31	185	0.7596	0.0483	0.826	-0.1407	29	31	@887
F	0.04	-0.73645	0.2179	M	-0.05	-0.30259	0.2404	-0.433868	0.3245	-1.34	183	0.1828	1.1294	0.2879	-0.4833	29	32	@930
F	0.01	0.656726	0.2604	M	-0.02	0.903859	0.3303	-0.247133	0.4206	-0.59	174	0.5576	0.0234	0.8785	0.1988	29	33	@880
F	0.07	-0.67539	0.1092	M	-0.07	-0.51129	0.1196	-0.164097	0.162	-1.01	183	0.3123	1.3619	0.2432	-0.3884	29	34	@1096
F	-0.08	-0.0998	0.2274	M	0.08	-0.88899	0.2242	0.789184	0.3193	2.47	185	0.0144	9.8138	0.0017	1.3705	29	35	@875
F	0.03	-0.30212	0.2227	M	-0.04	0.069393	0.2591	-0.371514	0.3417	-1.09	180	0.2783	2.7334	0.0983	-0.7704	29	36	@811
F	0.01	2.64892	0.519	M	-0.02	4.70008	1.833	-2.05116	1.905	-1.08	105	0.2841	0.0125	0.911	.	29	37	@869
F	-0.07	0.400713	0.2464	M	0.08	-0.4163	0.236	0.817015	0.3412	2.39	185	0.0176	0.0163	0.8985	0.11832	29	38	@879
F	0.03	-0.64131	0.2183	M	-0.04	-0.3026	0.2404	-0.338708	0.3247	-1.04	183	0.2983	0.2728	0.6015	-0.2996	29	39	@897
F	-0.03	0.340611	0.2435	M	0.04	-0.06107	0.2517	0.401684	0.3503	1.15	185	0.2529	1.8872	0.1695	0.80705	29	40	@1182
F	-0.09	0.400792	0.2464	M	0.09	-0.57971	0.2308	0.980506	0.3376	2.9	185	0.0041	6.2941	0.0121	1.0452	29	41	@891
F	0.02	1.20148	0.3018	M	-0.02	1.80046	0.4668	-0.598977	0.5559	-1.08	156	0.2829	0.0129	0.9095	-0.1671	29	42	@874
F	0	1.20126	0.3018	M	0	1.27576	0.378	-0.074498	0.4837	-0.15	175	0.8778	0.0116	0.9141	0.10036	29	43	@1179
F	0.01	1.87843	0.3801	M	-0.01	2.34676	0.5926	-0.46833	0.704	-0.67	155	0.5069	0.0006	0.9806	-0.7112	29	44	@870
F	-0.02	1.06075	0.1715	M	0.02	0.894085	0.2447	0.166667	0.2988	0.56	164	0.5778	0.8735	0.35	0.72736	29	45	@872
F	0.01	0.728735	0.1444	M	0	0.728735	0.186	0	0.2355	0	173	1	0.0152	0.9019	0.05599	29	46	@889
F	-0.03	-1.2643	0.222	M	0.03	-1.5679	0.2246	0.303605	0.3159	0.96	184	0.3377	0.0005	0.982	-0.059	29	47	@829

F	-0.01	0.50681	0.2535	M	0.01	0.41334	0.2855	0.09347	0.3818	0.24	180	0.8069	0.0202	0.8871	-0.2008	29	48	@839
F	-0.04	0.204846	0.2392	M	0.04	-0.26997	0.2435	0.474821	0.3413	1.39	183	0.1659	3.1541	0.0757	0.85299	29	49	@899
F	-0.03	0.932185	0.2811	M	0.04	0.414026	0.2855	0.51816	0.4007	1.29	183	0.1975	0.018	0.8932	-0.0445	29	50	@876
F	-0.03	0.425378	0.1766	M	0.03	0.237198	0.1925	0.18818	0.2612	0.72	181	0.4722	1.9449	0.1631	0.59202	29	51	@770
F	-0.02	0.78041	0.2701	M	0.03	0.414109	0.2855	0.366301	0.3931	0.93	182	0.3526	0.9418	0.3318	0.55902	29	52	@834
F	-0.01	1.28055	0.3112	M	0.01	0.996202	0.3441	0.28435	0.4639	0.61	181	0.5407	0.0209	0.885	-0.2081	29	53	@884
F	0	0.431208	0.2501	M	0	0.431208	0.2855	0	0.3796	0	179	1	0.0218	0.8826	0.04906	29	54	@902
F	-0.04	0.321643	0.2442	M	0.04	-0.14871	0.2491	0.47035	0.3489	1.35	183	0.1793	0.0181	0.8929	0.04093	29	55	@1104
F	-0.02	2.39497	0.4689	M	0.02	1.57958	0.4298	0.815393	0.6361	1.28	183	0.2015	0.0033	0.954	0.24218	29	56	@822
F	0.13	-1.2449	0.0889	M	-0.14	-1.057	0.0876	-0.187934	0.1249	-1.51	182	0.134	2.4723	0.1159	-0.4871	29	57	@1032

Grade 8 Hawaiian Language Arts, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	0.03	-3.1482	0.4448	M	-0.04	-2.502	0.3376	-0.646276	0.5585	-1.16	129	0.2493	0.0245	0.8756	-0.2712	19	1	@909
F	-0.01	-3.9373	0.6054	M	0.01	-4.3825	0.6194	0.44519	0.8661	0.51	131	0.6081	0.0714	0.7893	.	19	2	@917
F	-0.01	-0.32746	0.25	M	0.01	-0.3903	0.2831	0.06284	0.3777	0.17	126	0.8681	0.0396	0.8423	0.02308	19	3	@894
F	0	0.249429	0.2589	M	-0.01	0.309924	0.314	-0.060495	0.407	-0.15	122	0.8821	0.4602	0.4975	-0.5134	19	4	@867
F	0.02	1.17822	0.3068	M	-0.03	1.70939	0.4781	-0.531166	0.5681	-0.93	104	0.352	0.7157	0.3975	-0.8658	19	5	@913
F	0.02	-3.148	0.4448	M	-0.02	-2.7439	0.3589	-0.404037	0.5715	-0.71	131	0.4808	0.0174	0.8949	-1.224	19	6	@929
F	-0.02	-1.9666	0.3085	M	0.02	-2.1839	0.315	0.217324	0.4409	0.49	131	0.6229	0.2242	0.6359	-0.4429	19	7	@904
F	0.02	-2.2757	0.335	M	-0.02	-1.9926	0.304	-0.283172	0.4524	-0.63	132	0.5324	0.0088	0.9253	0.15645	19	8	@927
F	0	1.08606	0.3	M	0	1.15185	0.3927	-0.065793	0.4942	-0.13	117	0.8943	0	1	0.2318	19	9	@1127
F	-0.04	-0.32716	0.25	M	0.04	-0.70361	0.2776	0.376447	0.3736	1.01	127	0.3155	0.1505	0.698	0.38213	19	10	@855
F	-0.01	-2.3917	0.3465	M	0.02	-2.6193	0.3475	0.227573	0.4907	0.46	131	0.6436	0.5564	0.4557	0.68808	19	11	@1126
F	0.02	-1.9666	0.3085	M	-0.03	-1.6424	0.2889	-0.324157	0.4227	-0.77	132	0.4445	0.01	0.9203	-0.1157	19	12	@848
F	-0.01	4.28509	1.016	M	0.01	3.43155	1.014	0.853541	1.435	0.59	131	0.553	0.125	0.7237	.	19	13	@802
F	0	0.395448	0.2633	M	0	0.395448	0.3208	0	0.415	0	122	1	0.6699	0.4131	0.74242	19	14	@771
F	-0.05	-0.45247	0.2501	M	0.06	-0.9335	0.2765	0.481039	0.3728	1.29	127	0.1993	1.8906	0.1691	0.84534	19	15	@785
F	-0.02	-0.53491	0.1568	M	0.03	-0.62318	0.1761	0.088272	0.2358	0.37	127	0.7088	0.0027	0.9582	0.02469	19	16	@767
F	-0.04	0.182924	0.2571	M	0.04	-0.22735	0.2879	0.410272	0.386	1.06	127	0.2899	0.0405	0.8406	-0.2799	19	17	@914
F	-0.02	-0.70439	0.2523	M	0.03	-0.93367	0.2765	0.229277	0.3743	0.61	128	0.5413	0	1	0.14589	19	18	@921
F	0.1	0.206211	0.1655	M	-0.12	0.731882	0.2133	-0.525671	0.27	-1.95	118	0.0539	0.0215	0.8835	0.08524	19	19	@911
F	0.01	-1.0984	0.2616	M	-0.01	-1.0099	0.2767	-0.088449	0.3808	-0.23	129	0.8167	0.0902	0.7639	0.31412	19	20	@833

F	0.01	-0.2023	0.2507	M	-0.02	-0.05795	0.2944	-0.144343	0.3867	-0.37	124	0.7096	0.0133	0.9083	0.06669	19	21	@912
F	0.03	0.249494	0.2589	M	-0.04	0.627217	0.3376	-0.377723	0.4255	-0.89	117	0.3765	0.0554	0.8139	-0.013	19	22	@916
F	-0.04	-0.20249	0.2507	M	0.05	-0.62633	0.2785	0.423841	0.3747	1.13	127	0.2601	1.0085	0.3153	0.60666	19	23	@796
F	0	3.56021	0.7281	M	0	3.43715	1.017	0.123055	1.251	0.1	112	0.9218	.	.	.	19	24	@793
F	0.01	0.997261	0.294	M	-0.01	1.1524	0.3928	-0.155144	0.4906	-0.32	116	0.7524	0.1124	0.7374	0.76214	19	25	@772
F	0	3.1218	0.6018	M	0	3.43131	1.014	-0.309515	1.179	-0.26	99	0.7935	0.0517	0.8201	-0.6678	19	26	@810
F	0	-0.06899	0.2521	M	0	-0.06899	0.2944	0	0.3876	0	125	1	0.0689	0.7929	0.00499	19	27	@1079
F	-0.01	0.117099	0.2556	M	0.01	0.029433	0.2983	0.087665	0.3928	0.22	125	0.8238	0.8901	0.3455	0.86728	19	28	@761
F	-0.02	-0.76784	0.2533	M	0.02	-0.93356	0.2765	0.165712	0.375	0.44	128	0.6593	0.6737	0.4118	0.69315	19	29	@910
F	0.02	-0.13916	0.2513	M	-0.03	0.120206	0.3029	-0.259369	0.3936	-0.66	123	0.5111	1.4602	0.2269	-1.136	19	30	@906
F	0.04	-0.64095	0.2515	M	-0.05	-0.22729	0.2879	-0.413655	0.3823	-1.08	126	0.2813	1.366	0.2425	-0.7973	19	31	@922
F	0.02	-0.5777	0.2508	M	-0.02	-0.39019	0.2831	-0.187514	0.3782	-0.5	126	0.6209	0.7029	0.4018	0.61226	19	32	@1190
F	-0.06	0.998109	0.294	M	0.07	0.212978	0.308	0.785132	0.4258	1.84	130	0.0675	0.1972	0.657	0.47957	19	33	@1105
F	-0.05	1.08628	0.3001	M	0.06	0.410511	0.3208	0.675766	0.4392	1.54	129	0.1264	0.0004	0.985	0.16705	19	34	@893
F	0	0.748888	0.2794	M	0	0.748888	0.3481	0	0.4464	0	120	1	1.0791	0.2989	-0.8961	19	35	@1078
F	-0.01	0.385646	0.2633	M	0.01	0.309776	0.314	0.07587	0.4098	0.19	123	0.8534	0.1323	0.7161	-0.4103	19	36	@926
F	-0.01	-0.01224	0.253	M	0.01	-0.14436	0.2909	0.132114	0.3855	0.34	125	0.7324	0.0033	0.9543	0.14058	19	37	@1210
F	0.06	0.609163	0.1241	M	-0.07	0.812514	0.1753	-0.203351	0.2148	-0.95	112	0.3458	1.412	0.2347	-0.6767	19	38	@820
F	0.09	0.889751	0.1285	M	-0.1	1.17434	0.175	-0.284594	0.2171	-1.31	113	0.1925	0.1981	0.6563	-0.2502	18	39	@780
F	-0.02	-0.26495	0.2503	M	0.02	-0.44001	0.2846	0.175055	0.379	0.46	125	0.6449	1.4525	0.2281	-0.7993	18	40	@1212
F	0	-0.69404	0.2523	M	0	-0.69404	0.2802	0	0.3771	0	126	1	0.3383	0.5608	0.47627	18	41	@925
F	-0.04	0.117215	0.2556	M	0.04	-0.27557	0.2892	0.392781	0.386	1.02	125	0.3108	0.194	0.6596	-0.3598	18	42	@905
F	0.07	0.314209	0.1124	M	-0.08	0.518326	0.175	-0.204118	0.208	-0.98	103	0.3287	0.9316	0.3344	-0.6657	18	43	@1214
F	-0.07	-0.70438	0.2523	M	0.09	-1.4642	0.2852	0.759783	0.3808	2	125	0.0482	0.5622	0.4534	0.52188	18	44	@1192
F	0.01	0.99801	0.294	M	-0.02	1.27611	0.4154	-0.278103	0.5089	-0.55	110	0.5858	0.2071	0.649	0.06899	18	45	@1201
F	0.03	1.4837	0.3329	M	-0.03	2.24102	0.602	-0.757314	0.6879	-1.1	93	0.2738	0.64	0.4237	1.7346	18	46	@901
F	0.01	1.08621	0.3	M	-0.01	1.27609	0.4153	-0.189879	0.5124	-0.37	111	0.7117	0.0838	0.7722	0.39673	18	47	@764

F	0	0.527112	0.2687	M	0	0.473256	0.3295	0.053856	0.4252	0.13	120	0.8994	0.0673	0.7954	0.02273	18	48	@924
F	0.03	-0.57754	0.2508	M	-0.03	-0.27553	0.2892	-0.302013	0.3828	-0.79	124	0.4317	0.996	0.3183	-0.539	18	49	@805
F	-0.07	0.675187	0.2754	M	0.09	-0.1915	0.2922	0.866684	0.4015	2.16	128	0.0328	0.0041	0.9488	-0.1126	18	50	@1092
F	-0.03	0.752062	0.2794	M	0.03	0.367428	0.3218	0.384634	0.4261	0.9	124	0.3685	1.7286	0.1886	1.5041	18	51	@920
F	-0.02	2.55591	0.4786	M	0.03	1.6703	0.4785	0.885616	0.6768	1.31	130	0.193	3.1154	0.0776	.	18	52	@766
F	-0.03	0.052259	0.2542	M	0.03	-0.24021	0.2934	0.29247	0.3882	0.75	122	0.4527	1.1542	0.2827	0.80507	18	53	@826
F	-0.04	0.182923	0.2571	M	0.05	-0.24024	0.2934	0.423164	0.3902	1.08	123	0.2802	0.3188	0.5723	0.47244	18	54	@778
F	0.05	-0.43586	0.097	M	-0.06	-0.36547	0.1081	-0.070389	0.1452	-0.48	125	0.6288	1.4532	0.228	-0.5043	19	55	@1034

Grade 4 Science, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	-0.05	1.10455	0.2132	M	0.07	0.386852	0.2381	0.717701	0.3196	2.25	210	0.0258	2.1953	0.1384	0.50221	36	1	@287
F	0.04	-1.952	0.2633	M	-0.06	-1.2313	0.2468	-0.720687	0.3609	-2	222	0.0471	1.2904	0.256	-0.4916	36	2	@284
F	-0.02	-0.40309	0.2064	M	0.03	-0.70951	0.2361	0.306421	0.3136	0.98	207	0.3296	0.1895	0.6633	0.19789	36	3	@286
F	-0.05	0.05365	0.2021	M	0.06	-0.54369	0.2342	0.59734	0.3094	1.93	206	0.0549	0.4783	0.4892	0.25592	36	4	@296
F	-0.03	0.54462	0.2035	M	0.04	0.163771	0.2348	0.380849	0.3107	1.23	206	0.2217	1.8654	0.172	0.54227	36	5	@292
F	0.01	-0.75407	0.2133	M	-0.01	-0.65377	0.2354	-0.100296	0.3176	-0.32	211	0.7525	0.0035	0.9526	-0.0739	36	6	@313
F	0	-0.32115	0.2052	M	0	-0.32115	0.2329	0	0.3103	0	208	1	0.7893	0.3743	-0.3885	36	7	@305
F	-0.02	-0.10996	0.203	M	0.02	-0.32568	0.2329	0.215721	0.3089	0.7	207	0.4858	0.729	0.3932	0.33919	36	8	@283
F	-0.02	-1.1871	0.2264	M	0.03	-1.4825	0.2546	0.295465	0.3407	0.87	209	0.3868	1.5394	0.2147	0.55558	36	9	@314
F	-0.01	-0.53206	0.2085	M	0.01	-0.59862	0.2348	0.066557	0.314	0.21	209	0.8323	0.051	0.8213	0.12511	36	10	@307
F	0.04	-0.44581	0.207	M	-0.05	-0.0008	0.2333	-0.445007	0.3119	-1.43	209	0.1552	2.8479	0.0915	-0.6048	36	11	@309
F	-0.02	-1.57	0.2425	M	0.03	-1.896	0.2716	0.32603	0.3641	0.9	209	0.3715	0.7031	0.4017	0.42263	36	12	@289
F	0.02	-0.98833	0.2197	M	-0.02	-0.76545	0.2369	-0.22288	0.3231	-0.69	213	0.4911	0.7352	0.3912	-0.3605	36	13	@285
F	-0.04	-0.84624	0.2156	M	0.05	-1.4183	0.2525	0.572059	0.332	1.72	205	0.0864	2.421	0.1197	0.58896	36	14	@288
F	0.01	3.19842	0.2072	M	-0.01	3.30736	0.2621	-0.108941	0.3341	-0.33	196	0.7447	0.3015	0.5829	-0.2183	36	15	@290
F	-0.04	-0.94034	0.2183	M	0.06	-1.548	0.257	0.607693	0.3371	1.8	204	0.073	2.222	0.1361	0.57914	36	16	@297
F	0.05	0.053339	0.2021	M	-0.07	0.678298	0.245	-0.624959	0.3176	-1.97	201	0.0505	0.7709	0.3799	-0.372	36	17	@299
F	0.02	1.3873	0.2216	M	-0.03	1.74679	0.3005	-0.359492	0.3734	-0.96	187	0.3369	0.1976	0.6566	-0.2859	36	18	@294
F	0.07	0.993111	0.1182	M	-0.1	1.34804	0.1532	-0.354933	0.1934	-1.83	193	0.0681	1.9376	0.1639	-0.4281	36	19	@301
F	0.02	0.754098	0.2061	M	-0.02	0.990798	0.2559	-0.2367	0.3286	-0.72	198	0.4721	0.1396	0.7087	-0.1899	36	20	@304

F	0.02	0.387846	0.1191	M	-0.02	0.460133	0.1426	-0.072287	0.1858	-0.39	202	0.6976	0.3432	0.558	-0.1736	36	21	@324
F	0	-0.39243	0.2064	M	0	-0.39243	0.2331	0	0.3113	0	209	1	0.0017	0.9668	0.05948	36	22	@310
F	-0.04	0.882812	0.2083	M	0.05	0.387046	0.2381	0.495767	0.3163	1.57	207	0.1186	0.352	0.553	0.23344	36	23	@315
F	0.04	-0.80003	0.2144	M	-0.05	-0.32575	0.2329	-0.474282	0.3165	-1.5	212	0.1355	2.3318	0.1268	-0.5732	36	24	@291
F	0.03	-1.0862	0.2228	M	-0.04	-0.70952	0.2361	-0.376718	0.3247	-1.16	215	0.2472	0.808	0.3687	-0.3863	36	25	@293
F	0.05	-0.70904	0.2122	M	-0.07	-0.05483	0.233	-0.654211	0.3152	-2.08	211	0.0391	1.5192	0.2177	-0.5134	36	26	@295
F	0	-0.65894	0.2112	M	0	-0.65894	0.2354	0	0.3163	0	210	1	0.0193	0.8896	0.12573	36	27	@298
F	-0.03	-0.15164	0.2034	M	0.04	-0.48895	0.2338	0.337308	0.3098	1.09	207	0.2776	0.009	0.9244	0.08928	36	28	@317
F	0.05	-0.53214	0.2085	M	-0.06	0.054086	0.2337	-0.586228	0.3132	-1.87	209	0.0627	1.0444	0.3068	-0.374	36	29	@320
F	-0.01	-0.06915	0.2027	M	0.01	-0.16329	0.2327	0.094144	0.3086	0.31	207	0.7606	0.017	0.8962	0.09894	36	30	@321
F	0	1.98735	0.2486	M	0	1.93652	0.3166	0.050836	0.4025	0.13	195	0.8996	0.1071	0.7434	-0.2237	36	31	@322
F	0.02	-1.0091	0.2217	M	-0.03	-0.70952	0.2361	-0.299546	0.3239	-0.92	214	0.356	0.0527	0.8185	-0.139	36	32	@316
F	0.04	-0.3853	0.1393	M	-0.06	-0.14258	0.1553	-0.242725	0.2086	-1.16	209	0.2459	1.8264	0.1766	-0.407	36	33	@318
F	0	1.86463	0.2422	M	0	1.9362	0.3166	-0.071564	0.3986	-0.18	191	0.8577	0.5946	0.4406	-0.4272	36	34	@323
F	-0.04	1.98539	0.2487	M	0.05	1.26468	0.2688	0.720708	0.3662	1.97	212	0.0504	3.0262	0.0819	0.8739	36	35	@300
F	-0.04	0.250351	0.2025	M	0.06	-0.27156	0.2327	0.521912	0.3085	1.69	206	0.0922	4.6308	0.0314	0.79805	36	36	@306
F	-0.05	0.209349	0.2025	M	0.07	-0.43479	0.2334	0.644139	0.309	2.08	206	0.0383	3.7393	0.0531	0.67844	36	37	@308
F	0.02	0.165148	0.1503	M	-0.03	0.325546	0.1756	-0.160398	0.2311	-0.69	205	0.4885	0.1007	0.751	-0.0941	36	38	@365
F	-0.01	0.647061	0.1132	M	0.02	0.596095	0.1345	0.050967	0.1757	0.29	203	0.7721	0.0313	0.8596	-0.0555	36	39	@367
F	-0.02	-0.16169	0.2042	M	0.03	-0.43406	0.2334	0.272367	0.3101	0.88	207	0.3808	0.8126	0.3674	0.37465	36	40	@363

Grade 8 Science, Gender

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
F	-0.02	3.01238	1.011	M	0.03	1.32391	0.6006	1.688462	1.176	1.44	114	0.1539	0.0008	0.9773	0.59598	20	1	@983
F	0.03	-2.1066	0.2559	M	-0.04	-1.772	0.2726	-0.33463	0.3739	-0.9	127	0.3725	0.096	0.7567	-0.2303	20	2	@962
F	0.06	-1.0432	0.2528	M	-0.07	-0.31725	0.3359	-0.725968	0.4204	-1.73	114	0.0869	1.1232	0.2892	-0.6102	20	3	@952
F	-0.03	0.392137	0.3377	M	0.03	-0.07682	0.3591	0.468953	0.493	0.95	127	0.3433	1.9443	0.1632	0.93598	20	4	@951
F	-0.06	-0.84786	0.2578	M	0.07	-1.4721	0.2761	0.624222	0.3777	1.65	127	0.1009	1.8718	0.1713	0.67364	20	5	@977
F	-0.11	-0.57189	0.2681	M	0.14	-1.7723	0.2726	1.200393	0.3823	3.14	129	0.0021	3.8248	0.0505	0.96383	20	6	@1109
F	-0.01	-1.1698	0.2505	M	0.01	-1.239	0.282	0.06917	0.3772	0.18	125	0.8548	0.0155	0.901	-0.1198	20	7	@956
F	0.03	0.391925	0.3377	M	-0.04	1.32751	0.6016	-0.935589	0.6899	-1.36	94	0.1783	2.3277	0.1271	-1.445	20	9	@955
F	0.02	-0.42473	0.2751	M	-0.02	-0.20112	0.3466	-0.223614	0.4425	-0.51	118	0.6143	0.153	0.6957	-0.2992	20	10	@1238
F	0.01	2.2961	0.7219	M	-0.01	3.70636	1.835	-1.41026	1.971	-0.72	77	0.4766	0.1645	0.6851	.	20	11	@1205
F	-0.05	-1.6641	0.2485	M	0.06	-2.1448	0.2746	0.480717	0.3703	1.3	125	0.1966	3.0573	0.0804	0.91855	20	12	@1257
F	0.01	0.638552	0.3658	M	-0.02	1.01055	0.5274	-0.371995	0.6419	-0.58	108	0.5634	0.0988	0.7532	0.03948	20	13	@932
F	0	0.071127	0.3087	M	0	0.071127	0.374	0	0.485	0	120	1	0.0076	0.9306	-0.1935	20	14	@1111
F	0.01	0.281822	0.3267	M	-0.02	0.548561	0.4416	-0.266738	0.5493	-0.49	113	0.6282	0.0004	0.9849	0.22919	20	15	@1260
F	-0.01	-0.57279	0.268	M	0.02	-0.72594	0.3057	0.153148	0.4065	0.38	124	0.707	0.0676	0.7949	-0.2281	20	16	@1265
F	-0.05	-0.34787	0.2793	M	0.06	-0.90656	0.2956	0.55869	0.4067	1.37	127	0.1719	0.5503	0.4582	0.43356	20	17	@953
F	-0.05	-0.18654	0.2891	M	0.06	-0.81785	0.3003	0.631305	0.4168	1.51	128	0.1324	0.1183	0.7309	0.28676	20	18	@954
F	0.01	-1.9136	0.2516	M	-0.01	-1.8464	0.2724	-0.067164	0.3708	-0.18	126	0.8566	0.2086	0.6479	-0.2908	20	19	@942
F	-0.05	-0.49934	0.2714	M	0.06	-1.0766	0.2879	0.577294	0.3957	1.46	127	0.147	1.5053	0.2199	0.6479	20	20	@936
F	-0.03	0.638662	0.3658	M	0.03	0.057317	0.374	0.581345	0.5231	1.11	129	0.2685	0.2708	0.6028	0.51415	20	21	@964

F	0.11	-0.79685	0.1112	M	-0.14	-0.53747	0.1419	-0.259377	0.1803	-1.44	117	0.1529	1.4201	0.2334	-0.4786	20	22	@937
F	0.01	3.011	1.011	M	-0.01	3.70525	1.834	-0.694258	2.094	-0.33	93	0.7409	0.1905	0.6625	.	20	23	@971
F	0	1.55806	0.5207	M	0	1.76	0.7268	-0.201947	0.8941	-0.23	111	0.8217	0.0465	0.8292	-1.299	20	24	@972
F	0	0.525357	0.3506	M	0	0.548344	0.4415	-0.022986	0.5638	-0.04	118	0.9675	0.1565	0.6924	-0.5831	20	25	@1258
F	-0.04	0.392262	0.3377	M	0.05	-0.31781	0.3359	0.710075	0.4763	1.49	129	0.1385	0.0603	0.806	0.26881	20	26	@947
F	0.05	-0.44221	0.143	M	-0.06	-0.22587	0.2073	-0.216331	0.2518	-0.86	108	0.3922	1.4553	0.2277	-0.7293	20	27	@1114
F	0.01	1.31538	0.471	M	-0.01	1.76009	0.7268	-0.444712	0.8661	-0.51	103	0.6087	0.0056	0.9402	-0.4336	20	28	@984
F	-0.01	0.080429	0.3087	M	0.01	-0.07672	0.3591	0.157146	0.4736	0.33	123	0.7406	0.1528	0.6959	-0.3272	20	29	@948
F	0	-0.91112	0.2559	M	0	-0.91112	0.2956	0	0.391	0	123	1	0.0097	0.9215	-0.1589	20	30	@950
F	0	2.2944	0.7213	M	0	2.475	1.011	-0.1806	1.242	-0.15	110	0.8846	0.4461	0.5042	0.17435	20	31	@961
F	0.03	-0.10144	0.2948	M	-0.03	0.366143	0.4139	-0.467584	0.5082	-0.92	110	0.3595	0.643	0.4226	-0.7085	20	32	@987
F	-0.04	-1.2323	0.2497	M	0.05	-1.6231	0.2737	0.390761	0.3705	1.05	126	0.2936	0.0047	0.9455	0.10115	20	33	@970
F	-0.04	-1.4177	0.2481	M	0.05	-1.8464	0.2724	0.428726	0.3685	1.16	126	0.2468	1.2012	0.2731	0.46553	20	34	@985
F	0	-1.2358	0.2497	M	0	-1.2358	0.282	0	0.3767	0	124	1	0.0001	0.992	-0.073	20	35	@949
F	0.02	-0.42473	0.2751	M	-0.02	-0.20112	0.3466	-0.223614	0.4425	-0.51	118	0.6143	0.0099	0.9208	-0.0836	20	36	@981
F	0.1	-1.6025	0.2481	M	-0.12	-0.53083	0.3188	-1.07165	0.404	-2.65	116	0.0091	3.1111	0.0778	-0.9765	20	37	@946
F	0.05	-0.97893	0.2543	M	-0.06	-0.42711	0.3267	-0.551817	0.414	-1.33	116	0.1852	0.2274	0.6335	-0.3288	20	38	@1266
F	0.01	0.178286	0.3171	M	-0.01	0.366023	0.4139	-0.187737	0.5214	-0.36	115	0.7194	0.018	0.8933	0.16584	20	39	@944
F	0.01	1.31538	0.471	M	-0.01	1.76009	0.7268	-0.444712	0.8661	-0.51	103	0.6087	0.2632	0.608	0.15415	20	40	@978
F	0.05	-0.15166	0.1425	M	-0.06	0.074711	0.2204	-0.226368	0.2625	-0.86	103	0.3904	0.0003	0.9861	-0.0105	20	41	@945
F	0.01	0.510413	0.3506	M	-0.01	0.759147	0.4777	-0.248735	0.5926	-0.42	112	0.6755	0.005	0.9438	-0.2327	20	42	@986
F	0	0.637836	0.3657	M	-0.01	0.757057	0.4774	-0.119221	0.6013	-0.2	115	0.8432	0.093	0.7604	-0.0041	20	43	@967
F	0.05	-0.78091	0.26	M	-0.06	-0.0764	0.3592	-0.704509	0.4434	-1.59	111	0.1149	3.9393	0.0472	-1.611	20	44	@969
F	-0.01	3.01132	1.011	M	0.01	1.759	0.7265	1.252322	1.245	1.01	124	0.3163	0.2414	0.6232	1.3817	20	45	@980
F	-0.01	-1.0434	0.2528	M	0.01	-1.1591	0.2848	0.115717	0.3808	0.3	125	0.7617	1.165	0.2804	0.6438	20	46	@1267
F	-0.05	-0.49934	0.2714	M	0.06	-1.0766	0.2879	0.577294	0.3957	1.46	127	0.147	1.2617	0.2613	0.6463	20	47	@965
F	-0.02	0.281848	0.3267	M	0.02	-0.07676	0.3591	0.358607	0.4855	0.74	126	0.4615	0.0649	0.7989	-0.0062	20	48	@960

