New England Common Assessment Program 2013–14 Technical Report

July 2014

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CHAPTER 1 OVERVIEW

1.1 PURPOSE OF THE NEW ENGLAND COMMON ASSESSMENT PROGRAM

The New England Common Assessment Program (NECAP) is the result of collaboration among Maine, New Hampshire, Rhode Island, and Vermont to build a set of tests for grades 3 through 8 and 11 to meet the requirements of the No Child Left Behind Act (NCLB). The purposes of the tests are to provide: (a) data on student achievement in reading/English language arts and mathematics to meet the requirements of NCLB; (b) information to support program evaluation and improvement; and (c) information regarding student and school performance to both parents and the public. The tests are constructed to meet rigorous technical criteria, to include universal design elements and accommodations to allow all students access to test content, and to gather reliable student demographic information for accurate reporting. School improvement is supported by

- providing a transparent test design through the elementary and middle school Grade Level Expectations (GLEs), the high school Grade Span Expectations (GSEs), distributions of emphasis, and practice tests;
- reporting results by GLE/GSE subtopics, released items, and subgroups; and
- hosting report interpretation workshops to foster understanding of results.

It is important to note that the NECAP tests in reading, mathematics, and writing are administered in the fall at the beginning of the school year and test student achievement based on the prior year's GLEs/GSEs. Student level results are provided to schools and families for use as one piece of evidence about progress and learning that occurred on the prior year's GLEs/GSEs. The results are a status report of a student's performance against GLEs/GSEs and should be used cautiously in concert with local data.

1.2 PURPOSE OF THIS REPORT

The purpose of this report is to document the technical aspects of the 2013–14 NECAP tests. In October 2013, students in grades 3 through 8 and 11 participated in the administration of the NECAP tests in reading and mathematics. Students in grades 5, 8, and 11 also participated in writing. This report provides information about the technical quality of those tests, including a description of the processes used to develop, administer, and score the tests and to analyze the test results. This report is intended to serve as a guide for replicating and/or improving the procedures in subsequent years.

Though some parts of this technical report may be used by educated laypersons, the intended audience is experts in psychometrics and educational research. The report assumes a working knowledge of

measurement concepts, such as “reliability” and “validity,” and statistical concepts, such as “correlation” and “central tendency.” In some chapters, knowledge of more advanced topics is required.

1.3 Organization of This Report

The organization of this report is based on the conceptual flow of a test’s life span. The report begins with the initial test specifications and addresses all the intermediate steps that lead to final score reporting. Chapters 2 through 4 provide a description of the NECAP tests by covering the test design and development process, the administration of the tests, and scoring. Chapters 5 through 7 provide statistical and psychometric summaries, including chapters on item analysis, scaling and equating, and reliability. Chapter 8 is devoted to NECAP score reporting, and Chapter 9 is devoted to discussions on validity. Finally, the references cited throughout the report are provided, followed by the report appendices.

CHAPTER 2 CURRENT YEAR UPDATES

The fall 2013 NECAP administration was the last for reading, writing, and mathematics. No new items were field tested, so the number of test forms administered dropped from nine to four for grades 3 through 8, and from eight to four for grade 11. Additional matrix-equating items filled the vacant matrix-field test slots in the test blueprint.

CHAPTER 3 TEST DESIGN AND DEVELOPMENT

3.1 TEST SPECIFICATIONS

3.1.1 Criterion-Referenced Test

Items on the NECAP tests are developed specifically for those states participating in the NECAP and are directly linked to the NECAP Grade Level Expectations/Grade Span Expectations (GLEs/GSEs). These GLEs/GSEs are the basis for the reporting categories developed for each content area and are used to help guide the development of test items. Although each item is designed to measure a specific GLE/GSE, an item may address several GLEs/GSEs within a strand.

3.1.2 Item Types

The item types used and the functions of each are described below.

Multiple-choice items were administered in grades 3 through 8 and 11 in reading and mathematics and in grades 5 and 8 in writing to provide breadth of coverage of the GLEs/GSEs. Because each requires approximately one minute for most students to answer, these items make efficient use of limited testing time and allow coverage of a wide range of knowledge and skills, including, for example, word identification and vocabulary skills.

Short-answer items were administered in grades 3 through 8 and 11 in mathematics to assess students' skills and their ability to work with brief, well-structured problems with one solution or a very limited number of solutions. Each short-answer item requires approximately two to five minutes for most students to answer. The advantage of this item type is that it requires students to demonstrate knowledge and skills by generating, rather than merely selecting, an answer.

Constructed-response items typically require students to use higher-order thinking skills, such as summary, evaluation, and analysis, in constructing a satisfactory response. Each constructed-response item requires approximately 5 to 10 minutes for most students to complete. These items were administered in grades 3 through 8 and 11 in reading, in grades 5 through 8 and 11 in mathematics, and in grades 5 and 8 in writing.

A common **writing prompt** was administered in grades 5, 8, and 11. In grade 11, an additional matrix prompt was administered to students. Students were given 45 minutes (plus additional time if necessary) to compose an extended response for the common prompt that was scored by two independent

readers both on quality of the stylistic and rhetorical aspects of the writing and on the use of standard English conventions.

Approximately 25% of the common NECAP items were released to the public in 2012–13. The released NECAP items are posted on a website hosted by Measured Progress and on each Department of Education website. Schools are encouraged to incorporate the use of released items in their instructional activities so that students will be familiar with the types of questions found on the NECAP tests.

3.1.3 Description of Test Design

The NECAP test is structured using both common and matrix items. Common items are taken by all students in a given grade level. Student scores are based only on common items. Matrix items are either new items included on the test for field-test purposes or equating items used to link one year's results to those of previous years. In addition, field-test and equating items are divided among the multiple forms of the test for each grade and content area. The number of test forms varies by grade and content area but ranges between eight and nine forms. Each student takes only one form of the test and therefore answers a fraction of the field-test items. Equating and field-test items are not distinguishable to students and have a negligible impact on testing time. Because all students participate in the field test, an adequate sample size is provided to produce reliable data that can be used to inform item selection for future tests.

3.2 READING TEST SPECIFICATIONS

3.2.1 Standards

The test framework for reading in grades 3 through 8 was based on the NECAP GLEs, and each item on the grades 3 through 8 NECAP tests was designed to measure a specific GLE. The test framework for reading in grade 11 was based on the NECAP GSEs, and each item on the grade 11 NECAP test was designed to measure a specific GSE.

Reading comprehension is assessed on the NECAP test by items that are dually categorized by the type of text and by the level of comprehension measured. The level of comprehension is designated as either "Initial Understanding" or "Analysis and Interpretation." Word identification and vocabulary skills are assessed at each grade level primarily through multiple-choice items.

3.2.2 Item Types

The NECAP reading tests include multiple-choice and constructed-response items. Multiple-choice items require students to demonstrate a wide range of knowledge and skills, requiring one minute of response time per item. Constructed-response items are more complex, requiring 5 to 10 minutes of response time per

item. Each type of item is worth a specific number of points in the student's total reading score, as shown in Table 3-1.

Table 3-1. 2013–14 NECAP: Reading Item Types

Item Type	*Possible Score Points*
MC	0 or 1
CR	0, 1, 2, 3, or 4

MC = multiple-choice; CR = constructed-response

3.2.3 Test Design

Table 3-2 summarizes the numbers and types of items that were used in the 2013–14 NECAP reading tests for grades 3 through 8. Note that, in reading, all students received the common items and one of either the equating or field-test forms. Each multiple-choice item was worth one point and each constructed-response item was worth four points.