F	0	1.31983	0.471	M	0	1.31983	0.6013	0	0.7638	0	117	1	0.0089	0.9248	0.38199	20	49	@958
F	0.02	-0.71267	0.2624	M	-0.03	-0.4272	0.3267	-0.285469	0.419	-0.68	119	0.497	0.0269	0.8698	-0.0816	20	50	@938
F	0.01	0.778916	0.384	M	-0.01	1.01049	0.5274	-0.231576	0.6524	-0.35	112	0.7233	0.0117	0.9139	-0.3943	20	51	@979
F	0.04	-0.84789	0.2578	M	-0.05	-0.3174	0.3359	-0.530491	0.4235	-1.25	115	0.2128	0	0.9994	-0.1246	20	52	@939
F	0.01	0.638552	0.3658	M	-0.02	1.01055	0.5274	-0.371995	0.6419	-0.58	108	0.5634	0.0001	0.9921	0.41285	20	53	@974
F	0	0.934496	0.4063	M	0	1.00961	0.5272	-0.075115	0.6656	-0.11	116	0.9103	0.0964	0.7562	-0.5329	20	54	@1056
F	-0.06	-0.49932	0.2714	M	0.07	-1.1586	0.2848	0.659303	0.3934	1.68	128	0.0962	0.477	0.4898	0.50675	20	55	@1110
F	-0.06	0.510848	0.3506	M	0.07	-0.42785	0.3267	0.938695	0.4792	1.96	130	0.0523	3.136	0.0766	2.0626	20	56	@1263

Grade 3 Mathematics, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0	-3.3002	0.26	D	0	-3.2016	0.3017	-0.098555	0.3983	-0.25	318	0.8047	0.0093	0.9233	-0.1414	30	1	@178
C	-0.02	-0.481	0.1538	D	0.03	-0.70964	0.1782	0.228638	0.2354	0.97	319	0.3321	0.2609	0.6095	0.16254	30	2	@182
C	0	-1.5261	0.1605	D	0	-1.5517	0.1928	0.025559	0.2509	0.1	313	0.9189	0.0176	0.8946	-0.0725	30	3	@206
C	0	2.57192	0.348	D	0	2.49034	0.3325	0.081573	0.4813	0.17	340	0.8655	0.0006	0.9799	0.15324	30	4	@1303
C	0.01	0.19679	0.1655	D	-0.01	0.303285	0.1884	-0.106495	0.2508	-0.42	321	0.6714	0.0145	0.9043	0.0019	30	5	@225
C	0.01	-2.9456	0.2288	D	-0.02	-2.6737	0.2524	-0.271942	0.3407	-0.8	326	0.4253	0.7179	0.3968	-0.3978	30	6	@215
C	0.03	-0.99583	0.1534	D	-0.04	-0.67809	0.1781	-0.317746	0.2351	-1.35	318	0.1774	1.3427	0.2466	-0.3328	30	7	@169
C	0.02	-0.11698	0.1584	D	-0.03	0.129532	0.1846	-0.246509	0.2433	-1.01	318	0.3116	0.0448	0.8324	-0.0792	30	8	@231
C	0.03	0.960267	0.1958	D	-0.04	1.60213	0.249	-0.641863	0.3168	-2.03	302	0.0436	2.3726	0.1235	-0.6146	30	9	@219
C	0	-2.8445	0.2211	D	-0.01	-2.7387	0.2576	-0.105747	0.3395	-0.31	318	0.7557	0.01	0.9204	0.1383	30	10	@202
C	0	0.424753	0.1725	D	0.01	0.374876	0.1903	0.049877	0.2568	0.19	326	0.8461	0.5211	0.4704	0.23322	30	11	@221
C	0	3.4345	0.5103	D	0	3.20386	0.4361	0.23064	0.6712	0.34	342	0.7313	0.0357	0.8501	0.19379	30	12	@992
C	-0.01	0.541231	0.1771	D	0.02	0.374988	0.1903	0.166243	0.26	0.64	329	0.523	0.0587	0.8085	0.11079	30	13	@371
C	0.02	-0.22424	0.1571	D	-0.03	-0.00491	0.1822	-0.219332	0.2406	-0.91	318	0.3626	0.2787	0.5976	-0.1633	30	14	@173
C	-0.04	1.66208	0.2445	D	0.04	0.97476	0.2122	0.687324	0.3238	2.12	341	0.0345	2.8591	0.0909	0.62577	30	15	@226
C	0.03	1.76543	0.2484	D	-0.04	2.84655	0.4028	-1.08112	0.4732	-2.28	256	0.0232	1.1267	0.2885	-1.006	30	16	@233
C	0.03	-0.7491	0.1531	D	-0.04	-0.42481	0.1781	-0.324294	0.2349	-1.38	317	0.1683	3.29	0.0697	-0.5747	30	17	@174
C	0.01	2.07743	0.2852	D	-0.01	2.49101	0.3326	-0.413585	0.4381	-0.94	317	0.3459	0.0006	0.981	-0.1253	30	18	@1036
C	-0.01	0.670133	0.1823	D	0.01	0.599502	0.1971	0.07063	0.2685	0.26	328	0.7927	0.9398	0.3323	0.31759	30	19	@210
C	0	-1.1565	0.1552	D	0	-1.1565	0.1833	0	0.2402	0	315	1	0.0375	0.8465	0.08681	30	20	@207

C	-0.04	-0.32211	0.1558	D	0.05	-0.74136	0.1784	0.419251	0.2368	1.77	320	0.0776	1.8198	0.1773	0.39678	30	21	@212
C	-0.04	0.273836	0.1681	D	0.04	-0.13629	0.1804	0.410127	0.2466	1.66	329	0.0972	0.7986	0.3715	0.2832	30	22	@172
C	0	-2.421	0.1943	D	0	-2.421	0.2352	0	0.3051	0	311	1	0.0375	0.8464	-0.133	30	23	@198
C	-0.03	1.20245	0.2104	D	0.04	0.678543	0.1999	0.52391	0.2902	1.81	340	0.0719	1.0446	0.3067	0.37343	30	24	@368
C	-0.02	0.135788	0.1643	D	0.03	-0.10369	0.1808	0.239474	0.2443	0.98	326	0.3277	0.0273	0.8687	0.07659	30	25	@191
C	0.02	-0.81943	0.1531	D	-0.02	-0.64614	0.178	-0.173292	0.2348	-0.74	318	0.461	0.7825	0.3764	-0.2539	30	26	@193
C	0.01	-2.197	0.1837	D	-0.01	-2.0848	0.2145	-0.112146	0.2825	-0.4	317	0.6916	0.0001	0.9922	-0.0455	30	27	@189
C	-0.01	0.572824	0.1784	D	0.01	0.485017	0.1934	0.087806	0.2631	0.33	328	0.7388	0.0156	0.9006	0.07298	30	28	@995
C	-0.02	-0.37047	0.1552	D	0.03	-0.61483	0.1779	0.244364	0.2361	1.03	320	0.3015	0.3325	0.5642	0.18396	30	29	@229
C	-0.01	0.510062	0.176	D	0.02	0.338962	0.1893	0.171101	0.2585	0.66	329	0.5085	0.5504	0.4581	0.22468	30	30	@374
C	0.02	1.96197	0.2285	D	-0.03	2.55224	0.2819	-0.590271	0.3629	-1.63	307	0.1049	5.2252	0.0223	-1.318	30	31	@234
C	0	-2.0178	0.1757	D	0	-2.0392	0.2122	0.021379	0.2755	0.08	311	0.9382	0.0046	0.946	-0.0242	30	32	@184
C	0	-0.28352	0.1561	D	0	-0.28352	0.1791	0	0.2375	0	320	1	0.0988	0.7533	0.11114	30	33	@186
C	0.03	-0.04826	0.1602	D	-0.03	0.267945	0.1876	-0.316207	0.2467	-1.28	316	0.2008	0.8159	0.3664	-0.2514	30	34	@1035
C	0	-1.685	0.1653	D	-0.01	-1.6269	0.1952	-0.05815	0.2558	-0.23	315	0.8203	0.0056	0.9405	-0.0611	30	35	@201
C	0	0.541074	0.1771	D	-0.01	0.599598	0.1971	-0.058524	0.265	-0.22	324	0.8254	0.0088	0.9253	-0.0115	30	36	@211
C	0	-0.75399	0.1535	D	0	-0.75399	0.1786	0	0.2355	0	317	1	0.2209	0.6383	0.15293	30	37	@216
C	-0.01	0.595327	0.1799	D	0.02	0.411387	0.1913	0.18394	0.2626	0.7	329	0.4841	0.054	0.8162	0.10792	30	38	@209
C	0	0.42683	0.174	D	0	0.42683	0.1913	0	0.2586	0	325	1	0.0136	0.907	-0.0084	30	39	@213
C	0.01	0.018275	0.1621	D	-0.02	0.163724	0.1853	-0.145449	0.2461	-0.59	320	0.555	0.0022	0.9625	-0.021	30	40	@224
C	-0.03	-0.64578	0.1537	D	0.04	-0.99907	0.1807	0.353294	0.2373	1.49	315	0.1375	1.0822	0.2982	0.3137	30	41	@204
C	0.03	0.595301	0.1799	D	-0.04	1.02041	0.2144	-0.425105	0.2798	-1.52	313	0.1298	0.0334	0.855	-0.0947	30	42	@230
C	-0.02	-1.5986	0.1634	D	0.02	-1.8246	0.2026	0.226013	0.2603	0.87	306	0.3859	0.2729	0.6014	0.17026	30	43	@190
C	0.01	2.62884	0.2728	D	-0.01	2.92884	0.2934	-0.300001	0.4006	-0.75	328	0.4544	1.4622	0.2266	-0.7915	30	44	@235
C	-0.03	-0.08539	0.16	D	0.04	-0.39303	0.1782	0.307644	0.2395	1.28	323	0.1999	1.8192	0.1774	0.35628	30	45	@180
C	-0.02	-1.1682	0.1558	D	0.03	-1.4064	0.1887	0.23812	0.2447	0.97	310	0.3312	0.5864	0.4438	0.24004	30	46	@188
C	0	-0.46925	0.1547	D	0	-0.46925	0.178	0	0.2358	0	319	1	0.4644	0.4956	-0.2	30	47	@214

C	-0.02	-0.0079	0.1615	D	0.02	-0.20109	0.1797	0.193191	0.2416	0.8	324	0.4245	1.0277	0.3107	0.26746	30	48	@223
C	0.03	-0.0339	0.161	D	-0.03	0.267943	0.1876	-0.301844	0.2472	-1.22	317	0.2229	1.3738	0.2412	-0.338	30	49	@205
C	0.04	0.908513	0.1942	D	-0.05	1.60218	0.249	-0.693664	0.3158	-2.2	300	0.0288	6.2377	0.0125	-1.069	30	50	@217
C	0	2.24451	0.3056	D	0.01	2.10548	0.2911	0.139034	0.422	0.33	339	0.742	0.1415	0.7067	-0.3199	30	51	@1305
C	-0.03	-1.6797	0.1655	D	0.03	-2.0393	0.2123	0.359595	0.2692	1.34	300	0.1826	2.0901	0.1483	0.47143	30	52	@187
C	0	0.179479	0.166	D	-0.01	0.232812	0.1868	-0.053333	0.2499	-0.21	322	0.8311	0.4052	0.5244	-0.2395	30	53	@208
C	0.02	0.728709	0.1855	D	-0.02	0.974883	0.2122	-0.246175	0.2819	-0.87	320	0.3832	0.0125	0.9111	-0.0784	30	54	@218
C	0	2.44676	0.3318	D	0	2.49078	0.3326	-0.044018	0.4698	-0.09	335	0.9254	1.1175	0.2905	-0.7314	30	55	@185

Grade 4 Mathematics, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.03	-1.2558	0.1822	D	0.05	-1.6852	0.2635	0.429395	0.3203	1.34	167	0.1819	0.0148	0.903	-0.0247	27	1	@135
C	-0.03	-0.93052	0.1792	D	0.05	-1.3009	0.2443	0.370417	0.3029	1.22	175	0.2231	0.4882	0.4847	0.28069	27	2	@140
C	-0.01	-0.9626	0.1793	D	0.01	-1.07	0.2361	0.107427	0.2965	0.36	180	0.7176	0.0131	0.909	-0.018	27	3	@109
C	0.03	0.112552	0.1943	D	-0.04	0.460656	0.2397	-0.348103	0.3086	-1.13	189	0.2607	2.4334	0.1188	-0.6737	27	4	@257
C	0.01	-0.60954	0.1798	D	-0.02	-0.43787	0.2259	-0.171671	0.2888	-0.59	186	0.5529	1.2236	0.2687	-0.4371	27	5	@157
C	0.02	-0.41321	0.182	D	-0.02	-0.23417	0.2261	-0.179033	0.2903	-0.62	188	0.5381	0.603	0.4375	-0.326	27	6	@236
C	0.02	-0.34662	0.183	D	-0.04	-0.07985	0.2274	-0.266765	0.2919	-0.91	188	0.362	0.0103	0.9192	0.08091	27	7	@170
C	-0.01	0.267818	0.1999	D	0.02	0.076798	0.2298	0.19102	0.3045	0.63	198	0.5312	0.0292	0.8642	0.00235	27	8	@1009
C	0.08	-1.1235	0.1131	D	-0.12	-0.75096	0.1448	-0.37249	0.1837	-2.03	184	0.0441	5.0284	0.0249	-0.7031	27	9	@262
C	-0.03	0.433116	0.2069	D	0.05	0.024213	0.2289	0.408904	0.3085	1.33	203	0.1865	2.8883	0.0892	0.63752	27	10	@238
C	0.03	-1.5638	0.1885	D	-0.05	-1.1267	0.2379	-0.437084	0.3035	-1.44	186	0.1515	0.3262	0.5679	-0.273	27	11	@268
C	0.04	0.150551	0.1956	D	-0.06	0.637795	0.2465	-0.487245	0.3147	-1.55	186	0.1232	0.4208	0.5165	-0.2782	27	12	@264
C	0.03	0.228154	0.1984	D	-0.04	0.577618	0.244	-0.349464	0.3145	-1.11	189	0.2679	1.0096	0.315	-0.4336	27	13	@276
C	-0.01	4.39433	1.007	D	0.01	3.26915	0.5938	1.125185	1.169	0.96	209	0.337	1.3344	0.248	1.8838	27	14	@244
C	0	0.348926	0.2032	D	0.01	0.291949	0.2346	0.056977	0.3103	0.18	198	0.8545	0.1845	0.6675	-0.2325	27	15	@166
C	-0.03	0.03797	0.192	D	0.04	-0.28514	0.2259	0.323114	0.2965	1.09	195	0.2771	0.0023	0.9614	0.04152	27	16	@247
C	-0.04	0.037973	0.192	D	0.06	-0.43816	0.2259	0.476132	0.2965	1.61	195	0.1099	1.0435	0.307	0.41096	27	17	@171
C	0	-2.1529	0.2109	D	0	-2.1529	0.2977	0	0.3648	0	170	1	1.3639	0.2429	-0.5613	27	18	@1005
C	-0.01	0.037858	0.192	D	0.01	-0.02808	0.2281	0.065937	0.2981	0.22	194	0.8252	1.5875	0.2077	0.45165	27	19	@254
C	0.01	2.53364	0.4243	D	-0.01	2.96249	0.5191	-0.428853	0.6704	-0.64	190	0.5232	2.5927	0.1074	-1.811	27	20	@239

C	0	-0.13716	0.1871	D	0	-0.13716	0.2269	0	0.2941	0	191	1	0.0166	0.8975	-0.0168	27	21	@165
C	0.08	-0.93052	0.1792	D	-0.12	-0.02798	0.2281	-0.902537	0.2901	-3.11	184	0.0022	1.7408	0.187	-0.4808	27	22	@265
C	0.02	0.520398	0.211	D	-0.03	0.826341	0.2553	-0.305944	0.3312	-0.92	191	0.3568	0.0327	0.8566	-0.1405	27	23	@259
C	0.02	0.112556	0.1943	D	-0.03	0.347472	0.2361	-0.234916	0.3058	-0.77	191	0.4433	0.0358	0.8499	-0.1248	27	24	@256
C	0.03	-0.64162	0.1796	D	-0.05	-0.28514	0.2259	-0.356479	0.2886	-1.24	186	0.2184	3.2095	0.0732	-0.7197	27	25	@250
C	-0.02	0.390699	0.205	D	0.03	0.12981	0.2308	0.260888	0.3087	0.85	201	0.399	1.3471	0.2458	0.46722	27	26	@164
C	0	-0.70179	0.1793	D	0	-0.70179	0.228	0	0.2901	0	184	1	0.109	0.7413	-0.1537	27	27	@263
C	-0.05	0.913135	0.2338	D	0.08	0.183238	0.2319	0.729897	0.3293	2.22	215	0.0277	4.6957	0.0302	0.8922	27	28	@261
C	-0.03	0.756172	0.2238	D	0.04	0.347449	0.2361	0.408723	0.3254	1.26	208	0.2105	3.6785	0.0551	0.73681	27	29	@1006
C	-0.03	0.07504	0.1931	D	0.05	-0.33616	0.2258	0.411199	0.2971	1.38	196	0.168	0.4411	0.5066	0.26843	27	30	@168
C	-0.01	-1.5283	0.1876	D	0.01	-1.6168	0.2595	0.088479	0.3202	0.28	173	0.7826	0.0014	0.9699	0.07562	27	31	@163
C	-0.02	-0.03491	0.1899	D	0.03	-0.28514	0.2259	0.250236	0.2951	0.85	194	0.3975	0.1032	0.748	0.1811	27	32	@103
C	-0.02	0.228161	0.1984	D	0.03	0.02422	0.2289	0.203941	0.3029	0.67	198	0.5015	0.0218	0.8826	-0.0157	27	33	@245
C	-0.02	-0.44624	0.1815	D	0.03	-0.64338	0.2274	0.197147	0.291	0.68	187	0.4989	1.6429	0.1999	0.46361	27	34	@167
C	-0.01	5.60871	1.831	D	0.01	3.69303	0.7202	1.915679	1.967	0.97	176	0.3315	0.125	0.7237	.	27	35	@1010
C	-0.04	-0.1763	0.1863	D	0.07	-0.69524	0.228	0.518937	0.2945	1.76	190	0.0796	1.1991	0.2735	0.40085	27	36	@277
C	0.01	1.86148	0.3224	D	-0.02	2.19108	0.3804	-0.329591	0.4987	-0.66	195	0.5094	0.5389	0.4629	-0.8022	27	37	@240
C	-0.06	-0.57693	0.1801	D	0.09	-1.301	0.2443	0.72408	0.3035	2.39	176	0.0181	3.3213	0.0684	0.74267	27	38	@154
C	0	-0.98205	0.1795	D	0	-0.96044	0.2331	-0.021607	0.2942	-0.07	182	0.9415	0.0433	0.8352	0.11803	27	39	@271
C	0.04	0.112546	0.1943	D	-0.05	0.577637	0.244	-0.465091	0.312	-1.49	186	0.1377	0.0519	0.8199	0.1303	27	40	@253
C	0	0.090552	0.1412	D	0	0.090552	0.1701	0	0.2211	0	192	1	0.1623	0.6871	0.1299	27	41	@375
C	-0.04	-1.0918	0.1802	D	0.06	-1.6169	0.2595	0.525037	0.3159	1.66	168	0.0984	0.4469	0.5038	0.31257	27	42	@267
C	-0.01	-2.3888	0.2242	D	0.02	-2.6701	0.3515	0.281329	0.4169	0.67	157	0.5008	0.0857	0.7697	-0.305	27	43	@242
C	0	-0.05306	0.1889	D	-0.01	-0.02801	0.2281	-0.025047	0.2962	-0.08	192	0.9327	0.0111	0.9161	-0.0188	27	44	@274
C	-0.03	1.02597	0.2417	D	0.04	0.577565	0.244	0.448408	0.3434	1.31	213	0.1931	0.1314	0.717	0.2224	27	45	@246
C	0.02	-1.3226	0.1832	D	-0.04	-1.0152	0.2346	-0.307382	0.2977	-1.03	184	0.3031	1.7836	0.1817	-0.5973	27	46	@272
C	0.02	0.150562	0.1956	D	-0.03	0.403633	0.2379	-0.253071	0.308	-0.82	191	0.4122	0.0634	0.8012	-0.1482	27	47	@373

C	0.02	0.001328	0.1909	D	-0.04	0.292085	0.2346	-0.290757	0.3024	-0.96	189	0.3376	0.0028	0.9582	0.04767	27	48	@278
C	0.01	0.706697	0.221	D	-0.01	0.826327	0.2553	-0.119629	0.3376	-0.35	197	0.7235	0.0214	0.8838	0.01742	27	49	@1007
C	-0.02	-0.38001	0.1825	D	0.03	-0.59138	0.2269	0.211375	0.2911	0.73	188	0.4687	0.0007	0.9795	0.0595	27	50	@377
C	0.01	0.476322	0.2089	D	-0.01	0.577093	0.244	-0.100771	0.3212	-0.31	196	0.7541	0.0021	0.9635	0.04723	27	51	@243
C	0.01	-0.80232	0.179	D	-0.02	-0.64338	0.2274	-0.158936	0.2894	-0.55	185	0.5836	1.3011	0.254	-0.4839	27	52	@378
C	0	0.703808	0.221	D	0	0.703808	0.2492	0	0.333	0	200	1	0.2707	0.6029	0.26668	27	53	@241
C	0.01	2.08836	0.3525	D	-0.02	2.51807	0.4316	-0.429711	0.5572	-0.77	190	0.4416	0.2835	0.5944	-0.5324	27	54	@252
C	0.03	-0.60932	0.1798	D	-0.04	-0.28477	0.2259	-0.32455	0.2888	-1.12	186	0.2625	0.2417	0.623	-0.2003	27	55	@258
C	0.01	-0.34668	0.183	D	-0.01	-0.28515	0.2259	-0.061523	0.2907	-0.21	189	0.8326	0.2064	0.6496	0.1981	27	56	@249

Grade 5 Mathematics, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.04	-0.65571	0.1723	D	0.05	-1.0737	0.1881	0.417973	0.2551	1.64	268	0.1025	0.5006	0.4792	0.24447	30	1	@422
C	0.08	-1.4419	0.1726	D	-0.09	-0.68868	0.1869	-0.753169	0.2544	-2.96	269	0.0033	5.3988	0.0202	-0.6797	30	2	@1128
C	0.04	-0.25389	0.1804	D	-0.05	0.245706	0.2054	-0.499598	0.2733	-1.83	264	0.0687	2.1446	0.1431	-0.4662	30	3	@459
C	0.02	-0.38167	0.1772	D	-0.03	-0.15029	0.1938	-0.231379	0.2626	-0.88	268	0.379	0.5234	0.4694	-0.2547	30	4	@455
C	0.02	0.953407	0.2426	D	-0.03	1.38581	0.2762	-0.432403	0.3676	-1.18	264	0.2405	0.3503	0.5539	-0.3065	30	5	@1217
C	0	-0.79905	0.1707	D	0	-0.79905	0.1867	0	0.253	0	268	1	0.1036	0.7476	-0.1306	30	6	@434
C	0.02	0.683573	0.2231	D	-0.02	0.925258	0.24	-0.241686	0.3277	-0.74	269	0.4614	0.0023	0.9621	0.04177	30	7	@432
C	-0.01	1.35715	0.2791	D	0.01	1.2403	0.2635	0.116855	0.3838	0.3	275	0.761	0.0325	0.8568	-0.172	30	8	@417
C	0.01	-0.88978	0.1701	D	-0.01	-0.82821	0.1867	-0.061569	0.2526	-0.24	267	0.8076	0.0651	0.7987	-0.1081	30	9	@424
C	-0.01	-1.3824	0.1718	D	0.01	-1.4749	0.1951	0.092535	0.2599	0.36	264	0.7221	0	0.9945	0.03268	30	10	@441
C	0.01	-0.25403	0.1804	D	-0.01	-0.1878	0.1929	-0.06623	0.2641	-0.25	270	0.8022	0.7207	0.3959	0.27466	30	11	@1136
C	-0.02	-0.28627	0.1795	D	0.02	-0.47773	0.1884	0.191466	0.2602	0.74	271	0.4625	0.5463	0.4598	0.24254	30	12	@431
C	-0.03	1.14135	0.2584	D	0.04	0.559194	0.2188	0.582151	0.3386	1.72	274	0.0867	3.3505	0.0672	0.75019	30	13	@1223
C	-0.03	1.48634	0.2795	D	0.03	1.0563	0.1918	0.430034	0.3389	1.27	255	0.2057	0.1418	0.7065	0.18526	30	14	@463
C	-0.08	-0.91867	0.17	D	0.09	-1.6709	0.2007	0.7522	0.263	2.86	260	0.0046	4.6041	0.0319	0.68037	30	15	@413
C	-0.01	0.204059	0.1968	D	0.01	0.121546	0.2011	0.082513	0.2814	0.29	273	0.7695	0.2571	0.6121	0.19564	30	16	@442
C	-0.03	0.204424	0.1968	D	0.04	-0.15029	0.1938	0.354718	0.2762	1.28	274	0.2001	1.1247	0.2889	0.38464	30	17	@450
C	-0.04	0.734173	0.2265	D	0.05	0.162504	0.2024	0.571669	0.3038	1.88	275	0.0609	4.9297	0.0264	0.88054	30	18	@1202
C	-0.06	-0.41294	0.1765	D	0.07	-0.96834	0.1873	0.555397	0.2573	2.16	270	0.0318	3.4052	0.065	0.61397	30	19	@1130
C	0.02	-0.25071	0.0895	D	-0.02	-0.25071	0.0905	0	0.1273	0	273	1	0.2063	0.6497	-0.1398	30	20	@414

C	0.06	0.018386	0.1892	D	-0.07	0.813822	0.2329	-0.795435	0.3	-2.65	255	0.0085	1.7729	0.183	-0.4322	30	21	@444
C	0.05	-2.1598	0.1926	D	-0.06	-1.5911	0.1982	-0.568703	0.2764	-2.06	272	0.0406	1.2777	0.2583	-0.3766	30	22	@460
C	0.01	0.634517	0.2199	D	-0.01	0.760056	0.2297	-0.125539	0.318	-0.39	271	0.6933	0.2619	0.6088	-0.2494	30	23	@1232
C	0	2.19884	0.3927	D	0	2.19884	0.3723	0	0.5411	0	275	1	0.5947	0.4406	-0.7323	30	24	@420
C	0.01	0.450803	0.2091	D	-0.01	0.559276	0.2188	-0.108473	0.3027	-0.36	271	0.7203	0.0503	0.8225	-0.1345	30	25	@462
C	0.03	0.091088	0.192	D	-0.04	0.465488	0.2144	-0.374401	0.2878	-1.3	266	0.1944	3.4583	0.0629	-0.6617	30	26	@436
C	-0.01	1.07596	0.2527	D	0.02	0.813522	0.2329	0.262441	0.3436	0.76	275	0.4456	0.2496	0.6174	0.27207	30	27	@1229
C	0.02	-0.18814	0.1823	D	-0.02	0.002708	0.1976	-0.190847	0.2688	-0.71	269	0.4783	0.0114	0.915	0.00938	30	28	@439
C	0.01	0.840004	0.2339	D	-0.01	1.04434	0.2482	-0.204339	0.3411	-0.6	270	0.5496	0.0273	0.8688	-0.1313	30	29	@440
C	0.05	-0.41295	0.1765	D	-0.06	0.162584	0.2024	-0.57553	0.2686	-2.14	263	0.033	5.1924	0.0227	-0.7759	30	30	@415
C	-0.01	0.091095	0.192	D	0.01	0.002404	0.1975	0.088691	0.2755	0.32	272	0.7477	0.0003	0.9852	0.03837	30	31	@429
C	-0.04	0.365317	0.2045	D	0.04	-0.07455	0.1955	0.439863	0.283	1.55	275	0.1212	1.4405	0.2301	0.46867	30	32	@445
C	0.01	0.365297	0.2045	D	-0.01	0.465469	0.2144	-0.100172	0.2963	-0.34	271	0.7356	0.6062	0.4362	-0.3284	30	33	@412
C	0.01	-0.05215	0.1866	D	-0.01	0.041607	0.1987	-0.093759	0.2726	-0.34	270	0.7311	1.1265	0.2885	-0.3787	30	34	@426
C	0.03	-0.38167	0.1772	D	-0.04	-0.03611	0.1965	-0.345561	0.2646	-1.31	267	0.1927	1.9246	0.1654	-0.4634	30	35	@448
C	-0.02	-0.9764	0.1698	D	0.02	-1.1805	0.1894	0.204134	0.2544	0.8	266	0.423	0.4407	0.5068	0.21065	30	36	@421
C	-0.01	-0.38167	0.1772	D	0.02	-0.51344	0.188	0.131775	0.2584	0.51	270	0.6104	1.4429	0.2297	0.36468	30	37	@446
C	0.02	1.06981	0.216	D	-0.02	1.35994	0.228	-0.290137	0.3141	-0.92	271	0.3564	0.6498	0.4202	-0.4911	30	38	@1093
C	0.02	0.495015	0.2116	D	-0.03	0.868583	0.2363	-0.373568	0.3172	-1.18	266	0.2399	0.7041	0.4014	-0.3819	30	39	@443
C	-0.04	0.091107	0.192	D	0.05	-0.37054	0.1897	0.461647	0.2699	1.71	274	0.0884	2.6399	0.1042	0.52121	30	40	@454
C	0.01	-0.31862	0.1787	D	-0.01	-0.225	0.1922	-0.093624	0.2624	-0.36	269	0.7216	0.1005	0.7513	0.12303	30	41	@425
C	0.05	-0.22119	0.1813	D	-0.06	0.331399	0.2086	-0.552591	0.2764	-2	263	0.0466	1.1886	0.2756	-0.3393	30	42	@419
C	0	-0.55844	0.1736	D	0	-0.55844	0.1877	0	0.2557	0	269	1	0.0088	0.9251	0.06477	30	43	@433
C	0.04	-2.48	0.2086	D	-0.05	-1.9679	0.2122	-0.512109	0.2976	-1.72	273	0.0864	2.9983	0.0834	-0.6091	30	44	@458
C	-0.01	-0.65587	0.1723	D	0.01	-0.75853	0.1867	0.102661	0.2541	0.4	269	0.6865	0.0041	0.949	-0.0559	30	45	@416
C	-0.03	-0.47479	0.1752	D	0.03	-0.72361	0.1868	0.248824	0.2561	0.97	270	0.3322	0.0252	0.8738	0.08648	30	46	@456
C	0.02	1.01343	0.2474	D	-0.02	1.38578	0.2762	-0.372358	0.3708	-1	266	0.3162	0.0156	0.9005	0.02904	30	47	@449

C	0.03	-0.02929	0.101	D	-0.04	0.075844	0.1044	-0.105131	0.1453	-0.72	272	0.4698	0.5227	0.4697	-0.205	30	48	@435
C	-0.03	-0.44398	0.1758	D	0.04	-0.75849	0.1867	0.314514	0.2565	1.23	270	0.2212	2.3719	0.1235	0.45167	30	49	@452
C	-0.06	-0.12094	0.1843	D	0.07	-0.72361	0.1868	0.602662	0.2624	2.3	273	0.0224	3.9362	0.0473	0.68142	30	50	@1187
C	-0.05	-0.35014	0.1779	D	0.06	-0.82822	0.1867	0.478078	0.2579	1.85	271	0.0649	0.7964	0.3722	0.27293	30	51	@451
C	-0.01	0.204418	0.1968	D	0.02	0.041951	0.1987	0.162466	0.2797	0.58	273	0.5617	0.2983	0.5849	0.21408	30	52	@1058
C	-0.05	1.6519	0.1773	D	0.06	1.22089	0.1511	0.431009	0.233	1.85	274	0.0654	2.4844	0.115	0.48566	30	53	@464
C	0.02	0.018455	0.1892	D	-0.03	0.28818	0.207	-0.269725	0.2804	-0.96	268	0.3369	0.0088	0.9251	-0.0698	30	54	@437
C	0.02	-0.59607	0.1731	D	-0.02	-0.40644	0.1892	-0.189627	0.2565	-0.74	268	0.4603	0.3668	0.5448	-0.2144	30	55	@1121
C	-0.01	1.20959	0.2646	D	0.01	0.983779	0.244	0.22581	0.3599	0.63	275	0.5309	0.0364	0.8487	0.00697	30	56	@453
C	0.01	0.166013	0.1951	D	-0.01	0.288175	0.207	-0.122162	0.2844	-0.43	270	0.6679	0.0119	0.9131	-0.0115	30	57	@428

Grade 6 Mathematics, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.01	0.235821	0.2159	D	0.01	0.159138	0.2403	0.076683	0.323	0.24	221	0.8126	0.0189	0.8906	0.11251	29	1	@581
C	-0.03	-0.7975	0.1834	D	0.04	-1.1248	0.2083	0.327275	0.2776	1.18	219	0.2397	1.6976	0.1926	0.46659	29	2	@568
C	0.04	-1.0958	0.1811	D	-0.05	-0.68619	0.2118	-0.409571	0.2787	-1.47	216	0.1431	2.7615	0.0966	-0.6323	29	3	@579
C	0	0.448069	0.2269	D	0	0.469591	0.259	-0.021522	0.3443	-0.06	218	0.9502	0.2322	0.6299	-0.2716	29	4	@470
C	0.02	-0.89782	0.1823	D	-0.03	-0.68619	0.2118	-0.211631	0.2795	-0.76	217	0.4497	0.5729	0.4491	-0.3395	29	5	@468
C	0	-0.88375	0.1823	D	0	-0.86349	0.2095	-0.020258	0.2777	-0.07	218	0.9419	0.0546	0.8152	-0.1279	29	6	@1200
C	0.01	0.10066	0.2093	D	-0.01	0.218038	0.2435	-0.117377	0.321	-0.37	216	0.715	0.0103	0.9191	0.09953	29	7	@551
C	0.01	0.014692	0.2055	D	-0.02	0.218042	0.2435	-0.20335	0.3186	-0.64	214	0.5239	0.0089	0.925	0.09347	29	8	@480
C	-0.06	-0.49474	0.0845	D	0.09	-0.6351	0.0935	0.140362	0.126	1.11	222	0.2666	0.9956	0.3184	0.3019	29	9	@469
C	-0.02	1.70643	0.3512	D	0.03	1.11357	0.3156	0.592864	0.4722	1.26	235	0.2105	0.2346	0.6282	0.44127	29	10	@585
C	-0.02	0.100666	0.2093	D	0.03	-0.1648	0.2257	0.265462	0.3078	0.86	224	0.3894	0.3411	0.5592	0.26586	29	11	@578
C	0.02	1.58857	0.335	D	-0.02	2.34039	0.5155	-0.751821	0.6148	-1.22	180	0.223	0.5314	0.466	-0.8301	29	12	@1251
C	-0.02	-0.52187	0.1883	D	0.03	-0.73089	0.2111	0.209021	0.2828	0.74	220	0.4607	1.1784	0.2777	0.36057	29	13	@490
C	-0.01	0.331483	0.221	D	0.01	0.218036	0.2435	0.113447	0.3288	0.35	222	0.7304	0.0479	0.8268	-0.144	29	14	@1256
C	0.05	0.294558	0.1264	D	-0.06	0.550499	0.1548	-0.255941	0.1998	-1.28	210	0.2017	4.0623	0.0439	-0.6724	29	15	@502
C	-0.01	0.144881	0.2113	D	0.02	-0.00768	0.2322	0.152565	0.314	0.49	223	0.6275	0.0065	0.9357	-0.0328	29	16	@484
C	0	-0.20523	0.0867	D	0	-0.20523	0.0975	0	0.1304	0	220	1	0.1023	0.749	0.10704	29	17	@1131
C	-0.02	0.723634	0.1478	D	0.03	0.609754	0.1534	0.11388	0.213	0.53	228	0.5935	0.2003	0.6545	0.17253	29	18	@1062
C	0.03	-0.7975	0.1834	D	-0.03	-0.51643	0.2161	-0.28107	0.2835	-0.99	213	0.3225	0.4721	0.492	-0.2933	29	19	@537
C	0.01	-0.52187	0.1883	D	-0.02	-0.37405	0.2198	-0.147815	0.2894	-0.51	214	0.61	0.0824	0.7741	-0.1387	29	20	@567

C	-0.01	1.48115	0.3212	D	0.02	1.10693	0.3158	0.374218	0.4505	0.83	230	0.407	2.0796	0.1493	0.90314	29	21	@577
C	0.05	-0.99711	0.1816	D	-0.07	-0.46948	0.2172	-0.527629	0.2831	-1.86	211	0.0638	1.1083	0.2924	-0.3804	29	22	@1142
C	0.01	0.189727	0.2135	D	-0.01	0.268882	0.2473	-0.079155	0.3267	-0.24	215	0.8088	0.029	0.8647	0.12953	29	23	@487
C	0.02	0.100657	0.2093	D	-0.02	0.331415	0.251	-0.230758	0.3268	-0.71	211	0.4809	1.5285	0.2163	-0.5252	29	24	@580
C	-0.03	-0.3775	0.1918	D	0.04	-0.69998	0.2126	0.322481	0.2863	1.13	220	0.2613	0.2935	0.588	0.21783	29	25	@526
C	0.01	0.10066	0.2093	D	-0.01	0.209048	0.2439	-0.108388	0.3214	-0.34	215	0.7362	0.0007	0.9796	0.0471	29	26	@1253
C	-0.03	1.04463	0.2738	D	0.04	0.461381	0.2594	0.583253	0.3772	1.55	232	0.1234	0.8539	0.3555	0.4673	29	27	@534
C	0	1.5887	0.335	D	-0.01	1.72704	0.3986	-0.138345	0.5207	-0.27	212	0.7907	0.1376	0.7107	-0.377	29	28	@1225
C	0.02	-0.41412	0.1909	D	-0.03	-0.12373	0.2283	-0.290384	0.2975	-0.98	211	0.3302	1.6338	0.2012	-0.5673	29	29	@520
C	0	1.29496	0.1812	D	0	1.29496	0.2066	0	0.2748	0	217	1	1.5924	0.207	-0.4735	29	30	@472
C	0.02	-1.6256	0.1844	D	-0.03	-1.3865	0.2098	-0.239183	0.2793	-0.86	219	0.3928	0.8085	0.3686	-0.3571	29	31	@535
C	0.01	-2.4156	0.2082	D	-0.02	-2.2526	0.2352	-0.162916	0.3141	-0.52	220	0.6046	0.0743	0.7852	-0.169	29	32	@571
C	0	-0.22236	0.1964	D	0	-0.22236	0.2239	0	0.2978	0	219	1	0.0074	0.9317	-0.0892	29	33	@553
C	0.02	-1.0629	0.1813	D	-0.03	-0.81949	0.2099	-0.243431	0.2774	-0.88	217	0.3811	0.5467	0.4597	-0.285	29	34	@563
C	-0.07	-0.62693	0.1861	D	0.09	-1.3425	0.2094	0.7156	0.2801	2.55	220	0.0113	3.4021	0.0651	0.68088	29	35	@550
C	0.03	-0.72986	0.1844	D	-0.04	-0.41011	0.2178	-0.319747	0.2854	-1.12	215	0.2637	1.5945	0.2067	-0.471	29	36	@515
C	0.03	-0.76377	0.1839	D	-0.04	-0.45727	0.2165	-0.306497	0.2841	-1.08	215	0.2819	0.6332	0.4262	-0.2967	29	37	@509
C	-0.01	-0.5575	0.1875	D	0.02	-0.68664	0.2118	0.129137	0.2828	0.46	220	0.6484	0.1119	0.738	0.15573	29	38	@495
C	-0.05	0.28332	0.2184	D	0.07	-0.36247	0.2191	0.645794	0.3094	2.09	230	0.0379	2.5241	0.1121	0.66097	29	39	@574
C	0.01	-0.14876	0.1991	D	-0.01	-0.00768	0.2322	-0.141082	0.3058	-0.46	216	0.645	0.4398	0.5072	-0.2965	29	40	@478
C	0	1.1209	0.2812	D	-0.01	1.21595	0.3271	-0.095048	0.4314	-0.22	216	0.8258	0.0411	0.8393	0.03009	29	41	@575
C	0.07	-0.13412	0.1137	D	-0.09	0.167359	0.1438	-0.301482	0.1833	-1.64	206	0.1015	0.9243	0.3363	-0.3063	29	42	@491
C	-0.08	0.709588	0.2456	D	0.1	-0.38012	0.2198	1.089707	0.3296	3.31	234	0.0011	7.4216	0.0064	1.0647	29	43	@512
C	-0.01	0.771076	0.2503	D	0.01	0.596289	0.2695	0.174788	0.3679	0.48	223	0.6351	0.0206	0.8859	-0.0183	29	44	@521
C	-0.03	-0.62694	0.1861	D	0.04	-0.97302	0.2098	0.34608	0.2805	1.23	218	0.2186	0.6818	0.409	0.31084	29	45	@1101
C	0.01	-0.3031	0.194	D	-0.02	-0.12924	0.2283	-0.173859	0.2996	-0.58	213	0.5623	0.0364	0.8488	-0.1157	29	46	@572
C	0	0.901006	0.261	D	-0.01	1.00584	0.3058	-0.104833	0.402	-0.26	214	0.7945	0.0058	0.9394	0.06183	29	47	@476

C	0.03	-0.66146	0.1855	D	-0.03	-0.37975	0.2198	-0.281718	0.2876	-0.98	213	0.3285	0.1701	0.6801	-0.2002	29	48	@1203
C	0	1.7063	0.3512	D	-0.01	1.89298	0.4274	-0.186685	0.5532	-0.34	209	0.7361	0.0315	0.8592	-0.3779	29	49	@524
C	0.03	-0.62694	0.1861	D	-0.04	-0.3311	0.2213	-0.295844	0.2891	-1.02	212	0.3074	0.2415	0.6231	-0.2273	29	50	@514
C	-0.02	-0.62694	0.1861	D	0.02	-0.79578	0.2114	0.168835	0.2816	0.6	218	0.5495	0.6757	0.4111	0.30109	29	51	@1063
C	0	0.971178	0.2671	D	0	0.914788	0.2968	0.05639	0.3993	0.14	220	0.8878	0.5991	0.4389	-0.5341	29	52	@570
C	-0.01	0.431724	0.2269	D	0.01	0.326283	0.2511	0.105441	0.3384	0.31	220	0.7556	0.1306	0.7179	0.20187	29	53	@545
C	0	-0.22703	0.1964	D	0.01	-0.28193	0.2228	0.054909	0.297	0.18	218	0.8535	0.8144	0.3668	0.36219	29	54	@517
C	0.01	0.709588	0.2456	D	-0.01	0.8294	0.2889	-0.119812	0.3792	-0.32	214	0.7523	0.1026	0.7487	0.22094	29	55	@466
C	0	1.98104	0.3936	D	0	2.08966	0.4644	-0.108624	0.6087	-0.18	213	0.8585	0.002	0.9644	0.26126	29	56	@482
C	-0.03	-1.2925	0.1813	D	0.04	-1.6402	0.2149	0.34769	0.2812	1.24	212	0.2176	1.4992	0.2208	0.4577	29	57	@1254

Grade 7 Mathematics, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0.01	-1.9236	0.1963	D	-0.02	-1.7691	0.2374	-0.1545	0.308	-0.5	163	0.6167	0.1343	0.714	-0.1644	17	1	@616
C	-0.05	-1.0648	0.1351	D	0.07	-1.2948	0.153	0.230019	0.2042	1.13	169	0.2615	0.0754	0.7836	0.09539	17	2	@562
C	-0.04	-0.9211	0.2114	D	0.06	-1.3744	0.2389	0.453271	0.319	1.42	170	0.1572	1.0847	0.2977	0.46859	17	3	@533
C	-0.02	1.33936	0.2848	D	0.03	0.96982	0.2838	0.36954	0.402	0.92	180	0.3592	2.3609	0.1244	0.78557	17	4	@467
C	0	1.46886	0.4629	D	-0.01	1.76133	0.5944	-0.292465	0.7534	-0.39	156	0.6984	0.1513	0.6973	0.16348	17	5	@471
C	0.06	0.001279	0.2646	D	-0.08	1.76129	0.5944	-1.76001	0.6507	-2.7	106	0.008	5.222	0.0223	-1.748	17	6	@543
C	-0.02	0.227503	0.2847	D	0.02	-0.09692	0.2971	0.324424	0.4115	0.79	177	0.4315	1.4214	0.2332	0.60352	17	7	@474
C	0	-1.0144	0.2084	D	0	-1.0144	0.2466	0	0.3229	0	165	1	0	0.9953	-0.0752	17	8	@565
C	-0.03	0.493664	0.3124	D	0.04	-0.09703	0.2971	0.590689	0.4312	1.37	183	0.1724	1.9917	0.1582	0.7997	17	9	@522
C	-0.03	-0.96545	0.2098	D	0.04	-1.2594	0.2408	0.293902	0.3194	0.92	168	0.3588	0.8181	0.3657	0.34847	17	10	@489
C	0.02	-0.87608	0.213	D	-0.03	-0.63646	0.262	-0.23962	0.3377	-0.71	161	0.479	1.0852	0.2975	-0.4936	17	11	@540
C	0	-1.5638	0.1969	D	0	-1.5638	0.2374	0	0.3084	0	163	1	0.0128	0.9098	0.01789	17	12	@523
C	-0.04	0.399417	0.302	D	0.06	-0.34518	0.2789	0.744601	0.4111	1.81	184	0.0717	2.0633	0.1509	0.92133	17	13	@527
C	-0.08	-1.2199	0.2026	D	0.12	-2.1129	0.2422	0.893034	0.3157	2.83	164	0.0053	5.293	0.0214	0.8516	17	14	@1241
C	0	-0.0669	0.2592	D	0	-0.00669	0.3047	-0.060201	0.4	-0.15	166	0.8806	0.1559	0.6929	-0.2633	17	15	@1244
C	-0.01	3.10621	1.008	D	0.02	1.76069	0.5943	1.34552	1.17	1.15	170	0.2516	0.0045	0.9467	0.98009	17	16	@1264
C	-0.04	-0.40251	0.2378	D	0.05	-0.89868	0.2507	0.496171	0.3455	1.44	175	0.1528	1.6263	0.2022	0.57984	17	17	@1259
C	-0.01	-1.6462	0.197	D	0.02	-1.7693	0.2374	0.123061	0.3085	0.4	163	0.6905	0.0039	0.9501	0.0809	17	18	@1065
C	-0.01	-0.25759	0.2453	D	0.01	-0.34561	0.2789	0.08802	0.3714	0.24	169	0.813	0.0294	0.8638	0.02423	17	19	@475
C	-0.02	-0.53673	0.2285	D	0.03	-0.8352	0.2531	0.298478	0.341	0.88	172	0.3826	0.5167	0.4722	0.34246	17	20	@564

C	0.06	-1.2607	0.2016	D	-0.09	-0.49514	0.2696	-0.765595	0.3367	-2.27	152	0.0244	3.1487	0.076	-0.7415	17	21	@505
C	0.01	0.148572	0.2773	D	-0.01	0.298384	0.3345	-0.149812	0.4345	-0.34	163	0.7307	0.2806	0.5963	-0.3698	17	22	@516
C	-0.06	-1.4209	0.1987	D	0.09	-2.1129	0.2422	0.692046	0.3133	2.21	162	0.0286	3.1252	0.0771	0.63803	17	23	@508
C	0.02	0.594708	0.3243	D	-0.03	1.4542	0.5199	-0.859493	0.6127	-1.4	132	0.163	1.0026	0.3167	-0.9809	17	24	@525
C	0.01	2.00828	0.5896	D	-0.01	2.90012	1.01	-0.891839	1.17	-0.76	126	0.4472	0.1705	0.6797	-0.8867	17	25	@1066
C	0.02	-0.19599	0.2496	D	-0.02	0.089116	0.3134	-0.285107	0.4006	-0.71	159	0.4777	0.0826	0.7738	-0.2017	17	26	@488
C	0	0.1671	0.2773	D	0	0.190169	0.3232	-0.023069	0.4258	-0.05	167	0.9569	0.0015	0.9692	-0.1228	17	27	@477
C	0.04	-0.96546	0.2098	D	-0.05	-0.49523	0.2696	-0.470228	0.3416	-1.38	156	0.1707	2.3332	0.1266	-0.6776	17	28	@494
C	0.02	-0.32098	0.2417	D	-0.03	0.08915	0.3134	-0.410133	0.3957	-1.04	155	0.3016	0.401	0.5266	-0.3472	17	29	@506
C	-0.01	-0.58831	0.2258	D	0.01	-0.70426	0.2588	0.115949	0.3434	0.34	168	0.7361	0.088	0.7667	0.1736	17	30	@496
C	0	2.42822	0.7172	D	0	2.89985	1.01	-0.471624	1.239	-0.38	146	0.7039	0.0032	0.9546	-0.5408	17	31	@538
C	-0.02	0.493628	0.3124	D	0.03	-0.00645	0.3047	0.500081	0.4364	1.15	182	0.2534	2.8066	0.0939	1.184	17	32	@479
C	0.01	-0.06669	0.2592	D	-0.02	0.190347	0.3232	-0.257036	0.4143	-0.62	159	0.5359	0.0001	0.9904	-0.1078	17	33	@483
C	0.03	-0.58832	0.2258	D	-0.04	-0.18312	0.2904	-0.405201	0.3678	-1.1	156	0.2723	0.7614	0.3829	-0.4271	17	34	@559
C	0.03	-0.48389	0.2314	D	-0.04	-0.00629	0.3048	-0.477592	0.3826	-1.25	153	0.2139	0.0051	0.9429	-0.1179	17	35	@486
C	0.03	-0.19601	0.2496	D	-0.04	0.298488	0.3345	-0.494499	0.4173	-1.18	151	0.2379	0.0924	0.7612	-0.2162	17	36	@1234
C	0.01	2.00762	0.5895	D	-0.02	4.11992	1.833	-2.11229	1.926	-1.1	91	0.2756	0.125	0.7237	.	17	37	@1247
C	-0.02	-0.59346	0.1551	D	0.04	-0.73302	0.1682	0.139568	0.2288	0.61	174	0.5426	0.3223	0.5702	0.23035	17	38	@481
C	0	1.27226	0.4254	D	-0.01	1.45356	0.5197	-0.1813	0.6716	-0.27	162	0.7875	0.0972	0.7552	0.70748	17	39	@519
C	-0.02	-0.48387	0.2314	D	0.03	-0.72279	0.2597	0.238926	0.3478	0.69	169	0.493	0.1189	0.7303	0.22579	17	40	@498
C	0	-0.89347	0.213	D	0.01	-0.91872	0.2517	0.025256	0.3298	0.08	164	0.939	0.2143	0.6434	-0.2348	17	41	@485
C	-0.03	0.704598	0.338	D	0.05	-0.02142	0.3053	0.726013	0.4555	1.59	184	0.1127	2.5959	0.1071	0.78102	17	42	@1237
C	-0.02	1.86313	0.6605	D	0.02	0.918112	0.3998	0.945015	0.7721	1.22	172	0.2226	2.9981	0.0834	.	17	43	@555
C	0.01	-1.137	0.2046	D	-0.02	-0.98145	0.2496	-0.15556	0.3228	-0.48	160	0.6305	0.0855	0.77	-0.1489	17	44	@557
C	0	2.00837	0.5897	D	0	1.75026	0.5947	0.258112	0.8375	0.31	178	0.7583	0.1375	0.7108	1.1223	17	45	@552
C	0	-1.3173	0.2008	D	0.01	-1.341	0.2411	0.023702	0.3138	0.08	162	0.9399	0.0265	0.8707	-0.0023	17	46	@536
C	0.06	-0.96548	0.2098	D	-0.08	-0.19849	0.2911	-0.766984	0.3588	-2.14	146	0.0342	2.1946	0.1385	-0.6267	17	47	@549

C	0.04	-1.1787	0.2035	D	-0.06	-0.65451	0.2629	-0.524154	0.3325	-1.58	154	0.117	2.55	0.1103	-0.6773	17	48	@541
C	0.01	0.956052	0.3732	D	-0.01	1.19858	0.4696	-0.242526	0.5998	-0.4	157	0.6865	0.0181	0.8931	-0.3844	17	49	@501
C	0	0.162929	0.2171	D	0	0.162929	0.234	0	0.3192	0	173	1	0.0311	0.8601	-0.1363	17	50	@547
C	0	3.13602	1.007	D	-0.01	4.10758	1.831	-0.971561	2.09	-0.46	119	0.6429	0.125	0.7237	.	17	51	@513
C	-0.01	-0.87641	0.213	D	0.01	-0.98198	0.2496	0.105572	0.3281	0.32	164	0.7481	0.2953	0.5868	0.24466	17	52	@503
C	0.01	1.70631	0.5141	D	-0.01	2.1761	0.7213	-0.469787	0.8858	-0.53	145	0.5967	0.0045	0.9464	-0.7113	17	53	@1252
C	0.03	-1.0092	0.2084	D	-0.05	-0.58448	0.2665	-0.424691	0.3383	-1.26	155	0.2112	0.1203	0.7287	-0.1868	17	54	@493
C	-0.01	-0.06668	0.2592	D	0.01	-0.19873	0.291	0.132042	0.3897	0.34	169	0.7352	0.381	0.5371	-0.3923	17	55	@561
C	0	0.001594	0.2646	D	-0.01	0.07417	0.3139	-0.072577	0.4106	-0.18	163	0.8599	0.0975	0.7549	-0.253	17	56	@492
C	0.04	-0.48393	0.2314	D	-0.07	0.285079	0.335	-0.769011	0.4072	-1.89	141	0.061	0.3631	0.5468	-0.3348	17	58	@511

Grade 8 Mathematics, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.01	0.078371	0.3286	D	0.01	-0.01007	0.316	0.088443	0.4559	0.19	132	0.8465	0.1089	0.7414	0.31489	21	1	@602
C	0.04	-1.1323	0.2579	D	-0.05	-0.69643	0.2758	-0.435873	0.3776	-1.15	131	0.2505	0.3836	0.5357	-0.3414	21	2	@594
C	0.01	-0.55917	0.281	D	-0.01	-0.46009	0.2867	-0.099086	0.4014	-0.25	132	0.8054	0.0216	0.8832	0.1658	21	3	@593
C	-0.02	-0.09398	0.2217	D	0.02	-0.21015	0.212	0.116173	0.3068	0.38	132	0.7055	0.0513	0.8207	0.09594	21	4	@583
C	0.03	-0.30912	0.2967	D	-0.03	0.092896	0.3244	-0.402014	0.4396	-0.91	131	0.3621	0.0313	0.8596	-0.1964	21	5	@544
C	-0.01	-0.02588	0.3191	D	0.01	-0.20033	0.3021	0.174448	0.4394	0.4	132	0.692	0.0249	0.8747	0.16787	21	6	@604
C	0	0.440101	0.368	D	0	0.440101	0.3579	0	0.5133	0	132	1	0.006	0.9383	-0.0914	21	7	@597
C	-0.01	-0.21947	0.3032	D	0.01	-0.29012	0.2964	0.070651	0.424	0.17	132	0.8679	0.3841	0.5354	0.40345	21	8	@1236
C	0.01	-0.396	0.2908	D	-0.01	-0.29043	0.2963	-0.105575	0.4152	-0.25	132	0.7997	0.1622	0.6872	-0.3448	21	9	@569
C	-0.01	-0.47843	0.2857	D	0.01	-0.6195	0.279	0.141074	0.3993	0.35	132	0.7244	0.0708	0.7902	0.19239	21	10	@1230
C	0.03	0.203896	0.2702	D	-0.03	0.557338	0.3026	-0.353442	0.4057	-0.87	130	0.3852	0.578	0.4471	-0.5447	21	11	@1135
C	-0.03	0.73996	0.4086	D	0.03	0.20108	0.3339	0.538881	0.5277	1.02	128	0.3091	0.1799	0.6714	0.43228	21	12	@590
C	0.01	0.310393	0.3527	D	-0.01	0.43849	0.3577	-0.128097	0.5024	-0.25	132	0.7991	0.0349	0.8519	0.24175	21	13	@573
C	0.01	-1.1985	0.2563	D	-0.01	-1.1297	0.2633	-0.068839	0.3675	-0.19	132	0.8517	0.4877	0.4849	-0.3292	21	14	@596
C	-0.01	0.739833	0.4086	D	0.01	0.573131	0.3731	0.166702	0.5533	0.3	132	0.7637	0.0163	0.8984	0.24814	21	15	@615
C	-0.03	0.440178	0.368	D	0.03	-0.00963	0.316	0.449808	0.485	0.93	130	0.3555	0.772	0.3796	0.64645	21	16	@531
C	-0.02	0.310416	0.3527	D	0.02	-0.00961	0.316	0.320025	0.4736	0.68	132	0.5004	0.3515	0.5533	0.38397	21	17	@601
C	-0.05	-1.9649	0.254	D	0.05	-2.4721	0.2842	0.507189	0.3812	1.33	130	0.1856	1.1234	0.2892	0.5133	21	18	@618
C	0.04	0.181773	0.2724	D	-0.04	0.650956	0.328	-0.469183	0.4264	-1.1	127	0.2732	2.8564	0.091	-1.793	21	19	@1138
C	0.02	1.68254	0.5976	D	-0.02	3.00102	1.016	-1.31847	1.178	-1.12	105	0.2657	0.2747	0.6002	.	21	20	@620