Table 3-2. 2013–14 NECAP: Item Type and Number of Items—Reading Grades 3–8

	Long passages	*Short passages*	*Stand-alone MC*	*Total MC*	*Total CR*
Common	2	2	4	28	6
Matrix—Equating					
Forms 1–3	3	3	6	36	9
Matrix—FT					
Forms 4–7	4	4	8	48	12
Forms 8–9	2	2	4	24	6
Total per Student					
Forms 1–7	3	3	6	36	9
Forms 8–9	3	3	6	36	9

Long passages have 8 MC and 2 CR items; short passages have 4 MC and 1 CR items. MC = multiple-choice; CR = constructed-response; FT = field test

Table 3-3 summarizes the numbers and types of items that were used in the 2013–14 NECAP reading test for grade 11. Note that, in reading, all students received the common items and one of either the equating or field-test forms. Each multiple-choice item was worth one point and each constructed-response item was worth four points.

Table 3-3. 2013–14 NECAP: Item Type and Number of Items—Reading Grade 11

	Long passages	*Short passages*	*Stand-alone MC*	*Total MC*	*Total CR*
Common	2	2	4	24	6
Matrix—Equating					
Forms 1–2	2	2	4	24	6
Matrix—FT					
Forms 3–8	6	6	12	72	18
Total per Student	3	3	6	36	9

3.2.4 Blueprints

The distribution of emphasis for reading is shown in Table 3-4.

Table 3-4. 2013–14 NECAP: Distribution of Emphasis Across Reporting Subcategories in Terms of Targeted Percentage of Test by Grade—Reading Grades 3–8 and 11

Subcategory	GLE/GSE grade (grade tested)						
	2 (3)	3 (4)	4 (5)	5 (6)	6 (7)	7 (8)	9–10 (11)
Word Identification Skills and Strategies	20%	15%	0%	0%	0%	0%	0%
Vocabulary Strategies/Breadth of Vocabulary	20%	20%	20%	20%	20%	20%	20%
Initial Understanding of Literary Text	20%	20%	20%	20%	15%	15%	15%
Initial Understanding of Informational Text	20%	20%	20%	20%	20%	20%	20%
Analysis and Interpretation of Literary Text	10%	15%	20%	20%	25%	25%	25%
Analysis and Interpretation of Informational Text	10%	10%	20%	20%	20%	20%	20%
Total	100%	100%	100%	100%	100%	100%	100%

Table 3-5 shows the content area subcategory reporting structure for reading and the maximum possible number of raw score points that students could earn. (With the exception of word identification/vocabulary items, reading items were reported in two ways: type of text and level of comprehension.) Note: because only common items are counted toward students' scaled scores, only common items are reflected in this table.

Table 3-5. 2013–14 NECAP: Reporting Subcategories and Possible Raw Score Points by Grade—Reading Grades 3–8 and 11

Subcategory	*Grade tested*						
	3	*4*	*5*	*6*	*7*	*8*	*11*
Word ID/Vocabulary	18	18	10	10	10	10	10
Type of Text							
Literary	18	18	21	21	21	21	21
Informational	16	16	21	21	21	21	21
Level of Comprehension							
Initial Understanding	18	17	21	21	21	21	21
Analysis and Interpretation	16	17	21	21	21	21	21
Total	52	52	52	52	52	52	52

Total possible points in reading equals the sum of Word ID/Vocabulary points and the total points from either Type of Text or Level of Comprehension (since reading comprehension items are dually categorized by type of text and level of comprehension).

3.2.5 Depth of Knowledge

Each item on the NECAP tests in reading is assigned a Depth of Knowledge (DOK) level according to the cognitive demand of the item. DOK is not synonymous with difficulty. The DOK level rates the complexity of the mental processing a student must use to answer the question. Each of the three levels is described in Figure 3-1.

Figure 3-1. 2013–14 NECAP: Depth of Knowledge—Reading

Level 1 (Recall)	This level requires students to receive or recite facts or to use simple skills or abilities. Oral reading that does not include analysis of the text as well as basic comprehension of a text is included. Items require only a shallow understanding of text presented and often consist of verbatim recall from text or simple understanding of a single word or phrase.
Level 2 (Skill/Concept)	This level includes the engagement of some mental processing beyond recalling or reproducing a response; it requires both comprehension and subsequent processing of text or portions of text. Intersentence analysis of inference is required. Some important concepts are covered but not in a complex way.
Level 3 (Strategic Thinking)	This level requires students to go beyond the text; however, they are still required to show understanding of the ideas in the text. Students may be encouraged to explain, generalize, or connect ideas. Standards and items involve reasoning and planning. Students must be able to support their thinking. Items may involve abstract theme identification, inference across an entire passage, or application of prior knowledge. Items may also involve more superficial connections between texts.

Table 3-6 lists the percentage of actual score points assigned to each DOK level in reading.

Table 3-6. 2013–14 NECAP: Depth of Knowledge in Terms of Percentage of Test by Grade—Reading Grades 3–8 and 11

DOK	*Grade*						
	3	*4*	*5*	*6*	*7*	*8*	*11*
Level 1	56%	44%	20%	20%	24%	18%	18%
Level 2	44%	56%	80%	80%	76%	82%	79%
Level 3	0%	0%	0%	0%	0%	0%	3%
TOTAL	100%	100%	100%	100%	100%	100%	100%

3.2.6 Passage Types

The reading passages on all the NECAP tests are broken down into the following categories:

- Literary passages, representing a variety of forms: modern narratives; diary entries; dramas; poetry; biographies; essays; excerpts from novels; short stories; and traditional narratives, such as fables, tall tales, myths, and folktales.
- Informational passages/factual text, often dealing with areas of science and social studies. These passages are taken from such sources as newspapers, magazines, and book excerpts. Informational text could also be directions, manuals, recipes, etc. The passages are authentic texts selected from grade level appropriate reading sources that students would be likely to encounter in both classroom and independent reading.

All passages are collected from published works.

3.3 MATHEMATICS TEST SPECIFICATIONS

3.3.1 Standards

The test framework for mathematics at grades 3 through 8 was based on the NECAP GLEs, and each item on the grades 3 through 8 NECAP tests was designed to measure a specific GLE. The test framework for mathematics at grade 11 was based on the NECAP GSEs, and each item on the grade 11 NECAP test was designed to measure a specific GSE. The mathematics items are organized into four content strands:

- Numbers and Operations: Students understand and demonstrate a sense of what numbers mean and how they are used. Students understand and demonstrate computation skills.
- Geometry and Measurement: Students understand and apply concepts from geometry. Students understand and demonstrate measurement skills.
- Functions and Algebra: Students understand that mathematics is the science of patterns, relationships, and functions. Students understand and apply algebraic concepts.
- Data, Statistics, and Probability: Students understand and apply concepts of data analysis. Students understand and apply concepts of probability.

Additionally, problem solving, reasoning, connections, and communication are embedded throughout the GLEs/GSEs.

3.3.2 Item Types

The NECAP mathematics tests include multiple-choice, short-answer, and constructed-response items. Short-answer items require students to perform a computation or solve a problem, requiring two to five minutes of response time per item. Constructed-response items are more complex, requiring 8 to 10 minutes of response time per item. Each type of item is worth a specific number of points in the student's total mathematics score, as shown in Table 3-7.

Table 3-7. 2013–14 NECAP: Mathematics Item Types

Item Type	*Possible Score Points*
MC	0 or 1
SA	0, 1, or 2
CR	0, 1, 2, 3, or 4

MC = multiple-choice; SA = short-answer; CR = constructed-response

3.3.3 Test Design

Table 3-8 summarizes the numbers and types of items that were used in the 2013–14 NECAP mathematics tests for grades 3 and 4, 5 through 8, and 11, respectively. Note that, in mathematics, all students received the common items plus equating in their forms. Each multiple-choice item was worth one point, each short-answer item was worth either one or two points, and each constructed-response item was worth four points. Except for grade 11, score points within a grade level were evenly divided so that multiple-choice items represented approximately 50% of the possible score points and short-answer and constructed-response items together represented approximately 50% of the possible score points. In grade 11, multiple-choice items represented approximately 40% of the possible score points and short-answer and constructed-response represented approximately 60% of the possible score points.