C	-0.01	-0.47843	0.2857	D	0.01	-0.6195	0.279	0.141074	0.3993	0.35	132	0.7244	0.0225	0.8809	-0.0292	21	21	@607
C	-0.01	-0.30936	0.2967	D	0.01	-0.37638	0.2912	0.067021	0.4157	0.16	132	0.8722	0.0347	0.8522	-0.2056	21	22	@1270
C	0.06	-0.30932	0.2967	D	-0.06	0.573615	0.3731	-0.882932	0.4767	-1.85	125	0.0664	5.9684	0.0146	-1.773	21	23	@1273
C	0.04	0.310173	0.3527	D	-0.04	1.06346	0.4416	-0.753286	0.5652	-1.33	125	0.185	0.2673	0.6052	-0.4612	21	24	@576
C	-0.04	-0.92818	0.2642	D	0.04	-1.2671	0.2613	0.338926	0.3715	0.91	132	0.3633	0.9311	0.3346	0.5564	21	25	@1269
C	0.01	1.23972	0.3657	D	-0.01	1.39796	0.3687	-0.158242	0.5193	-0.3	132	0.7611	0.1138	0.7359	-0.2044	21	26	@582
C	0.01	1.68312	0.5977	D	-0.01	2.27687	0.7276	-0.593756	0.9417	-0.63	127	0.5295	0.3359	0.5622	-0.9305	21	27	@548
C	-0.03	-0.30909	0.2967	D	0.03	-0.61951	0.279	0.31042	0.4073	0.76	132	0.4473	0.7453	0.388	0.42339	21	28	@598
C	-0.02	0.310416	0.3527	D	0.02	-0.00961	0.316	0.320025	0.4736	0.68	132	0.5004	0.0086	0.9262	0.15516	21	29	@617
C	-0.02	2.11312	0.724	D	0.02	1.27355	0.478	0.839572	0.8676	0.97	116	0.3352	0.0155	0.9009	0.57179	21	30	@591
C	-0.03	0.507204	0.2337	D	0.04	0.293162	0.1923	0.214042	0.3026	0.71	129	0.4806	0.4947	0.4819	0.31155	21	31	@613
C	-0.02	-1.329	0.2539	D	0.02	-1.5383	0.26	0.209276	0.3634	0.58	132	0.5657	0.0267	0.8703	0.13918	21	32	@592
C	0.04	-0.85771	0.2668	D	-0.04	-0.45964	0.2867	-0.398078	0.3916	-1.02	131	0.3113	1.238	0.2659	-0.5852	21	33	@621
C	0.03	0.581954	0.3862	D	-0.03	1.2741	0.4781	-0.692144	0.6146	-1.13	126	0.2622	2.0542	0.1518	-1.196	21	34	@1218
C	-0.03	-0.12495	0.3107	D	0.04	-0.54067	0.2826	0.415726	0.42	0.99	132	0.3241	1.0361	0.3087	0.45092	21	35	@529
C	0.04	-0.99734	0.2618	D	-0.05	-0.54065	0.2826	-0.456687	0.3853	-1.19	131	0.238	1.6236	0.2026	-0.6108	21	36	@1141
C	-0.03	-0.21914	0.3032	D	0.03	-0.54067	0.2826	0.321526	0.4145	0.78	132	0.4394	0.2364	0.6268	0.37624	21	37	@584
C	0.03	-0.39538	0.2909	D	-0.03	-0.00958	0.316	-0.385808	0.4295	-0.9	131	0.3707	0.0009	0.9767	-0.1635	21	38	@566
C	-0.01	1.37158	0.5234	D	0.01	1.06306	0.4416	0.308517	0.6848	0.45	130	0.6531	0.055	0.8146	-0.08	21	39	@1268
C	0	-0.77896	0.2698	D	0	-0.77896	0.2729	0	0.3838	0	132	1	0.4059	0.5241	0.33791	21	40	@1228
C	0.03	1.12272	0.473	D	-0.03	3.00529	1.018	-1.88257	1.122	-1.68	92	0.0968	1.3875	0.2388	-1.893	21	41	@588
C	-0.01	-0.12535	0.3106	D	0.01	-0.20064	0.3021	0.075288	0.4333	0.17	132	0.8623	0.1007	0.751	0.34491	21	42	@612
C	0.03	1.37157	0.5234	D	-0.03	4.23743	1.846	-2.86585	1.919	-1.49	75	0.1394	1.0249	0.3114	.	21	43	@542
C	-0.02	-0.12497	0.3107	D	0.02	-0.37617	0.2913	0.251197	0.4258	0.59	132	0.5563	0.0214	0.8836	0.20722	21	44	@1274
C	-0.07	-1.3927	0.253	D	0.07	-2.0202	0.2668	0.627493	0.3677	1.71	132	0.0902	1.2518	0.2632	0.51388	21	45	@600
C	-0.07	-1.2638	0.255	D	0.07	-1.8797	0.2636	0.615884	0.3668	1.68	132	0.0955	0.7304	0.3927	0.44729	21	46	@614
C	0.02	-0.55869	0.281	D	-0.02	-0.28985	0.2964	-0.268835	0.4084	-0.66	132	0.5115	0.5362	0.464	-0.4362	21	47	@586

C	0.01	-1.2639	0.255	D	-0.01	-1.1987	0.2622	-0.065184	0.3657	-0.18	132	0.8588	0.0286	0.8658	0.1252	21	48	@608
C	-0.01	-0.9283	0.2642	D	0.01	-0.98954	0.2663	0.061239	0.3751	0.16	132	0.8706	0.0316	0.859	0.0065	21	49	@611
C	0.01	-0.30981	0.2966	D	-0.01	-0.20097	0.3021	-0.108842	0.4234	-0.26	132	0.7975	0.1509	0.6977	-0.2527	21	50	@556
C	0.02	-0.71206	0.2731	D	-0.02	-0.54066	0.2826	-0.171405	0.393	-0.44	132	0.6635	0.0486	0.8255	-0.1683	21	51	@532
C	0.07	-1.1323	0.2579	D	-0.07	-0.45961	0.2867	-0.672708	0.3856	-1.74	130	0.0835	1.5319	0.2158	-0.5254	21	52	@530
C	0	1.12401	0.4732	D	0	1.06276	0.4415	0.061256	0.6472	0.09	132	0.9247	0.6882	0.4068	0.86164	21	53	@603
C	-0.04	0.44023	0.368	D	0.04	-0.10715	0.3086	0.547382	0.4803	1.14	130	0.2565	1.1836	0.2766	0.73455	21	54	@599
C	0.01	-0.99752	0.2618	D	-0.01	-0.91819	0.2682	-0.079334	0.3748	-0.21	132	0.8327	0.0708	0.7902	-0.1747	21	55	@589
C	0.01	2.83046	1.012	D	-0.01	4.22506	1.835	-1.3946	2.095	-0.67	101	0.5072	0	1	.	21	56	@1140

Grade 3 Hawaiian Language Arts, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0.01	-2.1679	0.1921	D	-0.02	-1.967	0.2222	-0.20089	0.2937	-0.68	318	0.4945	1.0139	0.314	-0.3736	38	1	@93
C	0	0.009047	0.1601	D	0	0.029141	0.1807	-0.020095	0.2414	-0.08	322	0.9337	0.2423	0.6226	-0.1954	38	2	@101
C	-0.01	-0.16027	0.1583	D	0.01	-0.23031	0.1798	0.070033	0.2396	0.29	321	0.7702	0.0078	0.9297	-0.0164	38	3	@381
C	0.01	-0.21028	0.1579	D	-0.01	-0.1333	0.1799	-0.076979	0.2393	-0.32	321	0.7479	0.0003	0.9864	-0.0453	38	4	@108
C	0.03	-2.282	0.1979	D	-0.04	-1.7331	0.2108	-0.548892	0.2891	-1.9	330	0.0585	3.056	0.0804	-0.6358	38	5	@94
C	0.01	-0.40779	0.1566	D	-0.01	-0.32727	0.1799	-0.080525	0.2385	-0.34	319	0.7359	0.267	0.6054	-0.1824	38	6	@99
C	-0.03	-0.35864	0.1568	D	0.04	-0.6872	0.1824	0.328561	0.2406	1.37	317	0.173	1.2088	0.2716	0.34535	38	7	@89
C	0	0.410231	0.1685	D	0	0.410231	0.1849	0	0.2502	0	326	1	0.7105	0.3993	-0.31	38	8	@1026
C	0	-1.4905	0.1678	D	0	-1.4905	0.2007	0	0.2616	0	313	1	0.7081	0.4001	-0.3406	38	9	@84
C	0.01	0.12147	0.1622	D	-0.01	0.193506	0.1821	-0.072036	0.2439	-0.3	323	0.7679	0.0008	0.9779	-0.0333	38	10	@88
C	0.01	-2.4892	0.2098	D	-0.01	-2.3472	0.2456	-0.142019	0.323	-0.44	317	0.6605	0.9975	0.3179	-0.4441	38	11	@90
C	0.01	-2.2431	0.1958	D	-0.02	-2.017	0.2249	-0.226169	0.2982	-0.76	320	0.4488	0.1164	0.733	-0.1831	38	12	@91
C	-0.01	0.815532	0.1807	D	0.01	0.677061	0.1907	0.138471	0.2627	0.53	331	0.5985	0.0736	0.7862	-0.1333	38	13	@87
C	-0.05	-0.16022	0.1583	D	0.07	-0.75408	0.1833	0.593856	0.2422	2.45	318	0.0147	4.6406	0.0312	0.66592	38	14	@92
C	0	0.84826	0.1819	D	0	0.902111	0.1971	-0.053851	0.2682	-0.2	328	0.841	0.0008	0.9781	0.03687	38	15	@1023
C	0.01	0.337038	0.1665	D	-0.01	0.429568	0.1855	-0.09253	0.2493	-0.37	324	0.7107	0.526	0.4683	-0.2415	38	16	@95
C	-0.02	-0.10992	0.1589	D	0.03	-0.3596	0.18	0.249674	0.2401	1.04	322	0.2991	0.1775	0.6736	0.15072	38	17	@97
C	0.02	0.657322	0.1752	D	-0.02	0.902248	0.1971	-0.244926	0.2637	-0.93	323	0.3537	0.6561	0.4179	-0.2897	38	18	@96
C	0.03	-0.6279	0.1564	D	-0.03	-0.32731	0.1799	-0.300593	0.2383	-1.26	319	0.2082	1.2497	0.2636	-0.3505	38	19	@107
C	-0.02	1.50121	0.2138	D	0.03	1.10307	0.2041	0.398141	0.2956	1.35	339	0.1789	0.035	0.8517	-0.003	38	20	@104

C	0.02	-0.87371	0.1575	D	-0.02	-0.65399	0.1821	-0.219724	0.2407	-0.91	318	0.3621	0.0003	0.9871	0.02811	38	21	@383
C	-0.02	-0.72577	0.1566	D	0.03	-0.95911	0.1866	0.233339	0.2437	0.96	314	0.339	0.0899	0.7643	0.12221	38	22	@161
C	-0.03	-0.89855	0.1577	D	0.04	-1.2849	0.1945	0.386363	0.2504	1.54	308	0.1238	1.127	0.2884	0.36494	38	23	@162
C	0	1.36889	0.2061	D	0	1.32046	0.2134	0.048427	0.2967	0.16	333	0.8704	0.0028	0.9578	0.06922	38	24	@1025
C	-0.03	0.421444	0.1685	D	0.04	0.09461	0.1812	0.326834	0.2474	1.32	329	0.1874	3.4435	0.0635	0.5131	38	25	@110
C	0.01	1.74667	0.2301	D	-0.01	1.95768	0.2522	-0.211008	0.3414	-0.62	326	0.5369	0.1464	0.702	-0.2394	38	26	@113
C	-0.03	0.767802	0.1019	D	0.04	0.63795	0.1018	0.129852	0.144	0.9	336	0.3678	2.4887	0.1147	0.44453	38	27	@1024
C	-0.04	-0.84892	0.1573	D	0.05	-1.323	0.1956	0.474049	0.251	1.89	306	0.0599	2.5274	0.1119	0.45521	38	28	@117
C	0	1.00525	0.1327	D	0	1.00525	0.1365	0	0.1904	0	334	1	0.0008	0.9771	0.00877	38	29	@1020
C	0.02	-0.08464	0.1592	D	-0.03	0.193594	0.1821	-0.278236	0.2419	-1.15	320	0.2509	0.6205	0.4309	-0.2306	38	30	@114
C	0	2.23879	0.2719	D	0	2.23879	0.2755	0	0.3871	0	335	1	0.2202	0.6389	-0.3144	38	31	@112
C	0.06	-0.18525	0.1581	D	-0.07	0.464374	0.1861	-0.649626	0.2442	-2.66	315	0.0082	0.2178	0.6407	-0.1494	38	32	@1022
C	-0.02	0.01751	0.1605	D	0.03	-0.23057	0.1798	0.248079	0.241	1.03	323	0.3041	1.1798	0.2774	0.34301	38	33	@119
C	0.03	1.811	0.1764	D	-0.04	2.23829	0.2092	-0.427292	0.2736	-1.56	314	0.1194	1.1637	0.2807	-0.4214	38	34	@379
C	0.01	0.017508	0.1605	D	-0.02	0.160178	0.1818	-0.14267	0.2425	-0.59	322	0.5567	0.0869	0.7681	-0.1174	38	35	@130
C	-0.04	-0.50566	0.1563	D	0.05	-0.95912	0.1866	0.453458	0.2435	1.86	313	0.0635	3.4626	0.0628	0.58205	38	36	@125
C	0	0.964552	0.1873	D	0	0.941225	0.1983	0.023326	0.2728	0.09	331	0.9319	2.3548	0.1249	0.53998	38	37	@143
C	0.02	-0.2102	0.1579	D	-0.03	0.06184	0.1809	-0.272042	0.2401	-1.13	320	0.258	0.2243	0.6358	-0.152	38	38	@123
C	0	-0.37204	0.1568	D	0	-0.39209	0.1801	0.020055	0.2388	0.08	319	0.9331	0.0006	0.9806	0.0433	38	39	@137
C	-0.01	3.53402	0.4603	D	0.01	3.03339	0.3715	0.500624	0.5915	0.85	339	0.3979	0.0124	0.9115	0.33755	38	40	@127
C	0	0.16893	0.1631	D	0	0.16893	0.1818	0	0.2442	0	324	1	0.0015	0.9689	0.04444	38	41	@158
C	0	-1.0247	0.159	D	0	-1.0247	0.1881	0	0.2463	0	315	1	0.0937	0.7596	0.11416	38	42	@1021
C	0.03	-1.1002	0.16	D	-0.04	-0.75406	0.1833	-0.3461	0.2433	-1.42	320	0.1558	0.3526	0.5527	-0.1808	38	43	@384
C	0.03	0.174476	0.1631	D	-0.04	0.569419	0.1882	-0.394943	0.2491	-1.59	319	0.1138	3.2361	0.072	-0.5741	38	44	@156
C	0.01	-1.6745	0.1726	D	-0.02	-1.4799	0.2007	-0.194615	0.2648	-0.74	318	0.4628	0.7622	0.3826	-0.3214	38	45	@150
C	0	1.43487	0.1477	D	0	1.43487	0.1555	0	0.2144	0	331	1	0.5902	0.4424	-0.2236	38	46	@138
C	-0.02	-1.1002	0.16	D	0.03	-1.3614	0.1968	0.261263	0.2536	1.03	308	0.3037	0.8409	0.3591	0.3534	38	47	@145

C	-0.01	-0.646	0.1567	D	0.02	-0.78775	0.1838	0.141746	0.2415	0.59	316	0.5577	0.646	0.4215	0.23323	38	48	@152
C	0.03	-0.74429	0.1571	D	-0.03	-0.45708	0.1804	-0.287205	0.2392	-1.2	319	0.2308	0.9014	0.3424	-0.2883	38	49	@122
C	-0.02	-1.2518	0.1627	D	0.03	-1.5205	0.2022	0.268635	0.2595	1.04	306	0.3014	2.838	0.0921	0.50652	38	50	@141
C	-0.03	0.613032	0.1745	D	0.03	0.293766	0.1834	0.319266	0.2532	1.26	331	0.2081	1.025	0.3113	0.33127	38	51	@155
C	0.01	0.769744	0.1797	D	-0.01	0.90224	0.1971	-0.132496	0.2667	-0.5	326	0.6197	0.0073	0.9319	0.01354	38	52	@159
C	0	0.692965	0.1775	D	0	0.692965	0.1907	0	0.2605	0	328	1	0.0779	0.7801	0.11562	38	53	@134
C	0.01	1.87613	0.2426	D	-0.01	2.16074	0.2688	-0.284605	0.3621	-0.79	324	0.4325	1.7793	0.1822	-0.7682	38	54	@139
C	0.01	0.494252	0.0744	D	-0.02	0.515808	0.0858	-0.021556	0.1136	-0.19	307	0.8496	0.5983	0.4392	-0.1771	37	55	@394

Grade 4 Hawaiian Language Arts, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0	-1.1917	0.2025	D	0	-1.1917	0.283	0	0.348	0	172	1	0.3464	0.5562	0.26854	34	1	@18
C	-0.02	-1.5485	0.2159	D	0.04	-2.0919	0.3676	0.543484	0.4263	1.27	147	0.2044	0.3387	0.5606	0.50638	34	2	@389
C	0.03	0.103655	0.1868	D	-0.04	0.410493	0.2311	-0.306838	0.2971	-1.03	188	0.303	1.83	0.1761	-0.4861	34	3	@21
C	-0.01	-1.7428	0.2254	D	0.01	-1.9621	0.3522	0.21927	0.4181	0.52	157	0.6007	0.0941	0.7591	0.27456	34	4	@7
C	-0.02	-1.0399	0.1978	D	0.03	-1.347	0.2947	0.307171	0.3549	0.87	163	0.3881	0.0337	0.8544	0.15624	34	5	@12
C	-0.01	-1.8469	0.2311	D	0.02	-2.2334	0.386	0.386481	0.4499	0.86	150	0.3917	0.058	0.8097	0.48112	34	6	@64
C	-0.01	-0.84876	0.1933	D	0.01	-0.95222	0.2691	0.103461	0.3313	0.31	172	0.7552	0.9709	0.3245	-0.5469	34	7	@8
C	-0.04	0.42281	0.1904	D	0.06	-0.07851	0.2366	0.501317	0.3037	1.65	188	0.1005	3.1022	0.0782	0.71134	34	8	@9
C	0	-2.1188	0.2495	D	0	-2.0912	0.3676	-0.027544	0.4443	-0.06	165	0.9506	0.0104	0.9188	0.25109	34	9	@13
C	-0.02	1.73169	0.2411	D	0.02	1.47665	0.2508	0.255037	0.3479	0.73	210	0.4643	0.0041	0.9491	0.12276	34	10	@11
C	0	0.680931	0.1956	D	0	0.680931	0.2318	0	0.3033	0	194	1	0.208	0.6483	-0.265	34	11	@1019
C	-0.01	-1.3687	0.2084	D	0.02	-1.6274	0.318	0.258762	0.3802	0.68	160	0.4971	0.0037	0.9516	-0.1451	34	12	@14
C	0.01	-1.1592	0.2012	D	-0.02	-0.9522	0.2691	-0.207033	0.336	-0.62	178	0.5386	0.0244	0.8759	-0.139	34	13	@16
C	-0.02	-1.119	0.2	D	0.04	-1.5292	0.3093	0.410263	0.3683	1.11	159	0.267	0.032	0.858	0.24064	34	14	@15
C	0.05	0.350716	0.1893	D	-0.08	1.00551	0.2364	-0.654795	0.3028	-2.16	187	0.0319	2.893	0.089	-0.6798	34	15	@17
C	0	-1.7941	0.2281	D	0	-1.7311	0.3278	-0.063035	0.3993	-0.16	168	0.8748	0.097	0.7555	-0.3395	34	16	@65
C	-0.03	-1.457	0.2119	D	0.04	-2.0922	0.3677	0.63524	0.4244	1.5	145	0.1366	0.5015	0.4788	0.82391	34	17	@20
C	0	0.459103	0.191	D	-0.01	0.517222	0.231	-0.05812	0.2997	-0.19	191	0.8465	0.0023	0.9617	-0.0396	34	18	@22
C	0.07	0.173579	0.1873	D	-0.1	1.00553	0.2364	-0.831947	0.3016	-2.76	186	0.0064	1.8235	0.1769	-0.5047	34	19	@23
C	-0.02	0.386672	0.1898	D	0.04	0.087311	0.2338	0.299362	0.3011	0.99	189	0.3214	1.4785	0.224	0.4214	34	20	@30

C	0.02	-0.52222	0.1881	D	-0.03	-0.30747	0.2422	-0.214746	0.3067	-0.7	183	0.4847	0.0754	0.7837	-0.1681	34	21	@34
C	-0.02	1.59497	0.1667	D	0.03	1.44897	0.1606	0.145994	0.2314	0.63	216	0.5288	0.7775	0.3779	0.4046	34	22	@35
C	-0.01	0.345516	0.1896	D	0.01	0.249934	0.2319	0.095582	0.2996	0.32	190	0.75	0.2683	0.6045	-0.2423	34	23	@24
C	-0.04	1.97893	0.2591	D	0.06	1.35319	0.2461	0.625739	0.3573	1.75	217	0.0813	0.2343	0.6283	0.31602	34	24	@28
C	-0.02	-0.93856	0.1961	D	0.04	-1.3471	0.2947	0.408546	0.354	1.15	162	0.2502	0.0183	0.8925	-0.145	34	25	@39
C	0.02	0.062151	0.187	D	-0.03	0.303531	0.2315	-0.24138	0.2976	-0.81	188	0.4184	0.1248	0.7239	0.17966	34	26	@36
C	0.04	1.3113	0.2179	D	-0.05	1.88296	0.2713	-0.571665	0.348	-1.64	187	0.1021	0.0167	0.8973	0.03181	34	27	@25
C	-0.03	0.309739	0.1892	D	0.05	-0.07851	0.2366	0.388244	0.3029	1.28	187	0.2016	0.4693	0.4933	0.26548	34	28	@26
C	0.01	-0.56842	0.1894	D	-0.01	-0.48723	0.2481	-0.081192	0.3121	-0.26	180	0.795	0.4324	0.5108	-0.3028	34	29	@27
C	-0.01	-0.11175	0.1865	D	0.02	-0.24919	0.2406	0.137441	0.3045	0.45	182	0.6522	0.0004	0.9831	0.05481	34	30	@37
C	-0.01	-1.1357	0.2015	D	0.01	-1.262	0.2885	0.126237	0.3519	0.36	168	0.7203	0.9046	0.3416	0.43764	34	31	@38
C	0	-0.11985	0.1865	D	0	-0.11985	0.2378	0	0.3022	0	184	1	0.2189	0.6399	0.21439	34	32	@31
C	0.01	-0.46156	0.1882	D	-0.01	-0.36612	0.244	-0.095441	0.3081	-0.31	182	0.7571	0.0063	0.9368	0.03056	34	33	@54
C	-0.01	0.345516	0.1896	D	0.01	0.249934	0.2319	0.095582	0.2996	0.32	190	0.75	0.7482	0.387	0.3411	34	34	@40
C	0.02	0.717389	0.1968	D	-0.03	1.00548	0.2364	-0.288096	0.3076	-0.94	192	0.3501	0.058	0.8097	-0.1438	34	35	@55
C	0.03	0.835366	0.2	D	-0.05	1.29326	0.244	-0.457895	0.3155	-1.45	190	0.1483	0.3096	0.5779	-0.3178	34	36	@41
C	-0.03	1.45851	0.2252	D	0.05	1.00546	0.2364	0.453057	0.3265	1.39	208	0.1667	3.1581	0.0755	0.75041	34	37	@56
C	0.02	1.17305	0.2118	D	-0.03	1.41439	0.2483	-0.241347	0.3264	-0.74	195	0.4605	0.0003	0.9861	-0.0773	34	38	@57
C	0	1.26102	0.1211	D	0	1.26102	0.1336	0	0.1804	0	203	1	0.6841	0.4082	0.26179	34	39	@42
C	0.01	0.062402	0.187	D	-0.02	0.196281	0.2324	-0.133879	0.2983	-0.45	187	0.6541	0.1768	0.6742	-0.1983	34	40	@387
C	0.03	0.167769	0.1877	D	-0.05	0.570624	0.2312	-0.402855	0.2978	-1.35	189	0.1777	0.1331	0.7152	-0.1825	34	41	@46
C	0.02	0.062151	0.187	D	-0.03	0.303531	0.2315	-0.24138	0.2976	-0.81	188	0.4184	1.6698	0.1963	-0.5333	34	42	@47
C	0	-1.0955	0.2003	D	-0.01	-1.0253	0.2733	-0.070199	0.3388	-0.21	175	0.8361	2.0414	0.1531	-0.8944	34	43	@48
C	-0.01	0.3816	0.1901	D	0.01	0.303577	0.2315	0.078023	0.2996	0.26	190	0.7948	0.9765	0.3231	-0.504	34	44	@50
C	-0.04	-1.0162	0.1981	D	0.06	-1.7324	0.3279	0.716197	0.3831	1.87	150	0.0635	0.4722	0.492	0.46571	34	45	@49
C	-0.01	0.602505	0.1941	D	0.02	0.463814	0.231	0.138692	0.3017	0.46	193	0.6463	0.6118	0.4341	0.316	34	46	@51
C	0.04	0.132583	0.1874	D	-0.07	0.677993	0.2318	-0.54541	0.2981	-1.83	188	0.0689	0.3039	0.5814	-0.2723	34	47	@62

C	0.01	-0.90015	0.1952	D	-0.01	-0.81078	0.2617	-0.089364	0.3265	-0.27	177	0.7847	0.7915	0.3737	-0.4043	34	48	@60
C	0.05	-0.11176	0.1865	D	-0.07	0.463857	0.231	-0.575619	0.2969	-1.94	188	0.054	0.7847	0.3757	-0.3578	34	49	@61
C	-0.01	1.40835	0.2226	D	0.01	1.29266	0.244	0.115682	0.3303	0.35	203	0.7265	0.5171	0.4721	0.31312	34	50	@63
C	-0.05	0.999468	0.2052	D	0.08	0.303526	0.2315	0.695942	0.3094	2.25	200	0.0256	7.805	0.0052	0.96163	34	51	@1016
C	0.01	-0.14656	0.1865	D	-0.02	-0.02228	0.2355	-0.124272	0.3004	-0.41	185	0.6796	0.1074	0.7432	-0.1723	34	52	@1015
C	0.02	1.08484	0.2083	D	-0.03	1.35329	0.2461	-0.268449	0.3224	-0.83	194	0.4061	0.0297	0.8632	0.00429	34	53	@1014
C	0.03	0.602837	0.1941	D	-0.04	0.949867	0.2353	-0.347031	0.305	-1.14	191	0.2567	1.3785	0.2404	-0.5239	34	54	@1011
C	-0.01	0.916335	0.2024	D	0.02	0.731566	0.2322	0.184769	0.3081	0.6	198	0.5494	0.1134	0.7364	-0.1989	34	55	@1012
C	-0.01	1.45846	0.2252	D	0.01	1.35278	0.2461	0.105682	0.3336	0.32	204	0.7517	0.9389	0.3326	-0.6047	34	56	@1017
C	-0.04	0.652935	0.1073	D	0.06	0.505461	0.1263	0.147474	0.1657	0.89	195	0.3746	0.4356	0.5093	-0.2166	34	57	@1013
C	0.03	0.410511	0.084	D	-0.04	0.471423	0.0995	-0.060912	0.1302	-0.47	188	0.6406	0.2067	0.6494	0.12618	34	58	@395

Grade 5 Hawaiian Language Arts, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.04	0.141757	0.1864	D	0.05	-0.28263	0.1942	0.42439	0.2691	1.58	273	0.116	2.7339	0.0982	0.54125	38	1	@642
C	-0.01	-2.9007	0.2544	D	0.01	-3.0954	0.3312	0.194688	0.4176	0.47	248	0.6415	0.0377	0.8461	0.21723	38	2	@644
C	-0.02	-0.63347	0.1761	D	0.03	-0.89808	0.2	0.264605	0.2665	0.99	265	0.3216	1.1055	0.2931	0.33728	38	3	@636
C	0.04	0.176615	0.1873	D	-0.05	0.661857	0.2076	-0.485242	0.2796	-1.74	268	0.0838	1.0181	0.313	-0.3391	38	4	@716
C	0	3.59353	0.5886	D	0	3.80786	0.5908	-0.214325	0.834	-0.26	275	0.7974	0.0001	0.9912	0.43672	38	5	@717
C	0.03	-0.54029	0.1764	D	-0.04	-0.20692	0.1942	-0.333367	0.2624	-1.27	269	0.205	0.406	0.524	-0.2261	38	6	@633
C	-0.03	0.431607	0.1949	D	0.03	0.135312	0.1966	0.296295	0.2768	1.07	275	0.2854	0.1454	0.7029	0.15306	38	7	@723
C	0.02	0.176643	0.1873	D	-0.02	0.371315	0.2004	-0.194672	0.2743	-0.71	271	0.4784	0.0003	0.9874	-0.039	38	8	@1072
C	0	0.469687	0.1962	D	0.01	0.411527	0.2012	0.05816	0.281	0.21	274	0.8362	2.1548	0.1421	0.52477	38	9	@711
C	-0.03	-0.02831	0.1826	D	0.04	-0.39584	0.1944	0.367521	0.2667	1.38	271	0.1694	1.1103	0.292	0.36224	38	10	@690
C	0	-2.8227	0.2492	D	0	-2.7982	0.2998	-0.024513	0.3899	-0.06	259	0.9499	0.043	0.8358	-0.2074	38	11	@1074
C	0.03	0.038881	0.184	D	-0.03	0.331323	0.1996	-0.292442	0.2715	-1.08	270	0.2824	1.0174	0.3131	-0.4108	38	12	@713
C	-0.02	-1.3263	0.1812	D	0.03	-1.595	0.2205	0.268672	0.2854	0.94	257	0.3473	0.0741	0.7854	0.14337	38	13	@721
C	0.03	-0.19242	0.1798	D	-0.04	0.13532	0.1966	-0.327738	0.2664	-1.23	269	0.2197	0.9585	0.3276	-0.3249	38	14	@726
C	0.05	-0.47792	0.1768	D	-0.06	0.020129	0.1954	-0.49805	0.2635	-1.89	268	0.0598	1.3829	0.2396	-0.37	38	15	@724
C	0.01	-0.57144	0.1763	D	-0.01	-0.47142	0.1948	-0.100026	0.2627	-0.38	268	0.7037	0.6263	0.4287	-0.2591	38	16	@725
C	0.01	-0.63348	0.1761	D	-0.01	-0.54749	0.1953	-0.085995	0.263	-0.33	268	0.7439	0.0157	0.9004	0.06573	38	17	@627
C	0.07	0.099051	0.1043	D	-0.08	0.335717	0.1124	-0.236667	0.1533	-1.54	270	0.1239	2.7035	0.1001	-0.4426	38	18	@722
C	-0.02	0.393878	0.1936	D	0.02	0.21301	0.1976	0.180868	0.2767	0.65	274	0.5138	0.7463	0.3877	0.28201	38	19	@1215
C	0.01	-0.32053	0.1782	D	-0.02	-0.16955	0.1943	-0.150981	0.2636	-0.57	269	0.5673	0.0222	0.8816	0.07553	38	20	@672