Table 3-8. 2013–14 NECAP: Item Type and Number of Items—Mathematics

Content Area and Grade	*Common*				*Matrix–equating*				*Total per student*			
	MC	*SA1*	*SA2*	*CR*	*MC*	*SA1*	*SA2*	*CR*	*MC*	*SA1*	*SA2*	*CR*
3–4	35	10	10	0	36	12	12	0	44	13	13	0
5–8	32	6	6	4	36	12	12	8	41	9	9	6
11	24	12	6	4	32	16	8	8	32	16	8	6

3.3.4 Blueprints

The distribution of emphasis for NECAP content strands for mathematics is shown in Table 3-9.

Table 3-9. 2013–14 NECAP: Distribution of Emphasis in Terms of Target Percentage of Test by Grade—Mathematics Grades 3–8 and 11

Subcategory	*GLE/GSE grade (grade tested)*						
	2 (3)	*3 (4)*	*4 (5)*	*5 (6)*	*6 (7)*	*7 (8)*	*9–10 (11)*
Numbers and Operations	55	50	45	40	30	20	15
Geometry and Measurement	15	20	20	25	25	25	30
Functions and Algebra	15	15	20	20	30	40	40
Data, Statistics, and Probability	15	15	15	15	15	15	15
TOTAL	100	100	100	100	100	100	100

Table 3-10 shows the content area subcategory reporting structure for mathematics and the maximum possible number of raw score points that students could earn. The goal for distribution of score points or balance of representation across the four content strands varies from grade to grade. Note: only common items are reflected in this table, as only they are counted toward students' scaled scores.

Table 3-10. 2013–14 NECAP: Reporting Subcategories and Possible Raw Score Points by Grade—Mathematics Grades—3–8 and 11

Subcategory	*Grade tested*						
	3	*4*	*5*	*6*	*7*	*8*	*11*
Numbers and Operations	35	32	30	27	20	13	9
Geometry and Measurement	10	13	13	17	16	17	20
Functions and Algebra	10	10	13	13	20	26	25
Data, Statistics, and Probability	10	10	10	10	10	10	10
TOTAL	65	65	66	66	66	66	64

3.3.5 Depth of Knowledge

Each item on the NECAP test in mathematics is assigned a DOK level according to the cognitive demand of the item. DOK is not synonymous with difficulty. The DOK level rates the complexity of the mental processing a student must use to solve a problem. Each of the three levels is described in Figure 3-2.

Figure 3-2. 2013–14 NECAP: Depth of Knowledge—Mathematics

Level 1 (Recalling Information and Carrying Out Simple Procedures)	This level requires the recall of a fact, definition, term, or simple procedure; the application of a formula; or the performance of a straight algorithmic procedure. Items at this level may require students to demonstrate a rote response.
Level 2 (Skill/Concept)	This level requires mental processing beyond that of a simple habitual response. These items often require students to make some decisions about how to approach a problem.
Level 3 (Strategic Thinking, Reasoning, Planning, Drawing Conclusions, and Using Concepts and Evidence)	This level requires students to develop a plan or sequence of steps. These items are more complex and abstract than the items at the previous two levels. These items may also have more than one possible answer and may require students to use evidence, make conjectures, or justify their answers.

Table 3-11 lists the percentage of total score points assigned to each level of DOK in mathematics.

Table 3-11. 2013–14 NECAP: Depth of Knowledge in Terms of Percentage of Test by Grade—Mathematics Grades 3–8 and 11

DOK	*Grade*						
	3	*4*	*5*	*6*	*7*	*8*	*11*
Level 1	24	35	29	31	42	17	30
Level 2	73	58	63	63	52	75	68
Level 3	3	7	8	6	6	8	2
TOTAL	100	100	100	100	100	100	100

3.3.6 Use of Calculators and Reference Sheets

The mathematics specialists from the Maine, New Hampshire, Rhode Island, and Vermont Departments of Education who designed the mathematics test acknowledge the importance of mastering arithmetic algorithms. At the same time, they understand that the use of calculators is a necessary and important skill. Calculators can save time and prevent error in the measurement of some higher-order thinking skills and, in turn, allow students to work on more sophisticated and intricate problems. For these reasons, it was decided that, at grades 3 through 8, calculators should be prohibited in the first of the three sessions of the NECAP mathematics tests and permitted in the remaining two sessions. It was decided that, at grade 11, calculators should be prohibited in the first of the two sessions and permitted in the second session.

Reference sheets are provided to students at grades 5–8 and 11. These sheets contain information, such as formulas, that students may need to answer certain test items. The reference sheets are published each year with the released items and have remained the same for several years over the various test administrations. Toolkits are provided to students at grades 3–5. These toolkits contain manipulatives to answer specific questions. The toolkits are designed for specific items and therefore change annually. They are published with the released items. All students in grades 3–8 and 11 receive rulers for use on the mathematics test. Students in grades 5–7 receive protractors for use on the mathematics test. Students may keep the rulers and protractors after test administration.

3.4 Writing Test Specifications

3.4.1 Standards

Grades 5 and 8

The test framework for writing in grades 5 and 8 was based on the NECAP GLEs, and each item on the grades 5 and 8 NECAP tests was designed to measure a specific GLE. The content standards for grades 5 and 8 writing identify four major genres that are assessed in the writing portion of the NECAP test each year:

- writing in response to literary text
- writing in response to informational text
- narratives
- informational writing (report/procedure text for grade 5 and persuasive essay for grade 8)

Grade 11

The test framework for writing in grade 11 was based on the NECAP GSEs, and each item on the grade 11 NECAP test was designed to measure a specific GSE. The content standards for grade 11 writing identify six genres:

- writing in response to literary text
- writing in response to informational text
- report writing
- procedural writing
- persuasive writing
- reflective writing

3.4.2 Item Types

The NECAP writing tests include multiple-choice items, constructed-response items, and extended-response writing prompts. At grades 5 and 8, multiple-choice items provide breadth of coverage of the GLEs/GSEs, requiring approximately one minute for most students to answer each item. Constructed-response items are more complex, requiring 5 to 10 minutes of response time per item. At grades 5, 8, and 11, students are required to respond to a writing prompt, receiving 45 minutes (plus additional time if necessary) to develop a response. Each type of item is worth a specific number of points in the student's total writing score, as shown in Table 3-12.

Table 3-12. 2013–14 NECAP: Writing Item Types

Item Type	*Possible Score Points*
MC	0 or 1
CR	0, 1, 2, 3, or 4
ER	0, 2–12

MC = multiple-choice; CR=constructed-response; ER = extended-response writing prompt

3.4.3 Test Design

All items on the grades 5 and 8 writing tests were common. Each multiple-choice item was worth one point, each constructed-response item was worth four points, and the extended-response writing prompt was worth 12 points.

Table 3-13 summarizes the test design used in the 2013–14 NECAP writing test for grade 11. There were a total of eight forms: five equating forms and three field-test forms. Each grade 11 student responded to two different extended-response writing prompts, one common and either one matrix-equating or one field-test prompt depending on the form. The common prompt was worth 12 points.

Table 3-13. 2013–14 NECAP: Number of Items by Item Type—Writing Grade 11

Common	*Matrix–Equating (5 Forms)*	*Matrix–Field Test (3 Forms)*
1 ER	1 ER per form	1 ER per form

ER = extended-response writing prompt

3.4.4 Blueprints

Grades 5 and 8

The writing prompt and the three constructed-response items each address a different genre. In addition, structures of language and writing conventions are assessed through multiple-choice items but are also assessed through the extended-response writing prompts and the constructed-response items. The extended-response writing prompts and constructed-response items were developed with the following criteria as guidelines:

- The prompts must be interesting to students.
- The prompts must be accessible to all students (i.e., all students would have something to write about the topic).
- The prompts must generate sufficient text to be effectively scored.