C	-0.03	0.211895	0.1882	D	0.04	-0.16951	0.1943	0.381402	0.2705	1.41	274	0.1597	2.6498	0.1036	0.51669	38	21	@1183
C	-0.02	1.07975	0.2246	D	0.02	0.838929	0.2135	0.240822	0.3099	0.78	277	0.4378	0.0012	0.9719	-0.048	38	22	@681
C	0.03	1.07959	0.2246	D	-0.04	1.64424	0.2567	-0.564649	0.3411	-1.66	265	0.099	2.1754	0.1402	-0.6452	38	23	@673
C	0.03	-1.3592	0.1818	D	-0.03	-1.0607	0.2034	-0.29853	0.2728	-1.09	267	0.2748	0.0166	0.8975	0.00413	38	24	@729
C	-0.01	0.711586	0.2057	D	0.01	0.618655	0.2063	0.092931	0.2914	0.32	275	0.75	0.0004	0.9848	-0.0724	38	25	@640
C	0.06	0.711205	0.2057	D	-0.07	1.58	0.2521	-0.868797	0.3254	-2.67	256	0.0081	0.8551	0.3551	-0.3822	38	26	@718
C	-0.04	0.072893	0.1848	D	0.05	-0.35806	0.1943	0.43095	0.2681	1.61	272	0.1091	2.5084	0.1132	0.5206	38	27	@1193
C	-0.02	-1.4594	0.1838	D	0.03	-1.745	0.227	0.285648	0.2921	0.98	255	0.329	1.8955	0.1686	0.54039	38	28	@689
C	-0.05	-0.06155	0.182	D	0.06	-0.62415	0.196	0.562607	0.2675	2.1	270	0.0364	2.4574	0.117	0.52194	38	29	@631
C	-0.02	-0.6954	0.176	D	0.02	-0.85822	0.1993	0.162823	0.2659	0.61	266	0.5408	0.3746	0.5405	0.22897	38	30	@648
C	0.02	0.981332	0.219	D	-0.03	1.34094	0.237	-0.359604	0.3227	-1.11	270	0.2661	0.0049	0.9441	-0.0335	38	31	@1222
C	-0.06	0.283507	0.1902	D	0.07	-0.35806	0.1943	0.64157	0.2719	2.36	274	0.019	2.0965	0.1476	0.49164	38	32	@629
C	-0.04	-0.60247	0.1762	D	0.04	-0.9787	0.2016	0.376235	0.2677	1.41	265	0.1611	1.7133	0.1906	0.41386	38	33	@728
C	0.03	0.754261	0.2077	D	-0.03	1.17884	0.2282	-0.424584	0.3086	-1.38	269	0.17	0.8761	0.3493	-0.3706	38	34	@693
C	0	3.0564	0.4617	D	0	3.26564	0.4644	-0.209239	0.6548	-0.32	275	0.7496	0.1484	0.7	-0.5363	38	35	@677
C	0.01	-0.91249	0.1765	D	-0.01	-0.77932	0.198	-0.133168	0.2652	-0.5	267	0.616	0.0001	0.9913	-0.0444	38	36	@625
C	0	0.687389	0.2039	D	0	0.687389	0.2089	0	0.292	0	274	1	0.0007	0.9794	0.04031	38	37	@702
C	0.05	-0.1274	0.1808	D	-0.06	0.411663	0.2012	-0.539061	0.2705	-1.99	267	0.0473	2.3872	0.1223	-0.4763	38	38	@730
C	0.01	-0.91253	0.1765	D	-0.01	-0.8184	0.1986	-0.094127	0.2657	-0.35	266	0.7234	0.2685	0.6043	-0.1862	38	39	@709
C	-0.01	-0.75735	0.176	D	0.01	-0.81855	0.1986	0.061204	0.2654	0.23	266	0.8178	0.1608	0.6884	0.17624	38	40	@646
C	0	-1.1965	0.1792	D	-0.01	-1.1442	0.2055	-0.052335	0.2726	-0.19	264	0.8479	1.9929	0.158	-0.6189	38	41	@696
C	-0.03	0.921987	0.2168	D	0.03	0.534744	0.2041	0.387242	0.2978	1.3	276	0.1945	0.039	0.8435	0.13497	38	42	@637
C	-0.03	0.574673	0.201	D	0.04	0.174048	0.1971	0.400625	0.2815	1.42	275	0.1558	0.0886	0.7659	0.17078	38	43	@708
C	-0.02	0.703694	0.0921	D	0.03	0.647179	0.0896	0.056514	0.1285	0.44	276	0.6605	0.1187	0.7305	0.10917	38	44	@712
C	-0.03	0.305592	0.1917	D	0.04	-0.056	0.1948	0.361587	0.2733	1.32	274	0.1869	0.8155	0.3665	0.30849	38	45	@720
C	0.03	-0.07758	0.1825	D	-0.04	0.291626	0.1989	-0.36921	0.2699	-1.37	269	0.1725	4.7154	0.0299	-0.8351	38	46	@714
C	-0.01	-0.01053	0.1838	D	0.02	-0.16967	0.1943	0.159146	0.2674	0.6	271	0.5523	0.4711	0.4925	0.23415	38	47	@630

C	0.01	0.785402	0.21	D	-0.01	0.93159	0.217	-0.146188	0.302	-0.48	273	0.6288	0.1689	0.6811	-0.2006	38	48	@727
C	-0.03	0.197173	0.1886	D	0.04	-0.13173	0.1944	0.328906	0.2709	1.21	273	0.2257	0.0033	0.9542	0.03902	38	49	@684
C	-0.02	-1.0603	0.1782	D	0.02	-1.2297	0.2078	0.169407	0.2737	0.62	262	0.5365	0.0248	0.875	0.09571	38	50	@699
C	0.03	1.06809	0.2249	D	-0.03	1.51699	0.2479	-0.448902	0.3347	-1.34	268	0.181	1.2136	0.2706	-0.4928	38	51	@707
C	-0.01	1.80321	0.2086	D	0.01	1.6665	0.1854	0.136707	0.2791	0.49	276	0.6246	0.4941	0.4821	0.30718	38	52	@706
C	-0.01	-1.3848	0.1828	D	0.01	-1.4526	0.215	0.067721	0.2822	0.24	261	0.8105	0.0608	0.8052	0.12603	38	53	@626
C	0	-1.3948	0.1828	D	0	-1.3948	0.2134	0	0.281	0	262	1	0.4155	0.5192	-0.2566	38	54	@634
C	-0.04	0.534612	0.1994	D	0.05	0.05835	0.1957	0.476262	0.2794	1.7	275	0.0894	0.3159	0.5741	0.30574	38	55	@719
C	0.01	1.22649	0.2348	D	-0.01	1.3409	0.237	-0.114406	0.3336	-0.34	274	0.7319	0.0135	0.9076	0.11056	38	56	@1208
C	0.08	-0.71971	0.0687	D	-0.1	-0.59061	0.0764	-0.129093	0.1027	-1.26	263	0.2101	1.4231	0.2329	-0.2991	38	57	@1030

Grade 6 Hawaiian Language Arts, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.02	-1.4601	0.1938	D	0.03	-1.7522	0.2377	0.29214	0.3067	0.95	211	0.3419	1.021	0.3123	0.44231	33	1	@624
C	0.03	-2.8612	0.265	D	-0.04	-2.3227	0.2694	-0.538479	0.3779	-1.43	231	0.1555	1.2369	0.2661	-0.56	33	2	@635
C	-0.01	-2.3753	0.2308	D	0.01	-2.474	0.2805	0.098645	0.3632	0.27	213	0.7862	0.0366	0.8483	-0.1763	33	3	@638
C	0.01	-0.37444	0.1868	D	-0.01	-0.30071	0.2156	-0.073725	0.2852	-0.26	219	0.7963	0.0507	0.8219	0.14205	33	4	@641
C	-0.04	-1.1336	0.1878	D	0.06	-1.6414	0.2333	0.507752	0.2994	1.7	210	0.0914	6.0288	0.0141	1.0567	33	5	@704
C	0.01	-1.2043	0.1888	D	-0.01	-1.0862	0.2181	-0.11813	0.2884	-0.41	219	0.6825	0.1827	0.6691	0.18486	33	6	@703
C	0.03	-1.7328	0.2015	D	-0.04	-1.3296	0.2233	-0.403186	0.3008	-1.34	223	0.1815	0.0911	0.7627	-0.2062	33	7	@628
C	-0.03	-0.37437	0.1868	D	0.04	-0.71438	0.2142	0.340006	0.2842	1.2	219	0.2329	0.9879	0.3203	0.35443	33	8	@645
C	0	2.68664	0.4254	D	0	2.73301	0.4685	-0.046372	0.6328	-0.07	224	0.9416	0.096	0.7567	0.6031	33	9	@660
C	0.03	-0.16195	0.1898	D	-0.04	0.231523	0.2262	-0.393475	0.2952	-1.33	215	0.184	0.1253	0.7234	-0.1747	33	10	@1171
C	0	-0.01582	0.1927	D	0.01	-0.06504	0.219	0.049211	0.2917	0.17	220	0.8662	0.6452	0.4218	0.35975	33	11	@661
C	-0.06	-0.37437	0.1868	D	0.07	-0.99212	0.2166	0.617747	0.286	2.16	218	0.0319	2.45	0.1175	0.6206	33	12	@659
C	0	-0.81591	0.0961	D	0	-0.81591	0.1121	0	0.1476	0	218	1	0.009	0.9245	0.02838	33	13	@643
C	0	-0.01579	0.1927	D	0	-0.01579	0.2199	0	0.2924	0	220	1	0.0292	0.8642	-0.0071	33	14	@665
C	0.01	-0.99377	0.1862	D	-0.01	-0.89859	0.2155	-0.095177	0.2848	-0.33	218	0.7386	0.036	0.8495	-0.1461	33	15	@678
C	0	-1.0134	0.1865	D	0	-0.99208	0.2166	-0.021298	0.2859	-0.07	218	0.9407	0.0006	0.9803	-0.0643	33	16	@652
C	-0.02	0.174316	0.1975	D	0.03	-0.11274	0.2181	0.287051	0.2943	0.98	224	0.3304	1.4919	0.2219	0.51354	33	17	@639
C	0.06	-0.75303	0.185	D	-0.08	-0.11272	0.2181	-0.640315	0.286	-2.24	216	0.0262	3.0336	0.0816	-0.6492	33	18	@1075
C	0	-0.79551	0.1851	D	0	-0.79551	0.2147	0	0.2835	0	218	1	0.0181	0.8931	-0.1129	33	19	@662
C	-0.05	0.145918	0.1036	D	0.06	-0.00986	0.1163	0.155773	0.1557	1	222	0.3183	0.5328	0.4654	0.23667	33	20	@664

C	-0.02	0.021512	0.1935	D	0.03	-0.20724	0.2167	0.228757	0.2905	0.79	222	0.4319	0.5893	0.4427	0.35583	33	21	@647
C	0	3.11848	0.5136	D	0	3.27981	0.5932	-0.161323	0.7846	-0.21	219	0.8373	0.1174	0.7319	0.04612	33	22	@691
C	-0.03	0.334258	0.2026	D	0.04	-0.06497	0.219	0.399232	0.2983	1.34	226	0.1822	3.8372	0.0501	0.8419	33	23	@688
C	0	1.48831	0.2704	D	0	1.43906	0.2938	0.049244	0.3993	0.12	225	0.902	0.1982	0.6562	0.35546	33	24	@687
C	0.05	0.135476	0.1964	D	-0.06	0.728575	0.2459	-0.593099	0.3147	-1.88	209	0.0609	2.8764	0.0899	-0.6538	33	25	@1309
C	0	1.34829	0.2587	D	0.01	1.27423	0.2803	0.07406	0.3815	0.19	225	0.8462	0.0035	0.9526	-0.1378	33	26	@651
C	-0.02	-1.9435	0.2093	D	0.02	-2.1828	0.2602	0.239344	0.334	0.72	210	0.4744	0.2329	0.6294	0.28807	33	27	@683
C	0.06	-0.58178	0.1853	D	-0.08	0.130548	0.2234	-0.712328	0.2902	-2.45	214	0.0149	1.0022	0.3168	-0.3854	33	28	@649
C	0.07	-0.0097	0.1053	D	-0.09	0.224097	0.1242	-0.233792	0.1629	-1.44	216	0.1526	2.7378	0.098	-0.5035	33	29	@1173
C	0.06	-0.58178	0.1853	D	-0.07	0.031827	0.221	-0.613605	0.2884	-2.13	215	0.0345	2.8593	0.0908	-0.5915	33	30	@1083
C	-0.05	-1.4978	0.1947	D	0.06	-2.1163	0.2562	0.618595	0.3218	1.92	202	0.056	1.8386	0.1751	0.64055	33	31	@653
C	0.02	-0.23352	0.1886	D	-0.03	-0.0168	0.2199	-0.216727	0.2897	-0.75	218	0.4553	0.2573	0.612	-0.2106	33	32	@682
C	0	2.23853	0.3541	D	0.01	2.06746	0.3614	0.171071	0.5059	0.34	230	0.7356	1.6858	0.1942	0.85668	33	33	@698
C	-0.01	-1.5744	0.1967	D	0.02	-1.7522	0.2377	0.177824	0.3086	0.58	213	0.565	1.7839	0.1817	0.54193	33	34	@1172
C	-0.05	0.021526	0.1935	D	0.06	-0.53103	0.2141	0.552554	0.2886	1.91	223	0.0568	2.4481	0.1177	0.57054	33	35	@632
C	-0.01	-0.99376	0.1862	D	0.01	-1.0864	0.2181	0.092617	0.2868	0.32	217	0.747	0.8754	0.3495	0.41264	33	36	@657
C	0.02	-0.76729	0.0921	D	-0.03	-0.70139	0.1068	-0.065905	0.1411	-0.47	218	0.6408	0.0129	0.9096	-0.0331	33	37	@680
C	-0.01	0.592278	0.2127	D	0.01	0.442309	0.2333	0.14997	0.3157	0.47	224	0.6352	0.4137	0.5201	0.29131	33	38	@675
C	0.02	2.23809	0.354	D	-0.02	3.28467	0.5945	-1.04657	0.6919	-1.51	170	0.1322	1.8791	0.1704	-2.089	33	39	@674
C	0.04	-1.7737	0.2029	D	-0.05	-1.3296	0.2233	-0.444093	0.3017	-1.47	224	0.1425	1.2693	0.2599	-0.4792	33	40	@667
C	-0.01	2.37065	0.3732	D	0.02	1.94252	0.3457	0.428131	0.5087	0.84	236	0.4009	2.0649	0.1507	1.0846	33	41	@1170
C	-0.01	0.637966	0.2148	D	0.01	0.497237	0.2355	0.140729	0.3187	0.44	224	0.6592	0.0007	0.9786	0.08738	33	42	@692
C	0	0.503274	0.2089	D	0.01	0.442107	0.2333	0.061167	0.3132	0.2	222	0.8453	0.0004	0.9847	-0.0886	33	43	@679
C	-0.03	4.55054	1.007	D	0.04	2.06749	0.3614	2.483052	1.07	2.32	168	0.0215	3.2502	0.0714	.	33	44	@685
C	0.03	-0.00243	0.0874	D	-0.03	0.056534	0.1002	-0.058961	0.133	-0.44	220	0.6579	2.4592	0.1168	-0.5284	33	45	@666
C	0.01	2.00931	0.3243	D	-0.01	2.35782	0.4029	-0.348508	0.5172	-0.67	210	0.5012	0.2126	0.6447	-0.5339	33	46	@701
C	0.02	-1.3856	0.1921	D	-0.03	-1.1343	0.2189	-0.251312	0.2913	-0.86	220	0.3892	2.4471	0.1177	-0.771	33	47	@700

C	-0.01	-0.40932	0.1864	D	0.01	-0.53112	0.2141	0.121797	0.2839	0.43	219	0.6683	0.744	0.3884	-0.3459	33	48	@697
C	-0.04	0.932755	0.1631	D	0.06	0.607347	0.1662	0.325408	0.2329	1.4	231	0.1636	1.2903	0.256	0.39011	33	49	@694
C	-0.01	2.88355	0.463	D	0.01	2.53136	0.4315	0.352189	0.6329	0.56	235	0.5784	1.0566	0.304	1.009	33	50	@676
C	-0.03	1.56346	0.2771	D	0.03	1.05247	0.2645	0.510989	0.3831	1.33	234	0.1835	0.3601	0.5484	0.45649	33	51	@668
C	-0.01	0.684571	0.217	D	0.02	0.497235	0.2355	0.187336	0.3202	0.59	225	0.5591	0.4658	0.4949	0.40231	33	52	@650
C	-0.01	0.59193	0.2127	D	0.01	0.496729	0.2354	0.095201	0.3173	0.3	223	0.7644	0.0064	0.9361	-0.0434	33	53	@1169
C	0.04	-0.14071	0.191	D	-0.05	0.283038	0.2278	-0.423743	0.2972	-1.43	214	0.1554	3.4883	0.0618	-0.7774	33	54	@669
C	0	1.89961	0.3126	D	0	1.82723	0.3322	0.07239	0.4562	0.16	227	0.8741	0.0777	0.7805	0.01902	33	55	@663
C	-0.04	0.007467	0.1941	D	0.05	-0.43924	0.2144	0.446706	0.2892	1.54	223	0.1239	0.8995	0.3429	0.34665	33	56	@656
C	0.02	-2.1655	0.2201	D	-0.03	-1.8676	0.243	-0.297845	0.3278	-0.91	223	0.3646	1.0936	0.2957	-0.5188	33	57	@655
C	0.03	-0.76801	0.0701	D	-0.05	-0.71384	0.0816	-0.05417	0.1076	-0.5	214	0.6151	2.0123	0.156	-0.3982	33	58	@1031

Grade 7 Hawaiian Language Arts, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0.01	-2.8233	0.2552	D	-0.02	-2.6209	0.317	-0.202371	0.407	-0.5	159	0.6197	0.0064	0.9364	-0.1568	29	1	@1118
C	0.03	-1.2443	0.2019	D	-0.04	-0.92838	0.2435	-0.315916	0.3163	-1	162	0.3194	3.4225	0.0643	-0.7146	29	2	@784
C	-0.03	-2.5216	0.2371	D	0.04	-3.0823	0.3665	0.560741	0.4365	1.28	135	0.2011	0.7693	0.3804	0.50354	29	3	@888
C	-0.01	0.601415	0.2596	D	0.01	0.437791	0.283	0.163624	0.384	0.43	172	0.6706	0.005	0.9435	-0.1258	29	4	@883
C	0	-2.3207	0.2267	D	0	-2.3417	0.2942	0.020963	0.3714	0.06	154	0.9551	0.0576	0.8103	-0.2173	29	5	@885
C	0.02	1.25117	0.3175	D	-0.03	1.81934	0.4355	-0.568176	0.5389	-1.05	147	0.2935	0.0111	0.9161	-0.1461	29	6	@886
C	-0.01	-1.8776	0.2116	D	0.01	-1.9464	0.2699	0.0688	0.3429	0.2	156	0.8413	0.0042	0.9485	0.06594	29	7	@882
C	0.02	-1.4079	0.203	D	-0.03	-1.1669	0.2454	-0.240962	0.3185	-0.76	162	0.4504	0.6092	0.4351	-0.33	29	8	@763
C	-0.01	0.409427	0.2469	D	0.02	0.208947	0.27	0.20048	0.3658	0.55	172	0.5844	0.0217	0.8828	-0.0364	29	9	@762
C	0.02	-0.36329	0.2126	D	-0.03	-0.13478	0.2556	-0.228509	0.3324	-0.69	162	0.4928	0.0001	0.9909	0.0774	29	10	@1098
C	-0.07	-0.17759	0.2185	D	0.1	-0.98772	0.2437	0.810133	0.3274	2.47	170	0.0143	5.7793	0.0162	1.1305	29	11	@1175
C	0.04	-2.2561	0.2245	D	-0.07	-1.669	0.2578	-0.587094	0.3419	-1.72	167	0.0878	1.3468	0.2458	-0.5992	29	12	@871
C	0	-1.6169	0.2058	D	0.01	-1.6689	0.2578	0.052031	0.3299	0.16	158	0.8749	1.0586	0.3035	-0.4736	29	13	@790
C	0	0.534997	0.255	D	-0.01	0.603862	0.2943	-0.068865	0.3894	-0.18	166	0.8598	0.0146	0.9039	-0.0862	29	14	@774
C	-0.04	-0.56518	0.1184	D	0.07	-0.72672	0.1337	0.161536	0.1786	0.9	169	0.367	1.5325	0.2157	0.40308	29	15	@1097
C	0.02	-0.87728	0.2029	D	-0.02	-0.69125	0.2441	-0.18603	0.3175	-0.59	162	0.5587	1.8175	0.1776	-0.6627	29	16	@1099
C	0	1.59082	0.3588	D	0.01	1.48418	0.3846	0.106642	0.526	0.2	174	0.8396	0.1503	0.6983	-0.4021	29	17	@1089
C	-0.02	0.471324	0.2508	D	0.03	0.208942	0.27	0.262382	0.3685	0.71	173	0.4774	0.9088	0.3404	0.49968	29	18	@892
C	0	1.87827	0.4009	D	0	1.81868	0.4354	0.059586	0.5918	0.1	172	0.9199	0.0527	0.8185	-0.1517	29	19	@843
C	-0.01	1.24352	0.3178	D	0.01	1.09741	0.338	0.146112	0.4639	0.31	174	0.7532	0.0091	0.9239	0.27357	29	20	@1178

C	0.04	-0.42187	0.212	D	-0.06	0.066886	0.2633	-0.488752	0.3381	-1.45	158	0.1502	0.0076	0.9304	-0.1202	29	21	@806
C	0	0.531356	0.1574	D	0	0.531356	0.1705	0	0.232	0	172	1	0.2476	0.6188	-0.2364	29	22	@878
C	0.03	-0.32188	0.098	D	-0.04	-0.25826	0.1129	-0.063622	0.1495	-0.43	166	0.671	0.3663	0.545	-0.2031	29	23	@808
C	-0.04	0.661134	0.2649	D	0.06	-0.00183	0.2605	0.662969	0.3715	1.78	180	0.076	1.2969	0.2548	0.61853	29	24	@1088
C	0.02	-1.5991	0.2066	D	-0.02	-1.4118	0.25	-0.187312	0.3243	-0.58	161	0.5643	0.7957	0.3724	-0.4126	29	25	@769
C	0	-0.30238	0.2159	D	0.01	-0.32633	0.25	0.023945	0.3304	0.07	166	0.9423	0.2018	0.6533	-0.2389	29	26	@803
C	0.01	-0.93558	0.2035	D	-0.02	-0.80987	0.2435	-0.125715	0.3173	-0.4	162	0.6925	0.0699	0.7914	-0.1504	29	27	@877
C	0.03	0.592104	0.2599	D	-0.04	1.09754	0.338	-0.505441	0.4264	-1.19	153	0.2377	0.03	0.8625	0.03308	29	28	@1185
C	0	-0.37672	0.2132	D	-0.01	-0.32635	0.25	-0.050373	0.3286	-0.15	164	0.8784	0.087	0.7681	0.18945	29	29	@777
C	0.01	2.24453	0.4672	D	-0.01	2.58111	0.5969	-0.336576	0.758	-0.44	155	0.6576	0.0029	0.9567	-0.55	29	30	@903
C	0	-1.6796	0.2082	D	0	-1.6796	0.2578	0	0.3314	0	159	1	0.0382	0.8451	-0.0022	29	31	@887
C	-0.04	-0.33091	0.2145	D	0.06	-0.80986	0.2435	0.478951	0.3245	1.48	168	0.1419	3.3646	0.0666	0.82834	29	32	@930
C	0	0.732447	0.2703	D	0	0.785398	0.3085	-0.052952	0.4102	-0.13	167	0.8974	0.025	0.8744	-0.1899	29	33	@880
C	-0.07	-0.51224	0.1076	D	0.1	-0.71437	0.1216	0.20213	0.1623	1.25	168	0.2148	0	0.997	-0.0013	29	34	@1096
C	-0.03	-0.33091	0.2145	D	0.04	-0.69102	0.2441	0.360106	0.325	1.11	167	0.2694	0.6846	0.408	0.38476	29	35	@875
C	0.01	-0.19043	0.2191	D	-0.01	-0.06953	0.2579	-0.120897	0.3384	-0.36	164	0.7213	0.0029	0.9573	0.04547	29	36	@811
C	0	3.21224	0.7189	D	0	3.00949	0.7232	0.20275	1.02	0.2	178	0.8426	0.3224	0.5702	-0.2877	29	37	@869
C	0.05	-0.28464	0.2159	D	-0.08	0.437998	0.283	-0.722641	0.356	-2.03	152	0.0441	2.2033	0.1377	-0.6667	29	38	@879
C	-0.01	-0.42185	0.212	D	0.02	-0.57173	0.2454	0.149876	0.3243	0.46	166	0.6446	0.0553	0.8141	-0.1649	29	39	@897
C	-0.01	0.223716	0.2373	D	0.02	0.066849	0.2633	0.156867	0.3544	0.44	170	0.6586	0.084	0.7719	0.2215	29	40	@1182
C	-0.05	0.223794	0.2373	D	0.08	-0.44995	0.2474	0.67374	0.3428	1.97	175	0.0509	2.0412	0.1531	0.70127	29	41	@891
C	0	1.34822	0.3296	D	-0.01	1.48543	0.3848	-0.137211	0.5066	-0.27	165	0.7869	0.0915	0.7623	-0.3522	29	42	@874
C	0.03	0.967429	0.2902	D	-0.04	1.64237	0.4073	-0.67494	0.5001	-1.35	145	0.1793	0.3389	0.5604	-0.6012	29	43	@1179
C	0	2.03593	0.4299	D	0	2.03593	0.4721	0	0.6386	0	171	1	0.0809	0.776	-0.2102	29	44	@870
C	0.07	0.757789	0.1657	D	-0.1	1.4914	0.2953	-0.733612	0.3386	-2.17	121	0.0322	1.4379	0.2305	-0.8345	29	45	@872
C	-0.01	0.769983	0.1587	D	0.02	0.67848	0.1641	0.091503	0.2283	0.4	176	0.689	1.5572	0.2121	0.60627	29	46	@889
C	0.01	-1.4608	0.2055	D	-0.01	-1.3493	0.2485	-0.111503	0.3225	-0.35	161	0.73	0.8791	0.3485	0.40216	29	47	@829

C	0.05	0.129425	0.2354	D	-0.07	0.987582	0.3269	-0.858157	0.4028	-2.13	145	0.0348	4.5376	0.0332	-1.219	29	48	@839
C	-0.03	0.129584	0.2354	D	0.04	-0.19957	0.2535	0.329156	0.346	0.95	172	0.3427	0.3426	0.5583	0.2936	29	49	@899
C	0.02	0.556946	0.2609	D	-0.03	0.883451	0.3171	-0.326505	0.4106	-0.8	160	0.4277	0.2434	0.6217	-0.3708	29	50	@876
C	-0.02	0.40965	0.1776	D	0.03	0.257951	0.1932	0.151699	0.2624	0.58	171	0.564	0.0613	0.8045	0.09757	29	51	@770
C	0	0.616739	0.2658	D	0	0.616739	0.2943	0	0.3966	0	169	1	0.0324	0.8571	-0.2103	29	52	@834
C	-0.02	1.43122	0.344	D	0.03	0.883293	0.3171	0.547931	0.4678	1.17	181	0.243	3.617	0.0572	1.2401	29	53	@884
C	0	0.431208	0.2521	D	0	0.431208	0.283	0	0.379	0	168	1	0	0.9946	-0.1036	29	54	@902
C	0.06	-0.23201	0.2202	D	-0.09	0.604596	0.2943	-0.836609	0.3676	-2.28	150	0.0243	0.7006	0.4026	-0.4909	29	55	@1104
C	0	2.0206	0.4306	D	0	2.0206	0.4722	0	0.639	0	170	1	0.2242	0.6358	-0.5722	29	56	@822
C	-0.04	-1.121	0.0801	D	0.06	-1.1945	0.0988	0.073468	0.1272	0.58	157	0.5643	1.3621	0.2432	0.38519	28	57	@1032

Grade 8 Hawaiian Language Arts, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-Welch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0.01	-2.8186	0.3739	D	-0.01	-2.7159	0.3762	-0.102624	0.5304	-0.19	132	0.8469	0.1127	0.7371	-0.5423	24	1	@909
C	-0.02	-3.7738	0.5281	D	0.02	-4.7274	0.7509	0.953583	0.918	1.04	118	0.301	0.5625	0.4533	0	24	2	@917
C	0	-0.3558	0.2599	D	0	-0.3558	0.2712	0	0.3756	0	132	1	0.0002	0.9889	-0.1035	24	3	@894
C	0.09	-0.16602	0.2637	D	-0.09	0.803401	0.3111	-0.969419	0.4078	-2.38	129	0.0189	8.0119	0.0046	-1.614	24	4	@867
C	0	1.35347	0.3684	D	0	1.35347	0.3537	0	0.5107	0	132	1	0.0504	0.8224	0.09376	24	5	@913
C	-0.02	-2.6851	0.3588	D	0.02	-3.2049	0.4351	0.51982	0.564	0.92	127	0.3584	0.0507	0.8218	0.74194	24	6	@929
C	-0.01	-2.0408	0.3031	D	0.01	-2.1139	0.3234	0.073108	0.4432	0.16	132	0.8692	0.0065	0.9355	0.12516	24	7	@904
C	0.05	-2.4453	0.335	D	-0.05	-1.8193	0.3046	-0.625988	0.4528	-1.38	131	0.1692	1.2711	0.2596	-1.057	24	8	@927
C	0	1.11083	0.3405	D	0	1.11083	0.3332	0	0.4764	0	132	1	0.1558	0.693	-0.488	24	9	@1127
C	0.03	-0.6391	0.2579	D	-0.03	-0.33767	0.2712	-0.301423	0.3742	-0.81	132	0.422	0.1259	0.7228	-0.2594	24	10	@855
C	-0.04	-2.233	0.317	D	0.04	-2.8645	0.3924	0.631531	0.5045	1.25	126	0.213	1.0099	0.3149	0.91163	24	11	@1126
C	0	-1.7803	0.2874	D	0	-1.8005	0.3046	0.020251	0.4188	0.05	132	0.9615	0.6086	0.4353	0.70009	24	12	@848
C	0	3.748	1.012	D	0	4.10728	1.02	-0.359282	1.436	-0.25	132	0.8029	0	1	.	24	13	@802
C	0.01	0.352144	0.2832	D	-0.01	0.440984	0.2918	-0.088839	0.4066	-0.22	132	0.8274	0.0565	0.8121	-0.2229	24	14	@771
C	-0.07	-0.37115	0.2599	D	0.07	-0.99883	0.2742	0.627679	0.3778	1.66	132	0.099	4.3695	0.0366	1.2265	24	15	@785
C	-0.01	-0.5749	0.1609	D	0.01	-0.5749	0.1719	0	0.2355	0	132	1	0.0093	0.9232	-0.0473	24	16	@767
C	0.11	-0.50557	0.2585	D	-0.11	0.616792	0.3003	-1.12236	0.3962	-2.83	129	0.0054	0.0119	0.9131	-0.1677	24	17	@914
C	0.07	-1.1098	0.2627	D	-0.07	-0.4837	0.2702	-0.626064	0.3769	-1.66	132	0.099	0.049	0.8248	-0.2697	24	18	@921
C	0.02	0.368009	0.1828	D	-0.02	0.458804	0.1846	-0.090796	0.2598	-0.35	132	0.7273	0.8635	0.3528	-0.4879	24	19	@911
C	-0.03	-0.90565	0.2593	D	0.03	-1.2286	0.2797	0.322912	0.3814	0.85	132	0.3987	1.2241	0.2686	0.61951	24	20	@833

C	0.02	-0.23496	0.2622	D	-0.02	-0.03943	0.2759	-0.195537	0.3806	-0.51	132	0.6083	0.0449	0.8323	-0.0036	24	21	@912
C	0.04	0.196334	0.2758	D	-0.04	0.6164	0.3003	-0.420066	0.4077	-1.03	131	0.3048	0.6865	0.4073	-0.497	24	22	@916
C	-0.05	-0.16581	0.2637	D	0.05	-0.62966	0.2702	0.46385	0.3776	1.23	132	0.2215	0.6104	0.4346	0.37889	24	23	@796
C	-0.02	4.97097	1.834	D	0.02	2.92939	0.6086	2.041578	1.933	1.06	81	0.294	.	.	.	24	24	@793
C	-0.02	1.22889	0.3533	D	0.02	0.901729	0.3175	0.327163	0.475	0.69	131	0.4922	0.6493	0.4204	0.5397	24	25	@772
C	0	3.0312	0.7236	D	0	3.3751	0.7339	-0.343901	1.031	-0.33	132	0.7392	0.3265	0.5677	.	24	26	@810
C	-0.01	-0.02496	0.2676	D	0.01	-0.11451	0.2743	0.089544	0.3832	0.23	132	0.8156	0.1341	0.7142	0.32361	24	27	@1079
C	-0.01	0.120907	0.2727	D	0.01	0.037747	0.2777	0.08316	0.3892	0.21	132	0.8312	0.0289	0.8651	-0.0504	24	28	@761
C	0.07	-1.1792	0.2642	D	-0.07	-0.4837	0.2702	-0.695459	0.378	-1.84	132	0.068	4.2291	0.0397	-1.256	24	29	@910
C	0	-0.03221	0.2676	D	0	-0.03221	0.2759	0	0.3844	0	132	1	0.2043	0.6513	0.43753	24	30	@906
C	0.02	-0.57247	0.2581	D	-0.03	-0.33755	0.2712	-0.234925	0.3743	-0.63	132	0.5314	0.1363	0.712	-0.3256	24	31	@922
C	-0.04	-0.30336	0.2609	D	0.04	-0.70273	0.2706	0.399366	0.3759	1.06	132	0.2899	0.5867	0.4437	0.58356	24	32	@1190
C	-0.02	0.791255	0.3119	D	0.02	0.527566	0.2958	0.263689	0.4298	0.61	132	0.5406	1.9789	0.1595	1.0753	24	33	@1105
C	-0.01	0.891044	0.3201	D	0.01	0.708039	0.3054	0.183005	0.4424	0.41	132	0.6798	0.0575	0.8105	0.28913	24	34	@893
C	0.05	0.433829	0.2877	D	-0.05	1.11325	0.3332	-0.679422	0.4402	-1.54	129	0.1252	0.1698	0.6803	-0.4358	24	35	@1078
C	0.04	0.121102	0.2727	D	-0.05	0.616418	0.3003	-0.495317	0.4057	-1.22	131	0.2243	1.7497	0.1859	-0.707	24	36	@926
C	-0.04	0.121152	0.2727	D	0.04	-0.26349	0.272	0.384637	0.3852	1	132	0.3198	0.6675	0.4139	0.60971	24	37	@1210
C	0.04	0.62757	0.1398	D	-0.04	0.734885	0.144	-0.107315	0.2007	-0.53	132	0.5938	1.5062	0.2197	-0.6268	24	38	@820
C	-0.03	1.03114	0.1445	D	0.03	0.956379	0.1456	0.074763	0.2051	0.36	131	0.7161	0.1529	0.6958	0.16165	23	39	@780
C	-0.01	-0.27534	0.2636	D	0.01	-0.41073	0.2706	0.135387	0.3778	0.36	131	0.7206	0.0452	0.8316	-0.0096	23	40	@1212
C	-0.05	-0.48134	0.2607	D	0.05	-0.924	0.2729	0.442661	0.3774	1.17	131	0.243	1.2213	0.2691	0.60803	23	41	@925
C	-0.04	0.160292	0.2769	D	0.04	-0.26349	0.272	0.423779	0.3881	1.09	131	0.2769	0.6836	0.4083	0.53127	23	42	@905
C	0.05	0.320608	0.1326	D	-0.05	0.4325	0.1307	-0.111893	0.1862	-0.6	131	0.5489	1.0216	0.3121	-0.5452	23	43	@1214
C	0.05	-1.3063	0.2693	D	-0.05	-0.7761	0.2711	-0.530188	0.3821	-1.39	131	0.1676	0.5202	0.4708	-0.4156	23	44	@1192
C	-0.04	1.47228	0.3872	D	0.04	0.80288	0.3111	0.669405	0.4967	1.35	126	0.1801	0.2597	0.6103	0.83663	23	45	@1201
C	0.01	1.63035	0.4094	D	-0.01	1.76893	0.3997	-0.138579	0.5721	-0.24	131	0.809	1.1613	0.2812	.	23	46	@901
C	0.01	1.07798	0.3412	D	-0.01	1.22718	0.3427	-0.149198	0.4836	-0.31	131	0.7582	0.1725	0.6779	-0.4668	23	47	@764

C	0.03	0.31756	0.2843	D	-0.03	0.708068	0.3054	-0.390508	0.4172	-0.94	131	0.351	0.0015	0.9691	-0.1053	23	48	@924
C	-0.07	-0.13444	0.2668	D	0.07	-0.77614	0.2711	0.641702	0.3804	1.69	131	0.094	1.1948	0.2744	0.51742	23	49	@805
C	0	0.317503	0.2843	D	0	0.275006	0.2851	0.042497	0.4026	0.11	131	0.9161	0.8709	0.3507	0.70691	23	50	@1092
C	-0.07	1.07845	0.3413	D	0.07	0.194448	0.2823	0.884005	0.4429	2	127	0.0481	1.3048	0.2533	1.2492	23	51	@920
C	0.03	1.8088	0.4373	D	-0.03	2.60712	0.5358	-0.798314	0.6916	-1.15	126	0.2505	0.4581	0.4985	-1.551	23	52	@766
C	0.01	-0.13489	0.2668	D	-0.01	-0.00246	0.2794	-0.132421	0.3863	-0.34	130	0.7323	0.7312	0.3925	-0.5208	23	53	@826
C	0.07	-0.34427	0.2624	D	-0.07	0.405896	0.2933	-0.750169	0.3935	-1.91	129	0.0588	0.8764	0.3492	-0.5375	23	54	@778
C	-0.21	-0.26683	0.099	D	0.22	-0.56066	0.1057	0.293829	0.1448	2.03	129	0.0445	3.2675	0.0707	0.76125	24	55	@1034

Grade 4 Science, Lunch

PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	-0.02	0.890333	0.2114	D	0.02	0.672532	0.2443	0.217801	0.3231	0.67	196	0.501	0.1144	0.7352	0.16795	30	1	@287
C	0.03	-1.77	0.2218	D	-0.04	-1.2472	0.2927	-0.522778	0.3672	-1.42	178	0.1563	0.4122	0.5208	-0.3991	30	2	@284
C	-0.03	-0.37311	0.1935	D	0.05	-0.8484	0.2731	0.475291	0.3347	1.42	169	0.1574	1.0239	0.3116	0.42374	30	3	@286
C	0.07	-0.56088	0.1943	D	-0.11	0.375183	0.2436	-0.936063	0.3116	-3	185	0.003	0.9385	0.3327	-0.3493	30	4	@296
C	0.01	0.309115	0.1979	D	-0.02	0.49429	0.2435	-0.185174	0.3138	-0.59	187	0.5558	1.0689	0.3012	-0.461	30	5	@292
C	0.01	-0.75102	0.196	D	-0.01	-0.63204	0.2644	-0.118983	0.3291	-0.36	175	0.7182	0.0792	0.7784	-0.1787	30	6	@313
C	-0.01	-0.2609	0.1934	D	0.02	-0.42796	0.2575	0.167051	0.322	0.52	177	0.6046	1.6077	0.2048	0.50197	30	7	@305
C	-0.01	-0.14865	0.1936	D	0.02	-0.29733	0.2538	0.148673	0.3192	0.47	179	0.6419	0.7001	0.4028	0.36118	30	8	@283
C	-0.01	-1.2713	0.2055	D	0.01	-1.4243	0.3028	0.153006	0.3659	0.42	163	0.6764	0.1266	0.722	-0.2636	30	9	@314
C	-0.01	-0.48539	0.1938	D	0.02	-0.70264	0.2671	0.217247	0.33	0.66	172	0.5112	0.0463	0.8296	0.15758	30	10	@307
C	0.01	-0.29831	0.1934	D	-0.01	-0.16955	0.2506	-0.128767	0.3166	-0.41	180	0.6847	0.014	0.9057	0.0217	30	11	@309
C	-0.04	-1.4443	0.2103	D	0.07	-2.4383	0.378	0.994041	0.4325	2.3	140	0.023	2.2689	0.132	1.0457	30	12	@289
C	0.04	-1.1059	0.2017	D	-0.06	-0.49504	0.2596	-0.610904	0.3288	-1.86	181	0.0648	3.4866	0.0619	-0.9695	30	13	@285
C	0	-1.0966	0.2017	D	0	-1.0966	0.284	0	0.3483	0	169	1	0.0214	0.8837	-0.1321	30	14	@288
C	-0.01	3.29026	0.2185	D	0.01	3.17823	0.2435	0.11203	0.3271	0.34	200	0.7324	0.0727	0.7874	-0.108	30	15	@290
C	0	-1.2064	0.2035	D	0.01	-1.2469	0.2927	0.040494	0.3565	0.11	166	0.9097	0.0001	0.9916	-0.0695	30	16	@297
C	-0.01	0.387947	0.1992	D	0.02	0.197193	0.2448	0.190754	0.3156	0.6	188	0.5463	0.0131	0.9089	0.10698	30	17	@299
C	0.01	1.42848	0.2331	D	-0.02	1.63946	0.2706	-0.21098	0.3572	-0.59	195	0.5554	0.2431	0.622	-0.2936	30	18	@294
C	-0.05	1.23386	0.1262	D	0.07	1.00089	0.1392	0.232976	0.1878	1.24	202	0.2163	1.156	0.2823	0.35225	30	19	@301
C	-0.01	0.890078	0.2114	D	0.01	0.79227	0.2455	0.097808	0.324	0.3	195	0.7631	0.0231	0.8793	0.01271	30	20	@304

C	0.05	0.320703	0.118	D	-0.08	0.558411	0.1433	-0.237708	0.1856	-1.28	189	0.2019	2.102	0.1471	-0.4895	30	21	@324
C	0	-0.39243	0.1935	D	0.01	-0.42781	0.2575	0.035382	0.3221	0.11	177	0.9126	0.0198	0.8881	0.11748	30	22	@310
C	0.04	0.427733	0.1999	D	-0.07	1.03737	0.2497	-0.609638	0.3199	-1.91	185	0.0582	0.7166	0.3973	-0.3204	30	23	@315
C	-0.02	-0.48524	0.1938	D	0.03	-0.77474	0.27	0.289496	0.3324	0.87	170	0.385	0.6811	0.4092	0.43348	30	24	@291
C	-0.02	-0.82831	0.197	D	0.02	-1.081	0.284	0.252662	0.3456	0.73	166	0.4658	0.0006	0.981	-0.0826	30	25	@293
C	-0.02	-0.29815	0.1934	D	0.04	-0.632	0.2644	0.333853	0.3276	1.02	173	0.3095	1.3478	0.2457	0.62253	30	26	@295
C	-0.05	-0.41055	0.1935	D	0.08	-1.1625	0.2882	0.751948	0.3471	2.17	162	0.0318	1.5543	0.2125	0.71345	30	27	@298
C	-0.01	-0.26091	0.1934	D	0.01	-0.36172	0.2555	0.100814	0.3205	0.31	178	0.7534	0.0044	0.9469	0.04456	30	28	@317
C	0.03	-0.41048	0.1935	D	-0.04	-0.04584	0.2481	-0.364643	0.3147	-1.16	182	0.2481	0.0464	0.8294	-0.1591	30	29	@320
C	-0.02	0.001559	0.1944	D	0.03	-0.29731	0.2538	0.29887	0.3197	0.93	179	0.3511	0.1625	0.6869	0.23738	30	30	@321
C	0.01	1.84635	0.2573	D	-0.02	2.12258	0.2996	-0.276228	0.3949	-0.7	195	0.4851	0.0097	0.9215	0.05211	30	31	@322
C	0.01	-0.92213	0.1993	D	-0.01	-0.77476	0.27	-0.147363	0.3356	-0.44	174	0.6611	0.0133	0.9081	-0.1457	30	32	@316
C	0.03	-0.3382	0.1294	D	-0.04	-0.1736	0.1686	-0.164608	0.2125	-0.77	179	0.4396	0.213	0.6444	-0.1515	30	33	@318
C	0	1.91101	0.2621	D	0	1.86869	0.2829	0.042315	0.3857	0.11	204	0.9127	0.002	0.9645	0.07614	30	34	@323
C	-0.04	2.05435	0.2726	D	0.06	1.29296	0.2567	0.761391	0.3744	2.03	217	0.0432	3.4524	0.0632	0.923	30	35	@300
C	-0.01	0.06996	0.1956	D	0.01	-0.04547	0.2481	0.115431	0.316	0.37	183	0.7153	0.0989	0.7531	0.18213	30	36	@306
C	-0.01	-0.00635	0.195	D	0.02	-0.17016	0.2507	0.16381	0.3176	0.52	181	0.6066	0.1473	0.7011	0.19291	30	37	@308
C	0.04	0.105727	0.1452	D	-0.07	0.432614	0.182	-0.326887	0.2328	-1.4	184	0.162	3.5003	0.0614	-0.6044	30	38	@365
C	0.03	0.57029	0.1132	D	-0.05	0.70272	0.1335	-0.132431	0.1751	-0.76	193	0.4503	0.4607	0.4973	-0.2215	30	39	@367
C	-0.01	-0.2331	0.1941	D	0.01	-0.36216	0.2555	0.129064	0.3209	0.4	178	0.688	0.256	0.6129	0.27504	30	40	@363

Grade 8 Science, Lunch

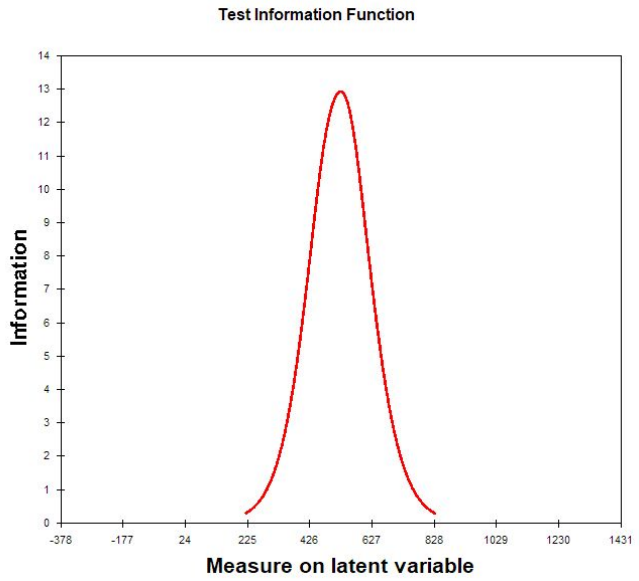
PERSON	Obs-Exp	DIF	DIF	PERSON	Obs-Exp	DIF	DIF	DIF	JOINT	Rasch-W elch			Mantel		Size	Active	ITEM	
CLASS/	Average	MEASURE	S.E.	CLASS/	Average	MEASURE	S.E.	CONTRAST	S.E.	t	d.f.	Prob.	Chi-squ	Prob.	CUMLOR	Slices	Number	Name
C	0	1.96378	0.7215	D	0	2.14636	0.724	-0.182587	1.022	-0.18	130	0.8585	0.16	0.6892	-0.2877	21	1	@983
C	0.06	-2.2307	0.2637	D	-0.06	-1.6656	0.2626	-0.565158	0.3721	-1.52	130	0.1312	1.1864	0.2761	-0.5988	21	2	@962
C	0.02	-0.85964	0.2756	D	-0.02	-0.65309	0.2838	-0.206556	0.3956	-0.52	130	0.6025	0.0319	0.8582	-0.0122	21	3	@952
C	-0.06	0.778224	0.4362	D	0.06	-0.21787	0.3088	0.996098	0.5344	1.86	118	0.0648	2.3913	0.122	1.048	21	4	@951
C	0.03	-1.2902	0.2619	D	-0.04	-0.96114	0.2722	-0.329051	0.3777	-0.87	130	0.3853	0.0534	0.8172	-0.1844	21	5	@977
C	0.06	-1.4261	0.2595	D	-0.07	-0.8103	0.2773	-0.615753	0.3798	-1.62	130	0.1073	0.5838	0.4448	-0.4435	21	6	@1109
C	0.06	-1.4932	0.2587	D	-0.07	-0.88641	0.2745	-0.606747	0.3772	-1.61	130	0.1101	0.9527	0.329	-0.438	21	7	@956
C	0.02	0.442162	0.3859	D	-0.02	0.94659	0.4395	-0.504428	0.5849	-0.86	128	0.3901	1.9278	0.165	-1.243	21	9	@955
C	-0.04	-0.06089	0.3292	D	0.04	-0.57151	0.2877	0.51062	0.4372	1.17	128	0.245	0.1442	0.7042	0.26343	21	10	@1238
C	0.02	1.96677	0.7225	D	-0.02	4.09256	1.835	-2.12579	1.972	-1.08	84	0.2841	0.7961	0.3723	.	21	11	@1205
C	-0.04	-1.6926	0.2574	D	0.04	-2.0853	0.2678	0.39262	0.3714	1.06	130	0.2925	0.087	0.7681	0.19392	21	12	@1257
C	0	0.77133	0.436	D	0	0.77133	0.4118	0	0.5997	0	130	1	0.0294	0.8638	-0.1603	21	13	@932
C	0	0.05076	0.34	D	0	0.071127	0.3334	-0.020367	0.4762	-0.04	130	0.966	0.009	0.9243	-0.0684	21	14	@1111
C	0.01	0.300423	0.3678	D	-0.01	0.460601	0.3718	-0.160178	0.523	-0.31	130	0.7599	0.0461	0.8301	-0.333	21	15	@1260
C	0.03	-0.78273	0.2791	D	-0.03	-0.48746	0.2921	-0.295277	0.404	-0.73	130	0.4662	0.1237	0.725	-0.259	21	16	@1265
C	-0.01	-0.53905	0.2924	D	0.01	-0.65362	0.2838	0.114566	0.4074	0.28	130	0.779	0.0802	0.777	0.19783	21	17	@953
C	0	-0.4699	0.298	D	0	-0.4699	0.2921	0	0.4173	0	130	1	0.0722	0.7882	0.21699	21	18	@954
C	-0.01	-1.8251	0.2577	D	0.01	-1.9432	0.2651	0.118066	0.3697	0.32	130	0.75	0.0146	0.9039	0.12102	21	19	@942
C	-0.03	-0.62239	0.2875	D	0.03	-0.88644	0.2745	0.264057	0.3975	0.66	130	0.5077	0.4428	0.5058	0.38531	21	20	@936
C	-0.02	0.599626	0.4081	D	0.02	0.205181	0.3442	0.394445	0.5339	0.74	127	0.4614	0.0855	0.77	0.00206	21	21	@964

C	0	-0.69302	0.1221	D	0.01	-0.69302	0.1223	0	0.1728	0	130	1	0.2008	0.654	-0.1677	21	22	@937
C	-0.01	3.90354	1.832	D	0.01	2.86894	1.013	1.034596	2.093	0.49	102	0.6222	0	1	.	21	23	@971
C	-0.01	1.96813	0.723	D	0.01	1.4045	0.5255	0.563622	0.8938	0.63	120	0.5295	0.2857	0.593	0	21	24	@972
C	0.01	0.442245	0.3859	D	-0.01	0.605397	0.3897	-0.163151	0.5485	-0.3	130	0.7666	0.099	0.7531	-0.007	21	25	@1258
C	-0.04	0.442499	0.3859	D	0.04	-0.21762	0.3088	0.660114	0.4943	1.34	125	0.1841	2.1861	0.1393	0.90472	21	26	@947
C	-0.01	-0.3663	0.1703	D	0.01	-0.3663	0.1607	0	0.2342	0	130	1	0.0032	0.9548	-0.0283	21	27	@1114
C	0.01	1.22915	0.5225	D	-0.01	1.7184	0.5994	-0.489252	0.7952	-0.62	128	0.5395	0.0201	0.8874	-0.28	21	28	@984
C	-0.03	0.300541	0.3678	D	0.03	-0.21755	0.3088	0.518092	0.4803	1.08	127	0.2828	1.3888	0.2386	0.72347	21	29	@948
C	0	-0.93483	0.2725	D	0	-0.88651	0.2745	-0.048321	0.3868	-0.12	130	0.9008	0.0097	0.9217	0.0495	21	30	@950
C	0.01	1.96783	0.7229	D	-0.01	2.86885	1.013	-0.901027	1.244	-0.72	117	0.4705	0	1	-0.6931	21	31	@961
C	0.02	-0.06099	0.3291	D	-0.02	0.205232	0.3442	-0.266226	0.4763	-0.56	130	0.5771	0.2734	0.6011	-0.5225	21	32	@987
C	0.03	-1.5599	0.258	D	-0.03	-1.2494	0.2655	-0.310456	0.3702	-0.84	130	0.4032	0.237	0.6264	-0.2915	21	33	@970
C	-0.04	-1.426	0.2595	D	0.04	-1.8034	0.2634	0.377345	0.3697	1.02	130	0.3094	1.0264	0.311	0.43859	21	34	@985
C	-0.03	-1.0804	0.2674	D	0.03	-1.3893	0.2636	0.308905	0.3755	0.82	130	0.4122	0.0451	0.8318	0.15634	21	35	@949
C	0	-0.3607	0.3043	D	0	-0.31103	0.3026	-0.049669	0.4291	-0.12	130	0.908	0.0076	0.9305	-0.1377	21	36	@981
C	-0.06	-0.8596	0.2756	D	0.06	-1.4586	0.263	0.599027	0.381	1.57	130	0.1183	2.0395	0.1533	0.72698	21	37	@946
C	0.03	-0.93476	0.2725	D	-0.04	-0.57145	0.2877	-0.363308	0.3963	-0.92	130	0.3609	0.8797	0.3483	-0.554	21	38	@1266
C	0.02	0.05084	0.34	D	-0.02	0.460655	0.3718	-0.409815	0.5038	-0.81	129	0.4175	1.047	0.3062	-0.9692	21	39	@944
C	-0.02	1.96838	0.7231	D	0.02	1.15499	0.4757	0.813386	0.8655	0.94	113	0.3493	0.2632	0.608	1.3218	21	40	@978
C	0	-0.07669	0.1783	D	0.01	-0.07669	0.1606	0	0.2399	0	129	1	0.0068	0.9341	-0.0475	21	41	@945
C	0	0.602722	0.4081	D	0	0.602722	0.3897	0	0.5643	0	130	1	0.0173	0.8954	-0.1259	21	42	@986
C	-0.01	0.777287	0.436	D	0.01	0.60539	0.3897	0.171897	0.5848	0.29	129	0.7693	0.022	0.8821	0.27444	21	43	@967
C	0.05	-0.78278	0.2791	D	-0.05	-0.21739	0.3089	-0.565392	0.4163	-1.36	129	0.1768	0.2333	0.6291	-0.4073	21	44	@969
C	-0.01	2.68378	1.011	D	0.01	2.14963	0.7251	0.534143	1.244	0.43	119	0.6685	0.0105	0.9183	0.81093	21	45	@980
C	0	-1.0942	0.2674	D	0	-1.0942	0.2683	0	0.3788	0	130	1	0.0025	0.96	-0.0607	21	46	@1267
C	0.03	-0.93476	0.2725	D	-0.04	-0.57145	0.2877	-0.363308	0.3963	-0.92	130	0.3609	0.2255	0.6349	-0.3363	21	47	@965
C	0.04	-0.16632	0.3197	D	-0.04	0.460811	0.3718	-0.627133	0.4904	-1.28	127	0.2033	0.797	0.372	-0.6097	21	48	@960

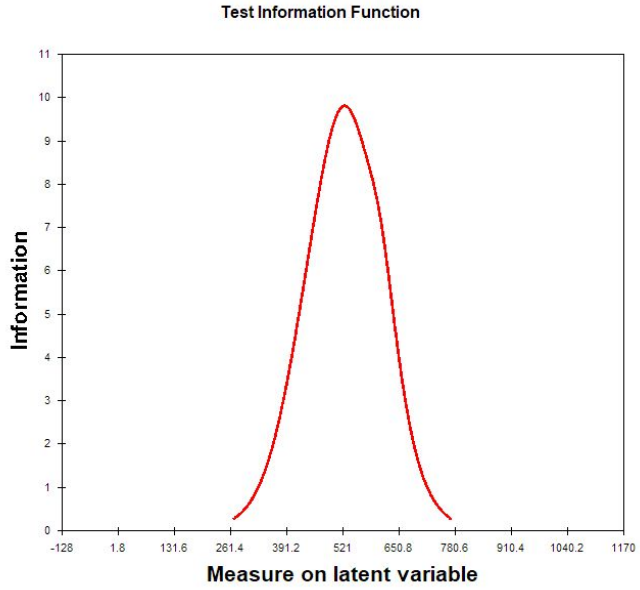
C	0	1.2292	0.5225	D	0	1.40458	0.5255	-0.175377	0.7411	-0.24	130	0.8133	0.0016	0.9676	0.39918	21	49	@958
C	0	-0.62252	0.2874	D	0	-0.57158	0.2877	-0.050945	0.4067	-0.13	130	0.9005	0.0025	0.9602	0.14227	21	50	@938
C	-0.04	1.54094	0.5971	D	0.04	0.460078	0.3717	1.080863	0.7033	1.54	110	0.1272	1.7362	0.1876	1.3582	21	51	@979
C	0.04	-0.85967	0.2756	D	-0.04	-0.4007	0.297	-0.458969	0.4052	-1.13	130	0.2594	0.5479	0.4592	-0.5029	21	52	@939
C	-0.02	0.982986	0.4725	D	0.02	0.60536	0.3897	0.377626	0.6125	0.62	126	0.5386	0.2442	0.6212	0.8665	21	53	@974
C	0.01	0.777246	0.436	D	-0.01	1.15525	0.4757	-0.378004	0.6453	-0.59	129	0.5591	0.0131	0.909	-0.1811	21	54	@1056
C	-0.03	-0.62238	0.2875	D	0.03	-0.96115	0.2722	0.338773	0.3959	0.86	130	0.3937	0.0122	0.9119	0.14197	21	55	@1110
C	0	0.05076	0.34	D	0	0.071127	0.3334	-0.020367	0.4762	-0.04	130	0.966	0	0.9945	-0.175	21	56	@1263