The category reporting structure for grades 5 and 8 writing is shown in Table 3-14. The table provides the maximum possible number of raw score points that students could earn. The content category "Short Response" lists the total raw score points from the three constructed-response items; the reporting category "Extended Response" lists the total raw score points from the writing prompt.

Table 3-14. 2013–14 NECAP: Reporting Subcategory and Possible Raw Score Points Possible by Grade—Writing Grades 5 and 8

Subcategory	*Grade Tested*	
	5	*8*
Structures of Language and Writing Conventions	10	10
Short Response	12	12
Extended Response	12	12
Total	34	34

Short response = constructed-response items; Extended response = writing prompt

Grade 11

The writing prompts (common, matrix-equating, and field-test), in combination, address each of the different genres. The prompts were developed using the following criteria as guidelines:

- The prompt must be interesting to students.

- The prompt must be accessible to all students (i.e., all students would have something to write about the topic).
- The prompt must generate sufficient text to be effectively scored.

For grade 11 writing, there is only one reporting category, "Extended Response," with a total possible raw score of 12 points. One hundred percent of the raw score points for writing was assigned to DOK Level 3.

3.4.5 Depth of Knowledge

Each item on the NECAP test in writing is assigned a DOK level according to the cognitive demand of the item. DOK is not synonymous with difficulty. The DOK level rates the complexity of the mental processing a student must use to answer the question. Each of the three levels is described in Figure 3-3.

Figure 3-3. 2013–14 NECAP: Depth of Knowledge—Writing

Level 1	This level requires the student to write or recite simple facts. This writing or recitation does not include complex synthesis or analysis but basic ideas.
Level 2	This level requires some mental processing. Students are beginning to connect ideas using a simple organizational structure. For example, students may be engaged in note-taking, outlining, or simple summaries.
Level 3	This level requires some higher-level mental processing. Students are engaged in developing compositions that include multiple paragraphs. These compositions may include complex sentence structure and may demonstrate some synthesis and analysis. Students show awareness of their audience and purpose through focus, organization, and the use of appropriate compositional elements. The use of appropriate compositional elements includes such things as addressing chronological order in a narrative or including supporting facts and details in an informational report.

Table 3-15 lists the percentage of actual score points assigned to each level of DOK in writing for grades 5 and 8.

Table 3-15. 2013–14 NECAP: Depth of Knowledge by Grade (in Percentage of Test)—Writing Grades 5 and 8

DOK	*Grade Tested*	
	5	*8*
Level 1	57%	64%
Level 2	36%	29%
Level 3	7%	7%
TOTAL	100%	100%

Table 3-16 lists the percentage of actual score points assigned to each level of DOK in writing for grade 11.

Table 3-16. 2013–14 NECAP: Depth of Knowledge in Terms of Percentage of Test—Writing Grade 11

DOK	*Grade 11*
Level 1	0%
Level 2	0%
Level 3*	100%
TOTAL	100%

* In grade 11, 100% of the writing test is assigned to DOK Level 3.

CHAPTER 4 TEST ADMINISTRATION

4.1 RESPONSIBILITY FOR ADMINISTRATION

The *2013 NECAP Principal/Test Coordinator Manual* indicated that principals and/or their designated NECAP test coordinators were responsible for the proper administration of the NECAP tests. Uniformity of administration procedures from school to school was ensured by using manuals that contained explicit directions and scripts to be read aloud to students by test administrators.

4.2 ADMINISTRATION PROCEDURES

Principals and/or the schools' designated NECAP test coordinators were instructed to read the *Principal/Test Coordinator Manual* before testing and to be familiar with the instructions provided in the grade-level *Test Administrator Manual*. The *Principal/Test Coordinator Manual* included a section highlighting aspects of test administration that were new for the year and checklists to help prepare for testing. The checklists outlined tasks to be performed by school staff before, during, and after test administration. In addition to these checklists, the *Principal/Test Coordinator Manual* described the testing material sent to each school and how to inventory it, track it during administration, and return it after testing was complete. The *Test Administrator Manual* included checklists for the administrators to use to prepare themselves, their classrooms, and the students for the administration of the tests. The *Test Administrator Manual* contained sections that detailed the procedures to be followed for each test session and instructions for preparing the material before the principal/test coordinator returned it to Measured Progress.

4.3 PARTICIPATION REQUIREMENTS AND DOCUMENTATION

The intent of the Departments of Education in New Hampshire and Rhode Island and the Agency of Education in Vermont is for all students in grades 3 through 8 and 11 to participate in the NECAP tests through either a standard administration, an administration with accommodations, or via an alternate assessment. Furthermore, any student who is absent during any session of the NECAP tests is expected to take a make-up test within the three-week testing window.

Schools were required to return a Student Answer Booklet for every enrolled student in the grade level, with the exception of students who took an alternate assessment in the previous school year. Students who were alternately assessed in the 2012–13 school year were not required to participate in the NECAP in 2013–14. On those occasions when it was deemed impossible to test a particular student, school personnel were required to inform their Department or Agency of Education. A grid was included on the Student

Answer Booklet that listed the approved reasons why a booklet could be returned blank for one or more sessions of the test:

- Student is new to the United States after October 1, 2012, and is LEP (reading and writing only).
  - A. First-year LEP students who took the ACCESS test of English language proficiency, as scheduled in their states, were not required to take the reading and writing tests in 2013; however, these students were required to take the mathematics test in 2013.
- Student withdrew from school after October 1, 2013.
  - B. If a student withdrew after October 1, 2013, but before completing all of the test sessions, school personnel were instructed to code this reason on the student's answer booklet.
- Student enrolled in school after October 1, 2013.
  - C. If a student enrolled after October 1, 2013, and was unable to complete all of the test sessions before the end of the test administration window, school personnel were instructed to code this reason on the student's answer booklet.
- State-approved special consideration.
  - D. Each state Department or Agency of Education had a process for documenting and approving circumstances that made it impossible or not advisable for a student to participate in testing.
- Student was enrolled in school on October 1, 2013, and did not complete test for reasons other than those listed above.
  - E. If a student was not tested for a reason other than those stated above, school personnel were instructed to code this reason on the student's answer booklet. These "Other" categories were considered "not state-approved."

Appendix B lists the participation rates of the four NECAP states combined in reading, mathematics, and writing.

4.4 ADMINISTRATOR TRAINING

In addition to distributing the *Principal/Test Coordinator Manual* and *Test Administrator Manual*, the Maine, New Hampshire, and Rhode Island Departments of Education, the Vermont Agency of Education, and Measured Progress conducted test administration workshops and webinars to inform school personnel about the NECAP tests and to provide training on the policies and procedures regarding administration of the tests. In addition, an audio PowerPoint test administration workshop presentation was also prerecorded and provided to each state for inclusion on their Department or Agency of Education website.

4.5 Documentation of Accommodations

The *Principal/Test Coordinator Manual* and *Test Administrator Manual* provided directions for coding information related to accommodations and modifications on page 2 of the Student Answer Booklet. All accommodations used during any test session were required to be coded by authorized school personnel—not by students—after testing was completed.