Appendix I: Test Information Function Graphs

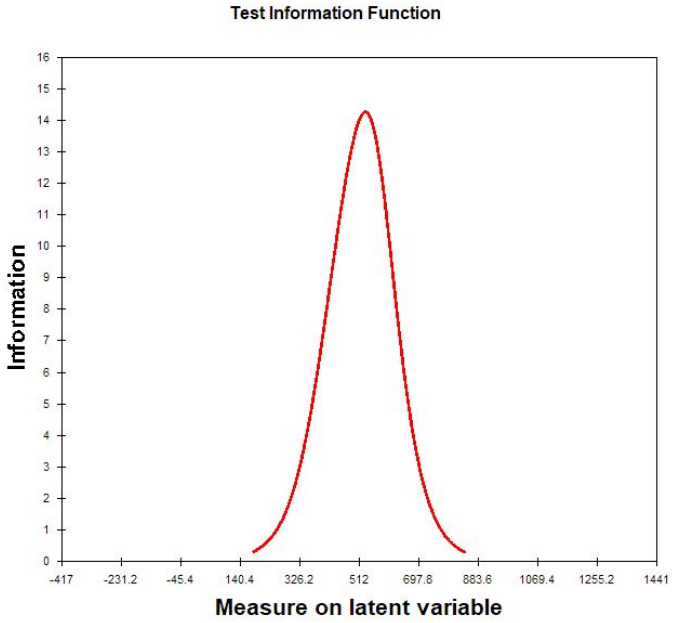
Grade 3 Hawaiian Language Arts



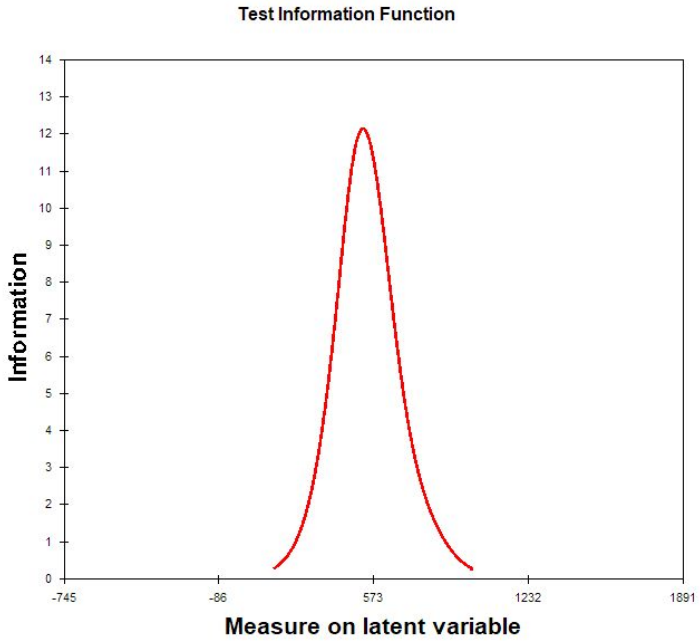
Grade 3 Mathematics



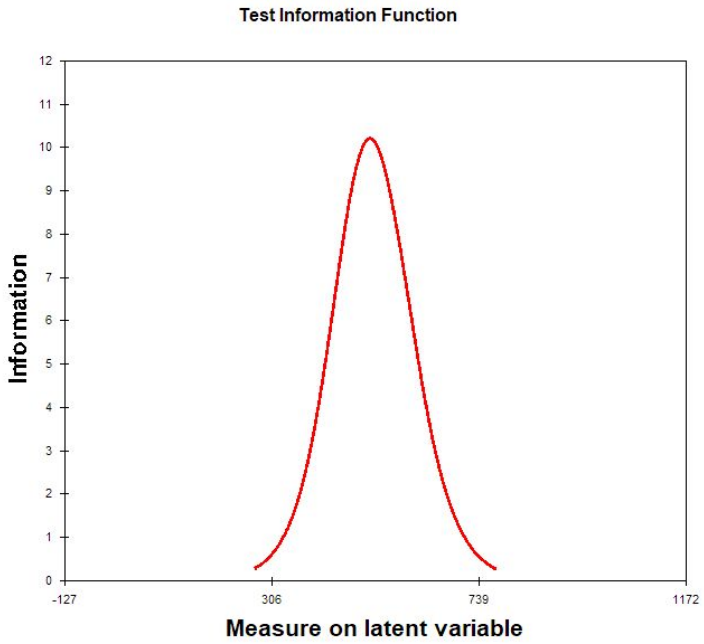
Grade 4 Hawaiian Language Arts



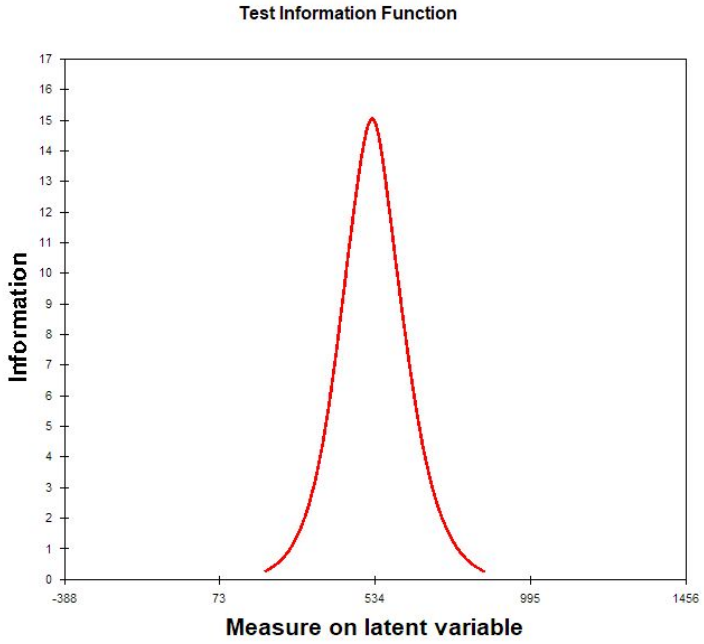
Grade 4 Mathematics



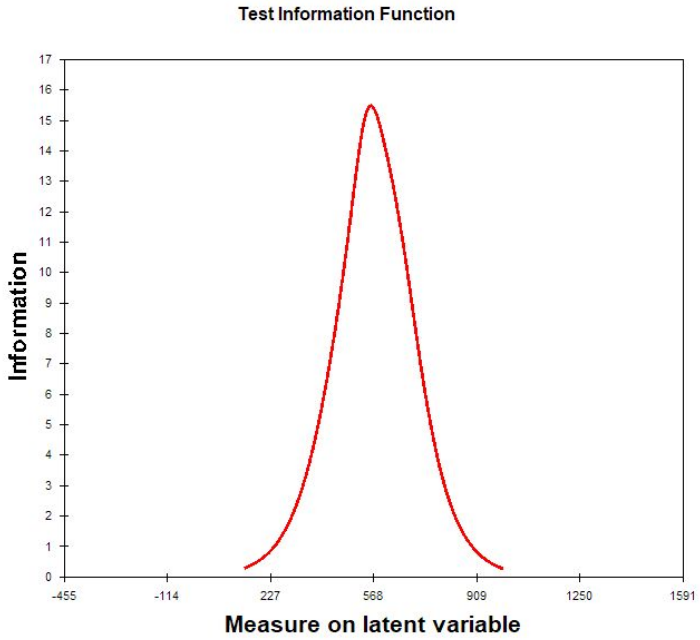
Grade 4 Science



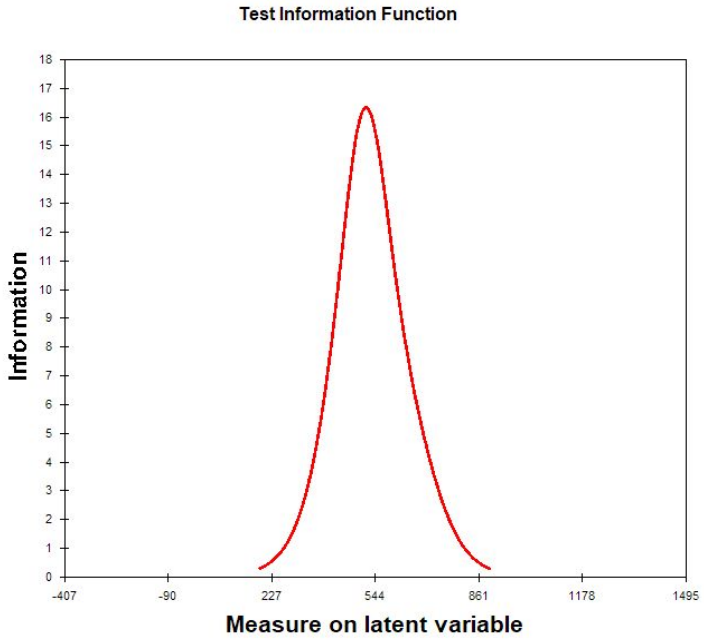
Grade 5 Hawaiian Language Arts



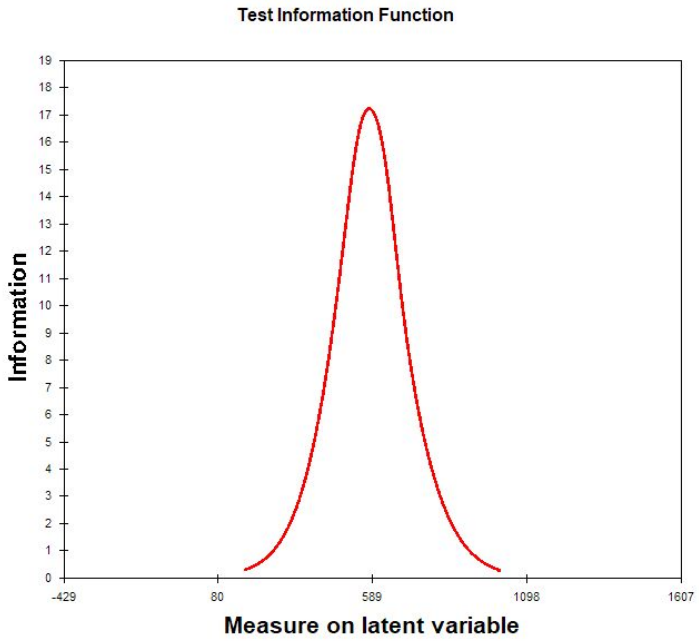
Grade 5 Mathematics



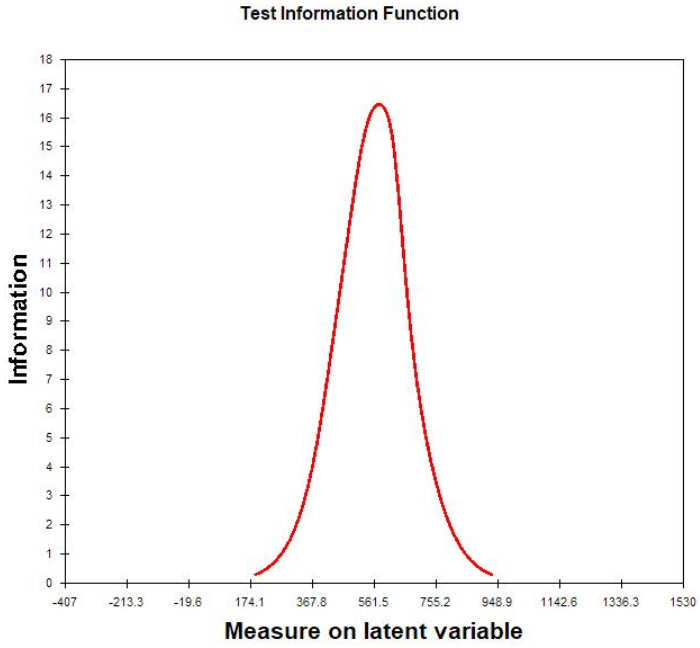
Grade 6 Hawaiian Language Arts



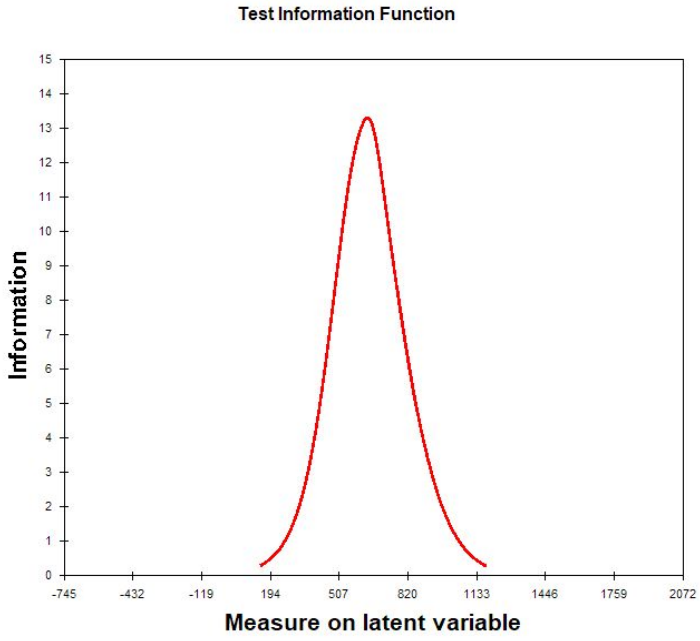
Grade 6 Mathematics



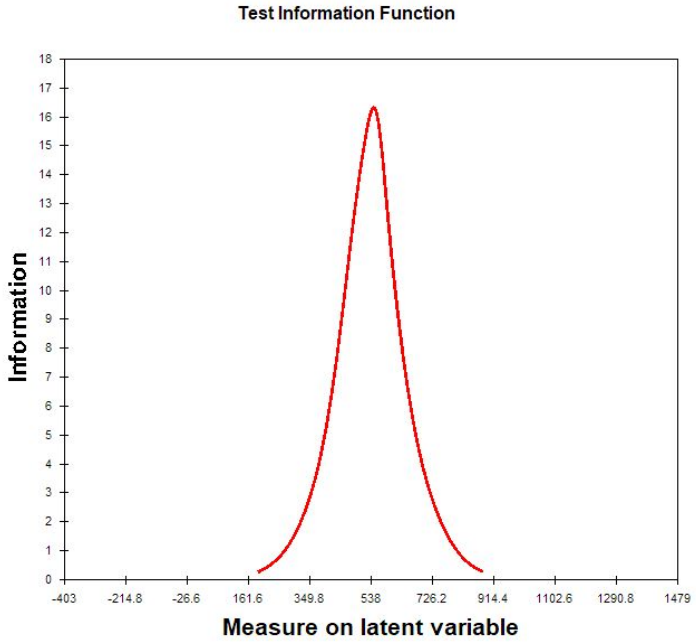
Grade 7 Hawaiian Language Arts



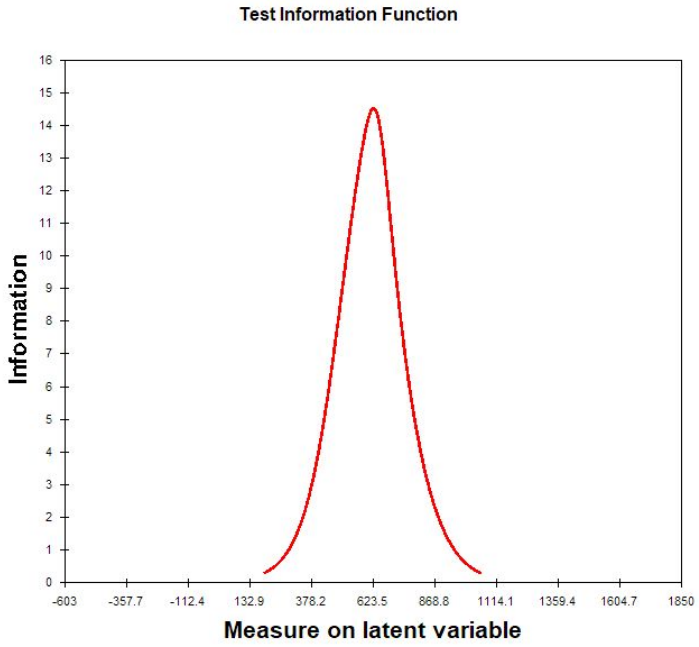
Grade 7 Mathematics



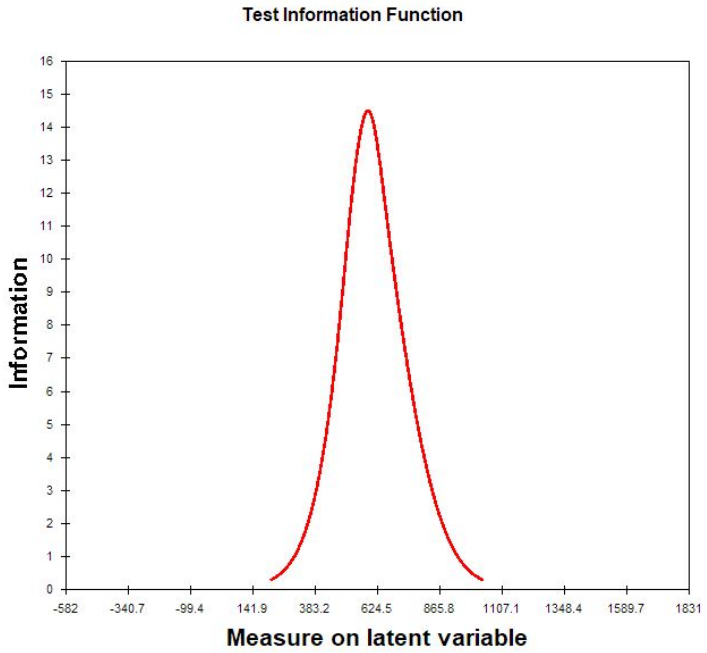
Grade 8 Hawaiian Language Arts



Grade 8 Mathematics



Grade 8 Science



Appendix J: Dimensionality Tables

Grade 3 Mathematics

CON- TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.47	.088397	.84	.78	A 22	@172	-.41	.243876	1.18	1.30	a 5	@225
1	.34	-.610720	.83	.79	B 17	@174	-.37	.638389	1.13	1.12	b 19	@210
1	.33	.426830	.90	.88	C 39	@213	-.32	.781077	1.18	1.28	c 42	@230
1	.31	-.794646	.89	.88	D 41	@204	-.32	.839104	1.14	1.33	d 54	@218
1	.29	.029282	.90	.87	E 25	@191	-.30	.432320	1.16	1.30	e 30	@374
1	.27	.944168	.93	.85	F 24	@368	-.30	-.093128	1.14	1.19	f 48	@223
1	.26	2.782311	.98	.61	G 44	@235	-.28	.533322	1.18	1.44	g 28	@995
1	.25	.203511	.81	.80	H 53	@208	-.26	.097202	1.08	1.20	h 49	@205
1	.23	-2.42100	.88	.71	I 23	@198	-.23	.402767	1.12	1.19	i 11	@221
1	.21	-.469249	.95	.94	J 47	@214	-.23	.567860	1.10	1.13	j 36	@211
1	.19	-1.68957	.99	.95	K 43	@190	-.21	1.233648	1.05	1.62	k 9	@219
1	.18	.465572	.97	.96	L 13	@371	-.21	.082258	1.13	1.23	l 40	@224
1	.16	-1.15646	.91	.85	M 20	@207	-.18	2.531334	1.05	1.67	m 4	@1303
1	.16	2.240602	.98	.67	N 31	@234	-.18	-.129368	1.08	1.12	n 14	@173
1	.15	-2.80013	.86	.78	O 10	@202	-.18	-.220734	1.05	1.08	o 45	@180
1	.14	-.860976	.92	.88	P 7	@169	-.16	-.010488	1.14	1.20	p 8	@231
1	.14	-.502512	.88	.84	Q 21	@212	-.15	2.469835	.94	1.31	q 55	@185
1	.14	-1.26597	.94	.95	R 46	@188	-.14	2.269006	1.06	1.02	r 18	@1036
1	.13	-.475368	.98	.97	S 29	@229	-.13	.088397	1.04	1.05	s 34	@1035
1	.12	-1.52612	.96	.88	T 3	@206	-.13	1.203164	1.00	1.06	t 50	@217
1	.10	-.578252	.93	.91	U 2	@182	-.05	.510874	.94	.93	u 38	@209
1	.09	-1.82161	.97	.94	V 52	@187	-.03	2.233997	1.03	.79	v 16	@233
1	.08	-2.82853	.93	.93	W 6	@215	-.03	-2.14992	1.01	1.07	w 27	@189
1	.08	3.307946	.88	.52	X 12	@992	-.03	-2.01780	1.02	1.16	x 32	@184
1	.08	-.745636	1.00	1.01	Y 26	@193	-.02	-.753989	.98	.95	y 37	@216
1	.07	-1.66068	.91	.85	Z 35	@201	-.01	2.174040	1.00	.95	z 51	@1305
1	.06	-3.25905	.97	1.09	1	@178						
1	.06	1.304372	.90	.85	15	@226						
1	.06	-.283515	1.04	1.13	33	@186						

Grade 4 Mathematics

CON- TRAST	LOADING	INFIT MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	OUTFIT MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.59	.278381	1.13	1.21	A 26	@164	-.47	-1.27205	.85	.78	a 42	@267
1	.42	.571095	1.05	1.15	B 28	@261	-.47	-.741563	.86	.83	b 52	@378
1	.39	.571095	1.17	1.26	C 29	@1006	-.40	-2.15291	.83	.66	c 18	@1005
1	.37	.011008	1.22	1.27	D 19	@254	-.35	-1.20861	.91	.85	d 46	@272
1	.32	.301645	1.28	1.42	E 40	@253	-.33	-2.47601	.87	.68	e 43	@242
1	.30	.348723	1.06	1.07	F 12	@264	-.32	-.841257	.87	.83	f 38	@154
1	.24	-.240499	1.18	1.19	G 7	@170	-.30	-.462914	.94	.92	g 50	@377
1	.24	-.582544	1.19	1.24	H 22	@265	-.28	-.157971	.95	.95	h 17	@171
1	.24	.703808	1.07	1.15	I 53	@241	-.28	-.701793	1.00	1.03	i 27	@263
1	.22	-1.55923	1.02	.99	J 31	@163	-.24	-1.00233	.92	.89	j 3	@109
1	.21	.649806	1.08	1.56	K 23	@259	-.24	2.279086	.91	.58	k 54	@252
1	.20	.759157	1.05	1.17	L 49	@1007	-.23	-.502872	.89	.86	l 25	@250
1	.20	-.322026	1.01	.99	M 56	@249	-.18	-1.40180	.88	.83	m 1	@135
1	.17	.255288	1.08	1.12	N 10	@238	-.18	-.986300	1.01	1.17	n 9	@262
1	.17	.325090	.97	1.05	O 15	@166	-.15	-1.06351	.95	.92	o 2	@140
1	.16	-.522816	1.10	1.11	P 34	@167	-.15	-.137157	.94	.92	p 21	@165
1	.11	-.095284	.91	.90	Q 30	@168	-.13	.090552	1.02	1.02	q 41	@375
1	.11	-.053059	1.05	1.04	R 44	@274	-.13	.255288	1.12	1.16	r 47	@373
1	.10	.186987	1.03	1.26	S 8	@1009	-.11	.372547	.95	.95	s 13	@276
1	.10	.142206	.88	.86	T 33	@245	-.11	-.137157	.92	.94	t 32	@103
1	.08	-1.40180	1.12	1.20	U 11	@268	-.11	2.010008	.92	.67	u 37	@240
1	.07	-.542740	.95	.94	V 5	@157	-.08	.815969	.94	.89	v 45	@246
1	.05	3.691604	1.00	1.11	W 14	@244	-.07	.120024	1.01	1.01	w 48	@278
1	.04	.520011	1.06	1.06	X 51	@243	-.05	-.095284	.92	.90	x 16	@247
1	.03	.209596	1.04	1.04	Y 24	@256	-.05	2.725588	.94	.53	y 20	@239
1	.03	-.382642	.90	.87	Z 36	@277	-.04	.255288	.94	.95	z 4	@257
1	.03	-.982051	1.03	1.11	39	@271	-.03	-.342276	.89	.86	6	@236
							-.02	-.482906	1.08	1.08	55	@258
							-.01	4.401548	.95	.20	35	@1010

Grade 5 Mathematics

CON- TRAST	LOADING	INFIT MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	OUTFIT MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.46	-.410380	.88	.86	A	50 @1187	-.40	-.250711	1.50	1.67	a	20 @414
1	.39	-.671430	.86	.84	B	19 @1130	-.39	.224075	1.19	1.26	b	57 @428
1	.36	.144469	.88	.89	C	32 @445	-.34	.370021	1.14	1.21	c	21 @444
1	.30	.939362	.94	.82	D	27 @1229	-.28	-.275098	1.11	1.12	d	41 @425
1	.30	-.703456	.91	.89	E	45 @416	-.28	.029386	1.11	1.12	e	42 @419
1	.28	.435579	.91	.88	F	18 @1202	-.27	-.443613	1.13	1.14	f	37 @446
1	.27	-.862494	.97	.96	G	9 @424	-.26	1.157066	1.07	1.19	g	5 @1217
1	.27	-1.24437	.87	.84	H	15 @413	-.26	-.590885	1.07	1.06	h	49 @452
1	.24	-.846646	.86	.84	I	1 @422	-.23	-.099353	1.10	1.14	i	28 @439
1	.23	1.296768	.97	.84	J	8 @417	-.22	.144469	1.03	1.01	j	54 @437
1	.22	-.558442	.96	.95	K	43 @433	-.21	.799804	1.11	1.19	k	7 @432
1	.21	1.420496	.87	.80	L	53 @464	-.21	-1.06845	1.08	1.11	l	36 @421
1	.20	.413505	.86	.78	M	33 @412	-.20	.164139	1.07	1.08	m	16 @442
1	.19	.826824	.98	1.02	N	13 @1223	-.16	-2.24546	1.05	1.07	n	44 @458
1	.17	-.007954	.97	.95	O	34 @426	-.15	.503217	1.07	1.15	o	25 @462
1	.16	.670510	.96	.95	P	39 @443	-.13	.939362	1.03	1.13	p	29 @440
1	.15	.695646	.93	.87	Q	23 @1232	-.12	-.275098	1.06	1.07	q	4 @455
1	.15	2.198844	.94	.84	R	24 @420	-.11	-.509491	1.03	1.05	r	55 @1121
1	.15	1.091754	.92	.77	S	56 @453	-.08	-.223244	1.12	1.14	s	11 @1136
1	.14	-.026449	1.00	1.01	T	3 @459	-.07	-1.42413	1.03	1.07	t	10 @441
1	.13	-.590885	.96	.96	U	46 @456	-.06	-.135201	.99	1.02	u	40 @454
1	.12	.264856	.95	.94	V	26 @436	-.06	1.190794	1.11	1.20	v	47 @449
1	.11	.023609	.93	.84	W	48 @435	-.04	-.376928	.97	.96	w	12 @431
1	.10	-.799047	.93	.91	X	6 @434	-.03	.048239	1.00	1.02	x	31 @429
1	.09	-.223244	.94	.94	Y	35 @448	-.02	-1.10025	1.05	1.07	y	2 @1128
1	.09	.124947	1.00	1.02	Z	52 @1058	-.02	-.152983	.96	.97	z	30 @415
1	.07	1.221381	.87	.80		14 @463	-.01	.029386	.97	.95		17 @450
1	.04	-.574683	.95	.95		51 @451	-.01	-1.89945	.99	1.02		22 @460
1	.00	1.221359	.99	.99		38 @1093						

Grade 6 Mathematics

CON- TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.50	1.303660	1.13	1.67	A	21 @577	-.38	1.294964	.87	.84	a	30 @472
1	.36	-.520121	1.13	1.15	B	25 @526	-.36	-.007936	.91	.80	b	42 @491
1	.31	.280693	1.08	1.11	C	14 @1256	-.31	-.205232	.84	.72	c	17 @1131
1	.31	-.775674	1.06	1.07	D	22 @1142	-.29	-.807732	.82	.81	d	5 @468
1	.30	.762916	1.08	1.26	E	27 @534	-.28	1.162829	.87	.57	e	41 @575
1	.29	-.502420	1.07	1.12	F	50 @514	-.26	-.291969	.92	.92	f	29 @520
1	.28	.223939	1.20	1.32	G	23 @487	-.26	-2.34660	.90	.79	g	32 @571
1	.27	.760813	1.09	1.32	H	55 @466	-.25	-.088523	.96	.91	h	40 @478
1	.26	.101104	1.15	1.26	I	8 @480	-.23	-.542748	.95	.94	i	48 @1203
1	.23	-.940382	1.11	1.12	J	2 @568	-.23	.946374	.90	.72	j	52 @570
1	.21	2.029048	1.06	1.52	K	56 @482	-.20	-.556790	.95	.89	k	9 @469
1	.19	-.614115	1.13	1.14	L	13 @490	-.19	-1.52330	1.00	1.01	l	31 @535
1	.19	.170001	1.02	1.03	M	43 @512	-.19	1.785106	.98	.71	m	49 @524
1	.18	.146914	1.03	1.11	N	26 @1253	-.19	-1.43979	.96	.95	n	57 @1254
1	.17	.076582	1.03	1.10	O	16 @484	-.18	-.222362	.89	.84	o	33 @553
1	.17	-.633764	1.14	1.15	P	37 @509	-.17	.403497	.86	.82	p	15 @502
1	.16	.946374	1.09	1.24	Q	47 @476	-.17	-.678747	.90	.91	q	19 @537
1	.14	.197964	1.07	1.15	R	24 @580	-.16	.673260	.83	.64	r	18 @1062
1	.13	-.594392	.98	.97	S	36 @515	-.14	1.411464	.96	.85	s	10 @585
1	.13	-.700806	1.00	1.00	T	51 @1063	-.10	.692212	1.11	1.31	t	44 @521
1	.10	-.778245	1.02	1.01	U	45 @1101	-.08	.384772	1.00	1.02	u	53 @545
1	.09	.150941	1.06	1.30	V	7 @551	-.07	1.865493	.94	.71	v	12 @1251
1	.07	-.229509	1.05	1.06	W	46 @572	-.06	-.940382	.89	.87	w	35 @550
1	.05	.448069	1.09	1.13	X	4 @470	-.04	.201910	1.00	.98	x	1 @581
1	.03	-.019078	.97	.94	Y	39 @574	-.03	-.883746	.92	.90	y	6 @1200
1	.02	-.019078	.95	.95	Z	11 @578	-.01	-.959203	1.00	1.02	z	34 @563
1	.02	1.647919	1.05	1.07		28 @1225						
1	.00	-.921534	.92	.90		3 @579						
1	.00	-.459220	.99	1.01		20 @567						
1	.00	-.614115	1.04	1.06		38 @495						
1	.00	-.251291	1.02	1.03		54 @517						

Grade 7 Mathematics

CON-			INFIT	OUTFIT	ENTRY				INFIT	OUTFIT	ENTRY	
TRAST	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM
1	.43	.258385	.89	.71	A 32	@479	-.42	-.156198	1.13	1.25	a 29	@506
1	.42	-1.01435	.84	.83	B 8	@565	-.40	-.840126	1.09	1.09	b 54	@493
1	.35	-.586306	.92	.89	C 40	@498	-.34	-.963311	1.10	1.11	c 21	@505
1	.33	.212065	.92	.79	D 9	@522	-.32	-.196590	1.19	1.33	d 58	@511
1	.30	-1.69640	.92	.90	E 18	@1065	-.30	-1.86115	1.08	1.10	e 1	@616
1	.28	-.971794	.90	.88	F 48	@541	-.30	.167100	1.09	1.14	f 27	@477
1	.27	-.654648	.85	.75	G 38	@481	-.29	-.294503	1.18	1.30	g 35	@486
1	.25	-1.08959	.99	1.00	H 10	@489	-.29	-.673743	1.08	1.12	h 47	@549
1	.23	.039404	.92	.78	I 13	@527	-.25	-1.07349	1.06	1.07	i 44	@557
1	.22	1.589331	.93	.68	J 5	@471	-.24	2.299246	1.00	1.25	j 16	@1264
1	.22	-1.58671	.93	.91	K 14	@1241	-.23	-.425669	1.07	1.03	k 34	@559
1	.22	.212065	1.02	.94	L 22	@516	-.18	.514611	1.05	1.10	l 6	@543
1	.22	1.889017	.97	.78	M 45	@552	-.18	-.079079	1.12	1.14	m 26	@488
1	.22	3.723114	.99	.45	N 51	@513	-.17	-1.70113	1.01	1.02	n 23	@508
1	.21	-1.31731	.94	.93	O 46	@536	-.17	-.919789	1.09	1.11	o 52	@503
1	.20	.033157	.97	.99	P 56	@492	-.15	1.056599	1.00	1.07	p 49	@501
1	.17	1.349383	.93	.72	Q 39	@519	-.11	-.040500	1.13	1.23	q 15	@1244
1	.14	.901841	.98	.83	R 24	@525	-.10	1.889017	.98	.98	r 53	@1252
1	.14	.349709	1.01	1.10	S 42	@1237	-.09	-.893466	.99	1.00	s 41	@485
1	.12	-.123314	.91	.86	T 55	@561	-.08	-.637378	1.04	1.07	t 30	@496
1	.10	-1.16271	.92	.91	U 2	@562	-.08	-.001025	1.06	1.13	u 36	@1234
1	.10	-1.11434	.92	.92	V 3	@533	-.05	.080853	1.04	1.08	v 7	@474
1	.10	-.294503	.91	.92	W 19	@475	-.05	2.612177	1.02	1.05	w 31	@538
1	.10	1.302489	.86	.49	X 43	@555	-.04	.039404	1.07	1.09	x 33	@483
1	.06	2.612177	.98	1.13	Y 37	@1247						
1	.05	-1.56375	1.03	1.05	Z 12	@523						
1	.05	2.316087	1.02	1.26	25	@1066						
1	.04	-.777856	.96	.95	28	@494						
1	.04	.162929	.97	.66	50	@547						
1	.02	-.777856	.98	.99	11	@540						
1	.00	1.169404	.96	.94	4	@467						
1	.00	-.624830	.97	.96	z 17	@1259						
1	.00	-.666102	1.03	1.10	y 20	@564						