The first list of allowable accommodations was created by the three original NECAP states (New Hampshire, Rhode Island, and Vermont) at the beginning of the program in 2004. The list was later reviewed and revised in 2009 when the state of Maine joined the program. The four NECAP states worked together to change the coding system, revise existing accommodations, and add or delete certain accommodations. The resulting NECAP Table of Standard Accommodations is divided into accommodations for timing, setting, presentation, and response. Each accommodation is listed with details on how to deliver it to students. A *NECAP Accommodations Guide* was also produced to provide additional details on planning for and implementing accommodations. This guide was available on each state's Department or Agency of Education website. The states collectively made the decision that accommodations would continue to be made available to all students based on individual need, regardless of disability status. Decisions regarding accommodations were to be made by the student's educational team on an individual basis and were to be consistent with those used during the student's regular classroom instruction. Making accommodations decisions for a group rather than on an individual basis was not permitted. If the decision made by a student's educational team required an accommodation not listed in the state-approved NECAP Table of Standard Accommodations, schools were instructed to contact the Department or Agency of Education in advance of testing for specific instructions for coding in the "Other Accommodations (O)" and/or "Modifications (M)" sections.

Appendix C shows the accommodation frequencies by content area for the October 2013 NECAP test administration. The accommodation codes (T1–T4, S1–S2, P1–P11, R1–R7, O1 and O2, and M1–M3) are defined in the NECAP Table of Standard Accommodations, which can be found in Appendix D.

4.6 Test Security

Maintaining test security is critical to the success of the NECAP and the continued partnership among the four states. The *Principal/Test Coordinator Manual* and *Test Administrator Manual* explain in detail all test security measures and test administration procedures. School personnel were informed that any concerns about breaches in test security were to be reported to the school's test coordinator and/or principal immediately. The test coordinator or the principal or both were responsible for immediately reporting the concern to the District Superintendent and the State Assessment Director at the Department or Agency of Education. Test security was also strongly emphasized during test administration webinars and workshops conducted by the state Departments and Agency of Education and Measured Progress. The four states also required principals to log on to a secure website to complete the *Principal's Certification of Proper Test*

Administration form for each grade level tested at their school. Principals were requested to provide the number of secure tests received from Measured Progress, the number of tests administered to students, and the number of secure test materials they were returning to Measured Progress. Principals were instructed to submit the form by entering a unique password, which acted as their digital signature. By signing and submitting the form, the principal was certifying that the tests were administered according to the test administration procedures outlined in the *Principal/Test Coordinator Manual* and *Test Administrator Manual*, that the security of the tests was maintained, that no secure material was duplicated or in any way retained in the school, and that all test materials had been accounted for and returned to Measured Progress.

4.7 Test and Administration Irregularities

There were no test irregularities reported during the October 2013 NECAP test administration.

4.8 Test Administration Window

The test administration window was October 1 through October 23, 2013.

4.9 NECAP Service Center

To provide additional support to schools before, during, and after testing, Measured Progress operates the NECAP Service Center. The support of a service center is essential to the successful administration of any statewide test program. The service center provides a centralized location to which individuals in the field can call, using a toll-free number, to ask specific questions or report any problems they may be experiencing. Representatives are responsible for receiving, responding to, and tracking calls, then routing issues to the appropriate person(s) for resolution. All calls are logged into a database that includes notes regarding the issue and resolution of each call.

The service center was staffed year-round and was available to receive calls from 8:00 a.m. to 4:00 p.m., Monday through Friday. Extra representatives were available as needed, beginning approximately two weeks before the start of the testing window and ending two weeks after the end of the testing window to assist with handling the additional call volume.

CHAPTER 5 SCORING

5.1 SCORING OF STANDARD TEST ITEMS

Upon receipt of used NECAP answer booklets following testing, Measured Progress scanned all student responses, along with student identification and demographic information. Imaged data for multiple-choice responses were machine-scored. Images of open-response items were processed and organized by iScore, a secure, server-to-server electronic scoring software designed by Measured Progress, for hand scoring. All student responses to common items were hand scored, and approximately 5,400 psychometrically sampled student responses were hand scored for each matrix-equating item.

Student responses that could not be physically scanned (e.g., answer documents damaged during shipping) and typed responses submitted according to applicable test accommodations were physically reviewed and scored on an individual basis by trained, qualified readers. These scores were linked to the student's demographic data and merged with the student's scoring file by Measured Progress's Data Processing department.

5.1.1 Machine-Scored Items

Multiple-choice item responses were compared to scoring keys using item analysis software. Correct answers were assigned a score of one point and incorrect answers were assigned zero points. Student responses with multiple marks and blank responses were also assigned zero points.

The hardware elements of the scanners monitor themselves continuously for correct read, and the software that drives these scanners also monitors correct data reads. Standard checks include recognition of a sheet that does not belong or is upside down or backward, identification of critical data that are missing (e.g., a student ID number), test forms that are out of range or missing, and page or document sequence errors. When a problem is detected, the scanner stops and displays an error message directing the operator to investigate and correct the situation.

5.1.2 Person-Scored Items

The images of student responses to constructed-response items were hand-scored through the iScore system. Use of iScore minimizes the need for readers to physically handle answer booklets and related scoring materials. Student confidentiality was easily maintained since all NECAP scoring was "blind" (i.e., district, school, and student names were not visible to readers). The iScore system maintained the linkage between the student response images and their associated test booklet numbers.

Through iScore, qualified readers at computer terminals accessed electronically scanned images of student responses. Readers evaluated each response and recorded each score via keypad or mouse entry through the iScore system. When a reader finished one response, the next response appeared immediately on the computer screen.

Imaged responses from all answer booklets were sorted into item-specific groups for scoring purposes. Readers reviewed responses from only one item at a time; however, imaged responses from a student's entire booklet were always available for viewing when necessary, and the physical booklet was also available to the chief reader on-site. (Chief reader and other scoring roles are described in Section 5.1.2.1.)

The use of iScore also helped ensure that access to student response images was limited to only those who were scoring or working for Measured Progress in a scoring management capacity.

5.1.2.1 Scoring Location and Staff

Scoring Location

The iScore database, its operation, and its administrative controls are all based in Dover, New Hampshire. Table 5-1 presents the locations where 2013–14 NECAP test item responses by content area and grade were scored.

Table 5-1. 2013–14 NECAP: Operational Scoring Locations by Content Area and Grade

Content Area	*Grade*	*Dover, NH*	*Menands, NY*	*Longmont, CO*
Mathematics	3		X	
	4	X		
	5	X		
	6			X
	7			X
	8	X		
	11			X
Reading	3	X		
	4	X		
	5			X
	6			X
	7		X	
	8			X
	11			X
Writing	5		X	
	8		X	
	11			X

The iScore system monitored accuracy, reliability, and consistency across all scoring sites. Constant daily communication and coordination were accomplished through e-mail, telephone, faxes, and secure websites to ensure that critical information and scoring modifications were shared and implemented across all scoring sites.

Staff Positions

The following staff members were involved with scoring the 2013–14 NECAP responses:

- The NECAP scoring project manager, an employee of Measured Progress, was located in Dover, New Hampshire, and oversaw communication and coordination of scoring across all scoring sites.
- The iScore operational manager and iScore administrators, employees of Measured Progress, were located in Dover, New Hampshire, and coordinated technical communication across all scoring sites.
- A chief reader in each content area (mathematics, reading, and writing) ensured consistency of scoring across all scoring sites for all grades tested in that content area. Chief readers also provided read-behind activities (defined in Section 5.1.2.6) for quality assurance coordinators (QACs). Chief readers are employees of Measured Progress.
- Numerous QACs, selected from a pool of experienced senior readers for their ability to score accurately and to instruct and train readers, participated in benchmarking activities for each specific grade and content area. QACs provided read-behind activities (defined in Section 5.1.2.6) for senior readers at their sites. The ratio of QACs and senior readers to readers was approximately 1:11.
- Numerous senior readers, selected from a pool of skilled and experienced readers, provided read-behind activities (defined in Section 5.1.2.6) for the readers at their scoring tables (2–12 readers at each table). The ratio of QACs and senior readers to readers was approximately 1:11.
- Readers at scoring sites scored operational and field-test NECAP 2013–14 student responses. Recruitment of readers is described in Section 5.1.2.2.