Grade 8 Mathematics

CON- TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.55	-1.09718	.87	.84	A	25 @1269	-.38	-.815599	1.19	1.22	a	52 @530
1	.46	-2.19860	.90	.85	B	18 @618	-.36	-1.16510	1.11	1.11	b	14 @596
1	.45	1.323101	.89	.59	C	26 @582	-.36	.651549	1.18	1.89	c	24 @576
1	.40	.379201	.89	.65	D	11 @1135	-.32	.651549	1.16	1.52	d	15 @615
1	.35	.440101	.91	.77	E	12 @590	-.31	-.923381	1.06	1.09	e	2 @594
1	.33	-.153078	.88	.91	F	4 @583	-.27	.440101	1.10	1.12	f	7 @597
1	.30	.407083	.94	.58	G	19 @1138	-.26	-.255039	1.10	1.06	g	50 @556
1	.29	.389802	.97	.88	H	31 @613	-.25	-.549808	1.03	1.13	h	10 @1230
1	.28	2.197904	1.01	.76	I	20 @620	-.23	-.958671	1.03	1.01	i	55 @589
1	.23	-.255039	1.00	.97	J	8 @1236	-.22	.140248	1.06	1.08	j	29 @617
1	.23	-.778958	.93	.96	K	36 @1141	-.22	-.628159	1.05	1.03	k	51 @532
1	.22	-.255039	.89	.84	L	44 @1274	-.21	-.469131	1.17	1.18	l	28 @598
1	.22	.140248	.85	.70	M	54 @599	-.21	-.958671	1.06	1.06	m	49 @611
1	.21	-1.56193	.87	.86	N	46 @614	-.20	.086109	.88	.85	n	23 @1273
1	.18	1.765326	1.06	1.00	O	41 @588	-.19	.196097	1.05	1.13	o	16 @531
1	.14	.033540	1.02	1.10	P	1 @602	-.19	-.427822	1.05	1.01	p	47 @586
1	.14	-.343043	.88	.80	Q	9 @569	-.15	.140248	1.14	1.35	q	17 @601
1	.13	.375595	1.06	1.07	R	13 @573	-.15	-.549808	.92	.91	r	21 @607
1	.13	-1.43091	.93	.91	S	32 @592	-.15	3.625495	1.00	.54	s	56 @1140
1	.11	-.209683	.99	.92	T	38 @566	-.13	1.200955	1.00	1.05	t	39 @1268
1	.09	-.115929	1.09	1.09	U	6 @604	-.11	-1.23231	1.02	1.01	u	48 @608
1	.07	-.115929	1.12	1.14	V	5 @544	-.10	-.343043	.94	.96	v	22 @1270
1	.07	.898812	.95	.82	W	34 @1218	-.08	1.597715	.91	.84	w	30 @591
1	.06	-.385809	.91	.87	X	37 @584	-.05	-.778958	1.05	1.10	x	40 @1228
1	.06	-.163338	.85	.82	Y	42 @612	-.04	-.509780	1.03	1.03	y	3 @593
1	.05	2.197904	1.06	1.51	Z	43 @542	-.04	1.961169	1.02	1.03	z	27 @548
1	.03	-1.69286	.97	.97		45 @600						
1	.03	1.092360	1.10	1.52		53 @603						
1	.02	-.343043	1.06	1.08		35 @529						
1	.01	-.666550	.92	.94		33 @621						

Grade 3 Hawaiian Language Arts

CON-			INFIT	OUTFIT	ENTRY				INFIT	OUTFIT	ENTRY	
TRAST	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM
1	.39	.095766	1.52	1.65	A 32	@1022	-.38	1.302472	.82	.62	a 20	@104
1	.36	.081236	1.21	1.34	B 35	@130	-.36	-1.20466	.83	.80	b 47	@145
1	.36	.964552	1.09	1.36	C 37	@143	-.35	-.189878	.85	.82	c 3	@381
1	.36	-.951505	1.23	1.33	D 43	@384	-.35	.154226	.93	.87	d 10	@88
1	.28	-.090916	1.11	1.15	E 38	@123	-.34	.410231	.85	.80	e 8	@1026
1	.26	-.779031	1.12	1.19	F 21	@383	-.32	.009047	.87	.86	f 2	@101
1	.26	.692965	1.14	1.31	G 53	@134	-.32	-.413929	.84	.80	g 14	@92
1	.23	-.090916	1.07	1.12	H 33	@119	-.28	-2.14677	.90	.78	h 12	@91
1	.23	-.620049	1.01	1.07	I 49	@122	-.27	-1.49053	.86	.80	i 9	@84
1	.22	.831011	1.21	1.28	J 52	@159	-.26	-.218016	.92	.92	j 17	@97
1	.21	.037835	1.10	1.15	K 30	@114	-.23	2.238792	.89	.56	k 31	@112
1	.21	.168930	1.16	1.28	L 41	@158	-.21	-.372040	.94	.89	l 6	@99
1	.16	.273001	1.04	1.08	M 25	@110	-.20	-1.05423	.89	.82	m 23	@162
1	.16	2.010417	1.02	1.23	N 54	@139	-.19	-2.04065	1.00	1.08	n 5	@94
1	.14	2.007796	1.02	1.02	O 34	@379	-.15	.379361	.98	1.00	o 16	@95
1	.11	1.845889	.99	1.11	P 26	@113	-.14	-2.08243	.95	.78	p 1	@93
1	.11	-1.02469	1.09	1.12	Q 42	@1021	-.14	-.175794	.92	.91	q 4	@108
1	.10	1.345895	1.07	1.08	R 24	@1025	-.14	-2.42858	.91	.82	r 11	@90
1	.10	-.704730	1.06	1.06	S 48	@152	-.11	.768347	.97	.90	s 18	@96
1	.09	.348713	1.01	1.18	T 44	@156	-.10	-.497705	.95	.92	t 7	@89
1	.09	-1.35835	1.05	1.15	U 50	@141	-.10	.751178	.93	.83	u 13	@87
1	.08	-.821793	.97	.98	V 22	@161	-.08	.873595	1.02	1.08	v 15	@1023
1	.04	1.005254	.93	.87	W 29	@1020	-.08	.704349	.96	.85	w 27	@1024
1	.03	-1.03944	1.00	.98	X 28	@117	-.08	3.257116	.87	.30	x 40	@127
1	.02	.464977	.98	.98	Y 51	@155	-.08	-1.59160	.93	1.00	y 45	@150
1	.00	1.434867	.95	.92	Z 46	@138	-.06	-.372040	.97	.94	z 39	@137
1	.00	.494252	.91	.89	55	@394	-.05	-.497705	1.00	1.01	19	@107
							-.02	-.694059	.94	.89	36	@125

Grade 4 Hawaiian Language Arts

CON- TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.56	-1.63634	.73	.51	A	17 @20	-.46	1.552155	1.32	1.86	a	27 @25
1	.49	-1.24648	.77	.64	B	14 @15	-.42	1.199539	1.15	1.38	b	53 @1014
1	.44	-1.77195	.85	.65	C	16 @65	-.41	.158009	1.22	1.25	c	26 @36
1	.38	-1.95621	.87	.64	D	6 @64	-.37	1.356478	1.22	1.74	d	50 @63
1	.37	-.883070	.83	.77	E	7 @8	-.35	.307612	1.20	1.31	e	34 @40
1	.36	-1.44817	.92	.77	F	12 @14	-.32	1.250904	1.15	1.59	f	37 @56
1	.34	-1.80737	.94	.84	G	4 @7	-.32	1.276927	1.16	1.39	g	38 @57
1	.34	-1.06993	.84	.72	H	25 @39	-.27	.268087	1.21	1.33	h	20 @30
1	.33	-1.70299	.89	.83	I	2 @389	-.27	.837377	1.25	1.40	i	35 @55
1	.28	.307612	.83	.77	J	23 @24	-.24	.504762	1.28	1.35	j	19 @23
1	.28	1.410848	.77	.61	K	56 @1017	-.21	.115360	1.14	1.22	k	40 @387
1	.26	.591422	.66	.67	L	57 @1013	-.21	.700922	1.10	1.19	l	51 @1016
1	.25	-1.23130	.77	.65	M	45 @49	-.19	-1.19169	1.11	1.17	m	1 @18
1	.23	-1.06993	.78	.66	N	43 @48	-.19	.483032	1.02	1.03	n	18 @22
1	.21	.680931	.86	.83	O	11 @1019	-.19	.545735	1.15	1.26	o	46 @51
1	.20	-1.13798	.94	.85	P	5 @12	-.17	-.119847	1.04	1.03	p	32 @31
1	.20	1.522077	.92	.60	Q	22 @35	-.15	1.026049	1.07	1.20	q	36 @41
1	.18	-1.08528	.97	.90	R	13 @16	-.15	-.098362	1.07	1.06	r	52 @1015
1	.18	.837377	.85	.75	S	55 @1012	-.14	.746003	1.01	1.07	s	54 @1011
1	.14	.350547	.81	.81	T	44 @50	-.12	.436385	1.02	.98	t	58 @395
1	.14	-.867474	.91	.89	U	48 @60	-.10	.329064	1.03	1.03	u	41 @46
1	.12	-.162918	.95	.93	V	30 @37	-.09	-.425458	1.06	1.08	v	33 @54
1	.11	-.537846	.97	.90	W	29 @27	-.09	.350547	1.07	1.09	w	47 @62
1	.09	.225454	1.02	.99	X	8 @9	-.08	1.612486	.99	1.21	x	10 @11
1	.09	-1.17645	.95	.95	Y	31 @38	-.07	.225454	1.02	1.07	y	3 @21
1	.07	-2.11875	.92	.81	Z	9 @13	-.06	-.441713	.95	.91	z	21 @34
1	.07	.614330	1.03	1.00		15 @17	-.05	.158009	1.03	1.00		28 @26
1	.07	1.671694	.85	.68		24 @28						
1	.06	1.261015	1.16	1.11		39 @42						
1	.03	.158009	.97	.97		42 @47						
1	.00	.115360	1.03	1.03		49 @61						

Grade 5 Hawaiian Language Arts

CON- TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.51	-1.17451	.78	.70	A 41	@696	-.35	1.104082	1.19	1.54	a 26	@718
1	.50	.039917	.79	.71	B 49	@684	-.34	-1.22962	1.22	1.47	b 24	@729
1	.46	.299043	.72	.64	C 55	@719	-.32	.030134	1.10	1.05	c 21	@1183
1	.37	.723968	.84	.73	D 42	@637	-.30	.441826	1.14	1.21	d 9	@711
1	.34	.130900	.90	.87	E 45	@720	-.28	1.155490	1.18	1.57	e 31	@1222
1	.29	-1.43774	.87	.79	F 13	@721	-.27	-2.82269	1.10	1.75	f 11	@1074
1	.27	-2.97718	.87	.53	G 2	@644	-.25	-.085203	1.07	1.05	g 47	@630
1	.27	-1.39483	.94	.86	H 54	@634	-.25	1.284657	1.12	1.47	h 56	@1208
1	.25	.375981	.80	.75	I 43	@708	-.24	1.284657	1.06	1.50	i 51	@707
1	.23	.676401	.95	.76	J 44	@712	-.23	.402647	1.23	1.48	j 4	@716
1	.21	.094323	.88	.81	K 46	@714	-.23	-.251401	1.05	1.04	k 15	@724
1	.16	.666139	.88	.84	L 25	@640	-.22	-.871603	1.02	1.01	l 39	@709
1	.16	-.767358	1.00	.99	M 33	@728	-.20	.120545	1.08	1.16	m 38	@730
1	.15	-.750069	.95	.96	N 3	@636	-.19	.306482	1.22	1.54	n 19	@1215
1	.14	.687389	1.02	1.07	O 37	@702	-.19	-.251401	1.21	1.25	o 20	@672
1	.13	-.058944	.91	.88	P 1	@642	-.15	-.389387	1.09	1.10	p 6	@633
1	.13	-.320537	.93	.90	Q 29	@631	-.15	-.595216	1.10	1.12	q 17	@627
1	.12	-1.57639	.97	1.02	R 28	@689	-.14	-.041223	1.12	1.13	r 14	@726
1	.12	-.767358	1.01	1.02	S 30	@648	-.13	.268664	1.02	1.05	s 8	@1072
1	.10	-.784666	.96	.93	T 40	@646	-.13	-.662601	1.17	1.16	t 57	@1030
1	.09	-.023458	.92	.89	U 32	@629	-.11	3.707216	1.04	1.41	u 5	@717
1	.09	.956861	.99	.98	V 34	@693	-.05	-.854160	1.01	1.03	v 36	@625
1	.08	1.731474	.91	.80	W 52	@706	-.04	-.199299	.95	.94	w 10	@690
1	.07	.175544	.94	.92	X 12	@713	-.02	.956861	.99	1.12	x 22	@681
1	.06	-1.13320	.95	.96	Y 50	@699	-.02	1.346612	1.00	.88	y 23	@673
1	.04	.287531	.93	.88	Z 7	@723	-.01	.210724	.98	.91	z 18	@722
1	.04	-.526630	.93	.93	16	@725						
1	.03	-.129411	.94	.96	27	@1193						
1	.03	.857619	.92	.89	48	@727						
1	.03	-1.41415	1.00	.96	53	@626						
1	.02	3.166603	1.01	1.16	35	@677						

Grade 6 Hawaiian Language Arts

CON-TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.42	-.036763	1.16	1.30	A 11	@661	-.36	.782348	.92	.79	a 49	@694
1	.38	2.159114	.97	1.04	B 41	@1170	-.30	-.739708	.99	1.10	b 37	@680
1	.37	-.342485	.93	.90	C 4	@641	-.30	.024929	1.30	1.24	c 45	@666
1	.36	2.709817	.95	.75	D 9	@660	-.30	-.745306	1.02	1.03	d 58	@1031
1	.35	-1.34129	.94	.88	E 5	@704	-.29	.477149	.89	.81	e 43	@679
1	.35	2.709817	1.07	1.14	F 50	@676	-.29	-.461539	.99	.98	f 48	@697
1	.29	-1.15467	1.14	1.20	G 6	@703	-.26	1.868056	.90	.69	g 55	@663
1	.25	-.282424	1.10	1.23	H 28	@649	-.21	1.467435	1.01	.99	h 24	@687
1	.22	-1.58054	.97	.97	I 1	@624	-.20	.381880	.94	.85	i 25	@1309
1	.21	.005278	1.00	1.00	J 10	@1171	-.20	.091621	.91	.82	j 29	@1173
1	.21	-.322511	1.07	1.09	K 30	@1083	-.20	.550805	1.07	1.14	k 53	@1169
1	.20	-2.41728	1.14	1.26	L 3	@638	-.20	.039861	1.01	1.01	l 54	@669
1	.17	-.520673	1.08	1.14	M 8	@645	-.13	-.953563	.80	.75	m 15	@678
1	.17	-.078444	.92	.86	N 21	@647	-.11	1.316269	.93	.99	n 51	@668
1	.17	-1.03340	.98	1.00	O 36	@657	-.11	-.189882	1.14	1.19	o 56	@656
1	.15	-.638505	1.01	1.05	P 12	@659	-.10	-1.27834	.79	.73	p 47	@700
1	.15	.575821	1.00	1.04	Q 42	@692	-.08	.079024	.90	.83	q 20	@664
1	.14	-1.55815	1.02	1.06	R 7	@628	-.08	3.195221	1.03	1.00	r 22	@691
1	.14	-.015788	.83	.80	S 14	@665	-.08	2.159114	.94	.72	s 46	@701
1	.12	-2.61843	1.11	1.36	T 2	@635	-.07	-1.01337	.99	1.06	t 16	@652
1	.11	.526027	.99	.97	U 38	@675	-.06	1.316269	.97	.93	u 26	@651
1	.11	-2.03686	.95	.92	V 57	@655	-.06	-1.58054	.97	.91	v 40	@667
1	.10	-.140354	1.32	1.44	W 32	@682	-.04	-1.74175	.91	.84	w 31	@653
1	.10	-1.64863	1.03	.98	X 34	@1172	-.03	-2.04155	.90	.85	x 27	@683
1	.10	2.813469	.96	.78	Y 44	@685						
1	.08	-.815909	1.03	1.12	Z 13	@643						
1	.08	2.614473	1.00	.90	39	@674						
1	.07	.047707	1.04	1.10	17	@639						
1	.07	-.481274	1.19	1.24	18	@1075						
1	.03	.155698	.94	.85	23	@688						
1	.02	-.795508	1.03	1.01	19	@662						
1	.02	-.221901	.97	1.06	35	@632						
1	.02	.601083	.89	.85	z 52	@650						
1	.01	2.159114	1.12	1.26	y 33	@698						

Grade 7 Hawaiian Language Arts

CON-			INFIT	OUTFIT	ENTRY				INFIT	OUTFIT	ENTRY	
TRAST	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM
1	.42	-1.15085	1.00	.97	A 57	@1032	-.42	-1.52464	1.05	1.14	a 25	@769
1	.38	-.635088	.82	.79	B 15	@1097	-.37	-2.70801	1.06	1.16	b 3	@888
1	.34	-.599683	1.04	.97	C 34	@1096	-.35	-.884003	1.04	1.02	c 27	@877
1	.33	1.408540	.96	.75	D 42	@874	-.31	.528591	1.06	1.04	d 4	@883
1	.32	-.293525	.90	.88	E 23	@808	-.31	.353809	1.00	1.37	e 18	@892
1	.31	.342288	.85	.77	F 51	@770	-.28	.102013	1.13	1.27	f 55	@1104
1	.27	.728735	.76	.80	G 46	@889	-.26	-.221448	1.08	1.30	g 21	@806
1	.22	.531356	.83	.71	H 22	@878	-.25	1.177240	1.04	.90	h 20	@1178
1	.20	.756220	1.03	.92	I 33	@880	-.25	.696240	1.19	1.50	i 50	@876
1	.17	1.231751	.99	.97	J 43	@1179	-.23	-1.90479	.95	1.18	j 7	@882
1	.12	.154736	.91	.91	K 40	@1182	-.23	-.485339	.94	1.01	k 35	@875
1	.11	1.852362	.98	.94	L 19	@843	-.22	-.082279	.98	1.02	l 41	@891
1	.11	.616739	.96	.91	M 52	@834	-.21	.004271	1.25	1.63	m 38	@879
1	.10	.431208	.89	.77	N 54	@902	-.18	.565423	.98	.87	n 14	@774
1	.09	3.119319	.95	.51	O 37	@869	-.17	1.543918	1.02	.87	o 17	@1089
1	.05	-1.41642	1.22	1.22	P 47	@829	-.16	-1.11636	1.02	1.05	p 2	@784
1	.05	-.018368	.92	.91	Q 49	@899	-.16	-.800906	.91	.87	q 16	@1099
1	.04	-.485339	.94	.92	R 39	@897	-.15	.798094	1.22	1.81	r 28	@1185
1	.03	-1.63785	.95	.96	S 13	@790	-.15	2.020603	1.05	1.30	s 56	@822
1	.03	-1.67960	.89	.84	T 31	@887	-.13	.320507	1.04	.93	t 9	@762
1	.03	2.035934	.89	.64	U 44	@870	-.13	-.355428	1.14	1.27	u 29	@777
1	.02	-.528029	.84	.78	V 11	@1175	-.11	-2.74726	1.03	1.23	v 1	@1118
1	.02	.348137	.99	.90	W 24	@1088	-.11	-2.32073	.91	.87	w 5	@885
1	.02	1.013916	.93	.81	X 45	@872	-.09	1.476741	1.05	.96	x 6	@886
							-.08	-1.31135	1.11	1.14	y 8	@763
							-.08	-.302382	.92	.90	z 26	@803
							-.08	-.536382	1.04	1.02	32	@930
							-.07	-.138650	1.07	1.08	36	@811
							-.06	2.384986	1.02	1.27	30	@903
							-.05	-.268224	1.03	1.08	10	@1098
							-.03	1.159840	1.01	1.22	53	@884
							-.02	.466971	.95	1.14	Z 48	@839
							-.01	-2.01749	1.06	1.01	Y 12	@871

Grade 8 Hawaiian Language Arts

CON-			INFIT	OUTFIT	ENTRY				INFIT	OUTFIT	ENTRY	
TRAST	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM
1	.49	.505485	1.14	1.39	A	48 @924	-.45	.414430	.67	.65	a	19 @911
1	.48	.295933	1.37	1.74	B	50 @1092	-.36	-1.80050	.89	.82	b	12 @848
1	.41	.004842	1.33	1.51	C	17 @914	-.36	-.845100	.87	.81	c	29 @910
1	.41	.796913	1.20	1.57	D	34 @893	-.35	.395448	.83	.73	d	14 @771
1	.34	-.071658	1.15	1.38	E	53 @826	-.32	-4.17753	.90	.52	e	2 @917
1	.33	.395448	1.14	1.33	F	22 @916	-.32	-1.05822	.88	.85	f	20 @833
1	.33	.354331	1.16	1.44	G	36 @926	-.30	-2.77132	.83	.65	g	1 @909
1	.29	-.447996	1.10	1.27	H	49 @805	-.30	1.353474	1.01	.87	h	5 @913
1	.28	-.051730	1.19	1.63	I	42 @905	-.29	1.095939	.82	.64	i	45 @1201
1	.27	.748888	1.19	1.30	J	35 @1078	-.28	-.496018	.86	.83	j	32 @1190
1	.19	.273682	1.13	1.18	K	4 @867	-.26	-2.12695	.88	.89	k	8 @927
1	.17	.593932	.91	1.53	L	51 @920	-.26	-2.51080	.86	.76	l	11 @1126
1	.14	-.341729	1.03	1.00	M	40 @1212	-.22	1.703827	.84	.60	m	46 @901
1	.11	-.355797	1.01	.96	N	3 @894	-.15	-.141820	1.03	.95	n	21 @912
1	.09	-.404948	1.09	1.04	O	55 @1034	-.14	-2.91819	.77	.54	o	6 @929
1	.08	-.390979	1.13	1.22	P	23 @796	-.14	1.110828	.94	.83	p	9 @1127
1	.08	1.153743	1.05	1.06	Q	47 @764	-.14	-.810004	.97	1.13	q	18 @921
1	.07	.655760	1.12	1.24	R	33 @1105	-.14	-.068989	.98	.94	r	37 @1210
1	.07	-.694042	1.00	1.01	S	41 @925	-.13	-.496018	.99	.96	s	10 @855
1	.05	-.032209	.95	1.07	T	30 @906	-.13	-.574897	.83	.74	t	16 @767
1	.05	.003527	1.09	1.40	U	54 @778	-.12	-.670278	.94	.90	u	15 @785
1	.04	3.214540	1.00	.71	V	26 @810	-.12	-.461075	.91	1.09	v	31 @922
1	.03	-1.04935	1.02	.98	W	44 @1192	-.11	-2.07747	1.02	1.23	w	7 @904
1	.01	1.054926	.96	.82	X	25 @772	-.11	-.068989	.93	.92	x	27 @1079
							-.10	.996467	.81	.70	y	39 @780
							-.08	.682768	.86	.70	z	38 @820
							-.07	3.519321	.91	.36		24 @793
							-.07	2.187948	1.06	1.45		52 @766
							-.06	.079841	.84	.77		28 @761
							-.04	3.942176	1.02	.59	Z	13 @802
							-.01	.380227	1.31	1.07	Y	43 @1214

Grade 4 Science

CON-			INFIT	OUTFIT	ENTRY					INFIT	OUTFIT	ENTRY	
TRAST	LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM		LOADING	MEASURE	MNSQ	MNSQ	NUMBER	ITEM
1	.48	-.109470	.85	.76	A	30 @321		-.44	-1.09661	1.06	.96	a	14 @288
1	.45	-.658940	.79	.74	B	27 @298		-.41	-1.20637	1.09	1.04	b	16 @297
1	.41	.848580	.94	.87	C	20 @304		-.35	-.250284	1.08	1.10	c	11 @309
1	.33	-.277238	1.19	1.27	D	33 @318		-.33	-.203234	1.35	1.53	d	4 @296
1	.29	-.911483	.90	.83	E	25 @293		-.31	.672983	1.30	1.70	e	23 @315
1	.23	-.870109	.89	.86	F	32 @316		-.31	-.068001	1.15	1.34	f	37 @308
1	.20	1.890740	1.10	.86	G	34 @323		-.27	-.560925	.96	.89	g	10 @307
1	.19	-1.31955	.94	.84	H	9 @314		-.26	-1.58965	.97	.97	h	2 @284
1	.19	-.297483	1.02	1.03	I	28 @317		-.24	.797786	1.17	1.69	i	1 @287
1	.19	.025797	.96	.87	J	36 @306		-.15	-.392432	1.11	1.15	j	22 @310
1	.18	-.885658	.96	1.06	K	13 @285		-.13	1.679963	1.00	1.13	k	35 @300
1	.15	.311979	.91	.80	L	17 @299		-.12	-.321146	1.09	1.12	l	7 @305
1	.14	1.129087	.85	.82	M	19 @301		-.09	-1.71816	1.02	.86	m	12 @289
1	.10	.417332	.91	.87	N	21 @324		-.07	-.203234	.97	.92	n	8 @283
1	.07	-.585293	.96	.99	O	24 @291		-.06	.383009	.93	.88	o	5 @292
1	.07	-.273864	1.01	.93	P	29 @320		-.05	1.519715	.87	.82	p	18 @294
1	.05	-.416302	.88	.82	Q	26 @295		-.04	.625434	.93	.91	q	39 @367
1	.02	1.967324	1.22	1.71	R	31 @322		-.02	-.708522	.97	.95	r	6 @313
1	.02	-.280141	.92	.86	S	40 @363							
1	.01	-.536636	1.01	1.06	T	3 @286							
1	.00	3.237846	.88	.73	t	15 @290							
1	.00	.233180	.89	.90	s	38 @365							

Grade 8 Science

CON- TRAST	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM	LOADING	MEASURE	INFIT MNSQ	OUTFIT MNSQ	ENTRY NUMBER	ITEM
1	.46	.250375	.82	.61	A 39	@944	-.36	-1.23575	1.13	1.16	a 35	@949
1	.46	1.465835	.89	.46	B 40	@978	-.34	.015279	1.03	.96	b 29	@948
1	.44	-.638216	.85	.79	C 52	@939	-.30	-1.20069	1.08	1.06	c 7	@956
1	.40	.771330	.97	.75	D 13	@932	-.30	-.638216	1.10	1.25	d 16	@1265
1	.40	.771330	.87	.61	E 53	@974	-.28	-1.12992	1.08	1.06	e 6	@1109
1	.39	-1.16541	.89	.85	F 37	@946	-.28	-.335640	1.04	1.14	f 10	@1238
1	.32	-1.95196	.88	.87	G 2	@962	-.26	.071127	1.10	1.19	g 14	@1111
1	.31	-.597133	.86	.74	H 50	@938	-.23	.188484	1.00	.93	h 4	@951
1	.30	.071127	.87	.79	I 32	@987	-.23	.071127	1.14	1.38	i 26	@947
1	.30	-1.51082	.94	.94	J 58	@1054	-.23	-1.61248	1.05	1.07	j 34	@985
1	.29	.071127	.88	.76	K 56	@1263	-.21	.684492	1.14	1.50	k 9	@955
1	.27	-1.12992	1.03	1.03	L 5	@977	-.21	.963706	1.10	1.58	l 54	@1056
1	.26	-1.09418	.96	.91	M 46	@1267	-.20	-1.40857	1.19	1.22	m 33	@970
1	.22	2.780466	1.02	.97	N 11	@1205	-.18	1.319826	1.00	1.08	n 49	@958
1	.21	-.911123	.95	.95	O 30	@950	-.18	.864056	.95	.82	o 51	@979
1	.18	3.485895	1.01	1.17	P 23	@971	-.17	-.469897	1.07	1.12	p 18	@954
1	.15	-1.88358	1.03	1.01	Q 12	@1257	-.15	.128802	1.12	1.12	q 48	@960
1	.13	.381765	.93	.79	R 15	@1260	-.14	2.062668	.99	1.02	r 1	@983
1	.12	1.632426	.97	1.20	S 24	@972	-.12	-.796976	1.15	1.20	s 55	@1110
1	.09	-.758051	.96	.89	T 20	@936	-.11	.602722	.99	1.03	t 42	@986
1	.09	-.366305	.93	.84	U 27	@1114	-.08	.684492	1.04	1.17	u 43	@967
1	.07	-.758051	.94	.94	V 47	@965	-.07	-.758051	1.02	1.00	v 3	@952
1	.05	.771330	.94	.79	W 57	@975	-.07	-.597133	1.11	1.19	w 17	@953
1	.04	.381765	.98	.98	X 21	@964	-.07	.525357	1.00	.92	x 25	@1258
1	.03	-.076689	.94	.67	Y 41	@945	-.06	2.362690	1.00	1.27	y 31	@961
1	.01	-1.88358	1.03	1.03	Z 19	@942	-.03	-.693024	1.01	.91	z 22	@937
1	.00	-.335640	.97	.93	36	@981	-.03	1.465835	1.01	.86	28	@984
1	.00	-.758051	.98	1.03	38	@1266	-.02	-.513019	1.01	1.07	44	@969
							-.02	2.362690	1.05	2.33	45	@980

Appendix K:

[appendix redacted]

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