5.1.2.2 Reader Recruitment and Qualifications

For scoring the 2013–14 NECAP tests, Measured Progress actively sought a diverse scoring pool representative of the population of the four NECAP states. The broad range of reader backgrounds included scientists, editors, business professionals, authors, teachers, graduate school students, and retired educators. Demographic information (e.g., gender, race, educational background) about readers was electronically captured for reporting.

Although a four-year college degree or higher was preferred, readers were required to have successfully completed at least two years of college and to have demonstrated knowledge of the content area they scored. This permitted recruiting readers currently enrolled in a college program—a sector of the population with relatively recent exposure to current classroom practices and trends in their fields. In all cases, potential readers were required to submit documentation (e.g., résumé and/or transcripts) of their qualifications.

Table 5-2 summarizes the qualifications of the 2013–14 NECAP scoring leadership and readers.

Table 5-2. 2013–14 NECAP: Qualifications of Scoring Leadership and Readers—Fall Administration

Scoring Responsibility	*Educational Credentials*				*Total*
	Doctorate	*Master's*	*Bachelor's*	*Other*	
Scoring Leadership	7.3%	28.7%	53.9%	10.1%[1]	100.0%
Readers	5.7%	29.8%	52.4%	12.1%[2]	100.0%

Scoring Leadership = chief readers, QACs, and senior readers
[1] 11 QAC/senior readers had associate's degrees and 7 had at least 48 college credits.
[2] 105 readers had associate's degrees and 59 had at least 48 college credits.

Readers were either temporary Measured Progress employees or were secured through temporary employment agencies. All readers were required to sign a nondisclosure/confidentiality agreement.

5.1.2.3 Methodology for Scoring Polytomous Items

Possible Score Points

The ranges of possible score points for the different polytomous items are shown in Table 5-3.

Table 5-3. 2013–14 NECAP: Possible Score Points for Polytomous Item Types

Polytomous Item Type	*Possible Score Point Range*
Writing Prompt	0–6
Constructed-response	0–4
2-point short-answer (SA2)	0–2
1-point short-answer (SA1)	0–1
Nonscorable	0

Nonscorable Items

Readers could designate a response as nonscorable for any of the following reasons:

- Response was blank (no attempt to respond to the question).
- Response was unreadable (illegible, too faint to see, or only partially legible/visible)—*see following note*.
- Response was written in the wrong location (seemed to be a legitimate answer to a different question)—*see following note*.
- Response was written in a language other than English.
- Response was completely off-task or off-topic.
- Response included an insufficient amount of material to make scoring possible.
- Response was an exact copy of the assignment.
- Response was incomprehensible.
- Student made a statement refusing to write a response to the question.

Note: "Unreadable" and "wrong location" responses were eventually resolved, whenever possible, by researching the actual answer booklet (electronic copy or hard copy, as needed) to identify the correct location (in the answer booklet) or to more closely examine the response and then assign a score.

Scoring Procedures

Scoring procedures for polytomous items included both single scoring and double-blind scoring. Single-scored items were scored by one reader. Double-blind scored items were scored independently by two readers, whose scores were tracked for "interrater agreement." (For further information on double-blind scoring and the interrater agreement, see Section 5.1.2.6 and Appendix P.)

5.1.2.4 Reader Training

Reader training began with an introduction of the on-site scoring staff and an overview of the NECAP's purpose and goals (including discussion about the security, confidentiality, and proprietary nature of testing materials, scoring materials, and procedures).

Next, readers thoroughly reviewed and discussed the scoring guides for each item to be scored. Each item-specific scoring guide included the item itself and score point descriptions.

Following review of an item's scoring guide, readers reviewed or scored the particular response set (i.e., anchor sets, training sets, or qualifying sets) organized for that training.. (These sets are defined in the following paragraphs.)

During training, readers could highlight or mark hard copies of the anchor and training sets (as well as the first qualifying sets after the qualification round), even if all or part of the set was also presented online.

Anchor Set

Readers first reviewed an anchor set of exemplary responses for an item. This is a set approved by the reading, writing, and mathematics content area specialists representing the four NECAP state Departments of Education. Responses in anchor sets are typical, rather than unusual or uncommon; solid, rather than controversial or borderline; and true, meaning that they had scores that could not be changed by anyone other than the NECAP client and Measured Progress scoring staff. Each set contains one client-approved sample response per score point considered to be a midrange exemplar. The set included a second sample response if there was more than one plausible way to illustrate the merits and intent of a score point.

Responses were read aloud to the room of readers in descending score order. Announcing the true score of each anchor response, trainers facilitated group discussion of responses in relation to score point descriptions to help readers internalize the typical characteristics of score points.

This anchor set continued to serve as a reference for readers as they went on to calibration, scoring, and recalibration activities for that item.

Training Set

Next, readers practiced applying the scoring guide and anchors to responses in the training set. The training set typically included 10 to 15 student responses designed to help establish both the full score point range and the range of possible responses within each score point. The training set often included unusual responses that were less clear or solid (e.g., shorter than normal, employing atypical approaches, simultaneously containing very low and very high attributes, and written in ways difficult to decipher). Responses in the training set were presented in randomized score point order.

After readers independently read and scored a training set response, trainers would poll readers or use online training system reports to record their initial range of scores. Trainers then led a group discussion of one or two responses, directing readers' attentions to difficult scoring issues (e.g., the borderline between two score points). Throughout the training, trainers modeled how to discuss scores by referring to the anchor set and to scoring guides.

Qualifying Set

After the training set had been completed, readers were required to score responses accurately and reliably in qualifying sets composed of constructed-response items, writing prompts, and all 2-point short-answer items for grades 3 and 4 mathematics. The 10 responses in each qualifying set were selected from an array of responses that clearly illustrated the range of score points for that item as reviewed and approved by the state specialists. Hard copies of the responses were also made available to readers after the qualification round so that they could make notes and refer back during the post-qualifying discussion.

To be eligible to live-score one of the above items, readers were required to demonstrate scoring accuracy rates of at least 80% exact agreement (i.e., to exactly match the predetermined score on at least eight of the ten responses) and at least 90% exact or adjacent agreement (i.e., to exactly match or be within one score point of the predetermined score on nine or ten of the ten responses), except 70% and 90%, respectively, for 6-point writing-prompt responses. In other words, readers were allowed one discrepant score (i.e., one score of 10 that was more than 1score point from the predetermined score) provided they had at least eight exact scores (seven for writing-prompt items).

To be eligible to score 1-point short-answer mathematics items (which were benchmarked "right" or "wrong") and 2-point short-answer mathematics items for grades 5–8 and 11, readers had to qualify on at least one other mathematics item for that grade.

Retraining

Readers who did not pass the first qualifying set were retrained as a group by reviewing their performance with scoring leadership and then scoring a second qualifying set of responses. If they achieved the required accuracy rate on the second qualifying set, they were allowed to score operational responses.

Readers who did not achieve the required scoring accuracy rates on the second qualifying set were not allowed to score responses for that item. Instead, they either began training on a different item or were dismissed from scoring for that day.

5.1.2.5 Senior Quality Assurance Coordinator and Senior Reader Training

QACs and select senior readers were trained in a separate training session immediately prior to reader training. In addition to a discussion of the items and their responses, QAC and senior reader training included greater detail on the client's rationale behind the score points than that covered with regular readers in order to better equip QACs and senior readers to handle questions from the readers.

5.1.2.6 Monitoring of Scoring Quality Control and Consistency

Readers were monitored for continued accuracy and consistency throughout the scoring process, using the following methods and tools (which are defined in this section):

- embedded committee-reviewed responses (CRRs)
- read-behind procedures
- double-blind scoring
- recalibration sets
- scoring reports

It should be noted that any reader whose accuracy rate fell below the expected rate for a particular item and monitoring method was retrained on that item. Upon approval by the QAC or chief reader as appropriate (described in Embedded CRRs), the reader was allowed to resume scoring. Readers who met or exceeded the expected accuracy rates continued scoring.

Furthermore, the accuracy rate required of a reader to *qualify* to score responses live was stricter than that required to *continue* to score responses live. The reason for the difference is that an "exact score" in double-blind scoring requires that two readers choose the same score for a response (in other words, it is dependent on peer agreement), whereas an "exact score" in qualification requires only that a *single* reader match a score pre-established by scoring leadership. The use of multiple monitoring techniques is critical toward monitoring reader accuracy during the process of live scoring.

Embedded CRRs

CRRs are previously scored responses that are loaded ("embedded") by scoring leadership into iScore and distributed "blindly" to readers during scoring. Embedded CRRs may be chosen either before or during scoring, and are inserted into the scoring queue so that they appear the same as all other live student responses.

Between 5 and 30 embedded CRRs were distributed at random points throughout the first full day of scoring to ensure that readers were sufficiently calibrated at the beginning of the scoring period. Individual

readers often received up to 20 embedded CRRs within the first 100 responses scored and up to 10 additional responses within the next 100 responses scored on that first day of scoring.

Any reader who fell below the required scoring accuracy rate was retrained before being allowed by the QAC to continue scoring. Once allowed to resume scoring, scoring leadership carefully monitored these readers by increasing the number of read-behinds (defined in Read-Behind Procedures).

Embedded CRRs were employed for all constructed-response items. They were not used for writing 6-point extended-response items because these are 100% double-blind scored (defined in Double-Blind Scoring). Embedded CRRs were also not used for mathematics 2-point short-answer items because read-behind and double-blind techniques are more informative and cost-effective for these items.

Read-Behind Scoring Procedures

Read-behind scoring refers to scoring leadership (usually a senior reader) scoring a response after a reader has already scored the response. The practice was applied to all open-response item types.

Responses placed into the read-behind queue were randomly selected by scoring leadership; readers were not aware which of their responses would be reviewed by their senior reader. The iScore system allowed one, two, or three responses per reader to be placed into the read-behind queue at a time.

The senior reader entered his or her score into iScore before being allowed to see the reader's score. The senior reader then compared the two scores and the score of record (i.e., the reported score) was determined as follows:

- If there was exact agreement between the scores, no action was necessary; the regular reader's score remained.
- If the scores were adjacent (i.e., differed by one point), the senior reader's score became the score of record. (A significant number of adjacent scores for a reader triggered an individual scoring consultation with the senior reader, after which the QAC determined whether or when the reader could resume scoring.)
- If the scores were discrepant (i.e., differed by more than one point), the senior reader's score became the score of record. (This triggered an individual consultation for the reader with the senior reader, after which the QAC determined whether or when the reader could resume scoring on that item.)

Table 5-4 illustrates how scores were resolved by read-behind.

Table 5-4. 2013–14 NECAP: Examples of Read-Behind Scoring Resolutions

Reader Score	*QAC/SR Score*	*Score of Record*
4	4	4*
4	3	3*
4	2	2*

* QAC/senior reader's score

Senior readers were tasked with conducting, on average, five read-behinds per reader throughout each half scoring day; however, senior readers conducted a proportionally greater number of read-behinds for readers who seemed to be struggling to maintain, or who fell below, accuracy standards.

In addition to regular read-behinds, scoring leadership could choose to do read-behinds on any reader at any point during the scoring process to gain an immediate, real-time "snapshot" of a reader's accuracy.

Double-Blind Scoring

Double-blind scoring refers to two readers independently scoring a response without knowing whether the response was to be double-blind scored. The practice was applied to all open-response item types. Table 5-5 shows by which method(s) the responses to both common and equating open-response item types for each operational test were scored.

Table 5-5. 2013–14 NECAP: Frequency of Double-Blind Scoring by Grade and Content

Grade	*Content Area*	*Responses Double-Blind Scored*
3–8, 11	Reading	2% randomly
3–8, 11	Mathematics	2% randomly
5, 8, 11	Writing (ER)	100%
5, 8, 11	Writing (CR)	2% randomly
All	Unreadable responses	100%
All	Blank responses	100%

If there was a discrepancy (a difference greater than one score point) between double-blind scores, the response was placed into an arbitration queue. Arbitration responses were reviewed by scoring leadership (senior reader or QAC) without knowledge of the two readers' scores. Scoring leadership assigned the final score. Appendix P provides the NECAP 2013–14 percentages of agreement between readers for each common item for each grade and content area.

Scoring leadership consulted individually with any reader whose scoring rate fell below the required accuracy rate, and the QAC determined whether or when the reader could resume scoring on that item. Once the reader was allowed to resume scoring, scoring leadership carefully monitored the reader's accuracy by increasing the number of read-behinds.

Recalibration Sets

To determine whether readers were still calibrated to the scoring standard, they were required to take an online recalibration set at the start and midpoint of the shift of their resumption of scoring.

Each recalibration set consisted of five responses representing the entire range of possible scores, including some with a score point of 0.

Any reader who fell below the required scoring accuracy rate was retrained before being allowed by the QAC to continue scoring. Once allowed to resume scoring, scoring leadership carefully monitored these readers by increasing the number of read-behinds.

Recalibration sets were employed for all constructed-response items. They were not used for 6-point extended-response writing items because these are 100% double-blind scored. They were also not used for 2-point short-answer items because read-behind and double-blind techniques are more informative and cost-effective for these items.

Scoring Reports

Measured Progress's electronic scoring software, iScore, generated multiple reports that were used by scoring leadership to measure and monitor readers for scoring accuracy, consistency, and productivity.

CHAPTER 6 CLASSICAL ITEM ANALYSIS

As noted in Brown (1983), "A test is only as good as the items it contains." A complete evaluation of a test's quality must include an evaluation of each item. Both *Standards for Educational and Psychological Testing* (AERA et al., 1999) and *Code of Fair Testing Practices in Education* (2004) include standards for identifying quality items. Items should assess only knowledge or skills that are identified as part of the domain being tested and should avoid assessing irrelevant factors. Items should also be unambiguous and free of grammatical errors, potentially insensitive content or language, and other confounding characteristics. In addition, items must not unfairly disadvantage students, in particular racial, ethnic, or gender groups.

Both qualitative and quantitative analyses are conducted to ensure that NECAP items meet these standards. Qualitative analyses are described in earlier chapters of this report; this chapter focuses on quantitative evaluations. Statistical evaluations are presented in four parts: (1) difficulty indices, (2) item-test correlations, (3) differential item functioning statistics, and (4) dimensionality analyses. The item analyses presented here are based on the statewide administration of NECAP in fall 2013. Note that the information presented in this chapter is based on the items common to all forms, since those are the items on which student scores are calculated. (Item analyses are also performed for field-test items, and the statistics are then used during the item review process and form assembly for future administrations.)

6.1 CLASSICAL DIFFICULTY AND DISCRIMINATION INDICES

All multiple-choice and constructed-response items are evaluated in terms of item difficulty according to standard classical test theory practices. Difficulty is defined as the average proportion of points achieved on an item and is measured by obtaining the average score on an item and dividing it by the maximum possible score for the item. Multiple-choice and one-point short-answer items are scored dichotomously (correct versus incorrect), so, for these items, the difficulty index is simply the proportion of students who correctly answered the item. Polytomously scored items include 2-point short-answer items, for which students can receive scores of 0, 1, or 2, and constructed-response items, which are worth 4 points total. By computing the difficulty index as the average proportion of points achieved, the indices for the different item types are placed on a similar scale, ranging from 0.0 to 1.0 regardless of the item type. Although this index is traditionally described as a measure of difficulty, it is properly interpreted as an easiness index, because larger values indicate easier items. An index of 0.0 indicates that all students received no credit for the item, and an index of 1.0 indicates that all students received full credit for the item.

Items that are answered correctly by almost all students provide little information about differences in student abilities, but do indicate knowledge or skills that have been mastered by most students. Similarly, items that are correctly answered by very few students provide little information about differences in student abilities, but may indicate knowledge or skills that have not yet been mastered by most students. In general, to

provide the best measurement, difficulty indices should range from near-chance performance of 0.25 (for four-option multiple-choice items or essentially 0 for constructed-response items) to 0.90, with the majority of items generally falling between approximately 0.4 and 0.7 for the lower mathematics grades and between about 0.6 and 0.8 for reading, writing, and the higher mathematics grades. However, on a standards-referenced assessment such as NECAP, it may be appropriate to include some items with very low or very high item difficulty values to ensure sufficient content coverage.

A desirable characteristic of an item is for higher-ability students to perform better on the item than lower-ability students do. The correlation between student performance on a single item and total test score is a commonly used measure of this characteristic of the item. Within classical test theory, the item-test correlation is referred to as the item's discrimination because it indicates the extent to which successful performance on an item discriminates between high and low scores on the test. For constructed-response items, the item discrimination index used was the Pearson product-moment correlation; for multiple-choice items, the corresponding statistic is commonly referred to as a point-biserial correlation. The theoretical range of these statistics is –1.0 to 1.0, with a typical observed range from 0.2 to 0.7.

Discrimination indices can be thought of as measures of how closely an item assesses the same knowledge and skills assessed by other items contributing to the criterion total score. That is, the discrimination index can be thought of as a measure of construct consistency.

A summary of the item difficulty and item discrimination statistics for each content area and grade is presented in Table 6-1. Note that the statistics are presented for all items as well as by item type (multiple-choice, short-answer, constructed-response, and, for writing, writing prompt). Note also that only a single writing prompt is administered in grades 5 and 8; thus, it is not possible to calculate standard deviations of the difficulty and discrimination values. Furthermore, because the grade 11 writing test consists solely of a single prompt, no discrimination values or standard deviations could be calculated. The mean difficulty and discrimination values shown in the table are within generally acceptable and expected ranges.

Table 6-1. 2013–14 NECAP: Summary of Item Difficulty and Discrimination Statistics by Content Area and Grade

Content Area	*Grade*	*Item Type*	*Number of Items*	*p-Value*		*Discrimination*	
				Mean	*Standard Deviation*	*Mean*	*Standard Deviation*
Mathematics	3	ALL	55	0.64	0.19	0.43	0.10
		MC	35	0.69	0.17	0.43	0.10
		SA	20	0.57	0.21	0.44	0.10
	4	ALL	55	0.64	0.17	0.43	0.07
		MC	35	0.68	0.16	0.41	0.06
		SA	20	0.57	0.15	0.48	0.07
	5	ALL	48	0.58	0.17	0.43	0.11
		CR	4	0.42	0.09	0.60	0.07
		MC	32	0.61	0.16	0.39	0.09
		SA	12	0.56	0.18	0.49	0.09

continued

Content Area	Grade	Item Type	Number of Items	p-Value		Discrimination	
				Mean	Standard Deviation	Mean	Standard Deviation
Mathematics	6	ALL	48	0.55	0.17	0.45	0.11
		CR	4	0.37	0.06	0.62	0.05
		MC	32	0.61	0.14	0.40	0.09
		SA	12	0.47	0.19	0.51	0.11
	7	ALL	48	0.50	0.18	0.45	0.11
		CR	4	0.43	0.09	0.66	0.05
		MC	32	0.57	0.17	0.39	0.08
		SA	12	0.34	0.13	0.52	0.08
	8	ALL	48	0.52	0.15	0.47	0.13
		CR	4	0.37	0.03	0.72	0.06
		MC	32	0.55	0.15	0.41	0.10
		SA	12	0.48	0.14	0.55	0.08
	11	ALL	46	0.43	0.16	0.48	0.12
		CR	4	0.29	0.05	0.70	0.06
		MC	24	0.51	0.15	0.39	0.07
		SA	18	0.35	0.14	0.54	0.08
Reading	3	ALL	34	0.66	0.14	0.46	0.09
		CR	6	0.51	0.19	0.55	0.07
		MC	28	0.69	0.11	0.44	0.08
	4	ALL	34	0.68	0.16	0.41	0.09
		CR	6	0.55	0.23	0.51	0.05
		MC	28	0.71	0.13	0.39	0.08
	5	ALL	34	0.70	0.17	0.43	0.10
		CR	6	0.41	0.05	0.57	0.07
		MC	28	0.76	0.12	0.40	0.07
	6	ALL	34	0.70	0.18	0.40	0.10
		CR	6	0.42	0.05	0.56	0.03
		MC	28	0.76	0.13	0.37	0.07
	7	ALL	34	0.67	0.16	0.42	0.11
		CR	6	0.40	0.04	0.59	0.03
		MC	28	0.73	0.10	0.39	0.08
	8	ALL	34	0.67	0.17	0.38	0.13
		CR	6	0.41	0.07	0.62	0.07
		MC	28	0.72	0.12	0.33	0.07
	11	ALL	34	0.71	0.16	0.41	0.13
		CR	6	0.49	0.11	0.64	0.04
		MC	28	0.76	0.13	0.36	0.08
Writing	5	ALL	14	0.67	0.17	0.40	0.11
		CR	3	0.46	0.04	0.56	0.01
		MC	10	0.75	0.13	0.33	0.04
		WP	1	0.49		0.56	
	8	ALL	14	0.66	0.12	0.43	0.16
		CR	3	0.62	0.02	0.68	0.01
		MC	10	0.69	0.12	0.33	0.02
		WP	1	0.50		0.67	
	11	ER (ALL)	1	0.58			

A comparison of indices across grade levels is complicated because these indices are population dependent. Direct comparisons would require that either the items or students were common across groups. Since that is not the case, it cannot be determined whether differences in performance across grade levels are because of differences in student abilities, differences in item difficulties, or both. With this caveat in mind, it appears generally that, for mathematics, students in higher grade levels found their items more difficult than students in lower grades found their items while, for reading, difficulty indices were more consistent across grades.

Comparing the difficulty indices of multiple-choice items and open-response (short-answer or constructed-response) items is inappropriate because multiple-choice items can be answered correctly by guessing. Thus, it is not surprising that the difficulty indices for multiple-choice items tend to be higher (indicating that students performed better on these items) than the difficulty indices for open-response items. Similarly, discrimination indices for the open-response items were larger than those for the dichotomous items because of the greater variability of the former (i.e., the partial credit these items allow) and the tendency for correlation coefficients to be higher given greater variances of the correlates.

In addition to the item difficulty and discrimination summaries presented, item-level classical statistics and item-level score point distributions were also calculated. Item-level classical statistics are provided in Appendix E where item difficulty and discrimination values are presented for each item. The item difficulty and discrimination indices are within generally acceptable and expected ranges. Very few items were answered correctly at near-chance or near-perfect rates. Similarly, the positive discrimination indices indicate that students who performed well on individual items tended to perform well overall. There were a small number of items with low discrimination indices, but none were negative. While it is not inappropriate to include items with low discrimination values or with very high or very low item difficulty values to ensure that content is appropriately covered, there were very few such cases on NECAP. Item-level score point distributions are provided for open-response items in Appendix F; for each item, the percentage of students who received each score point is presented.

6.2 Differential Item Functioning

Code of Fair Testing Practices in Education (2004) explicitly states that subgroup differences in performance should be examined when sample sizes permit and that actions should be taken to ensure that differences in performance are because of construct-relevant, rather than construct-irrelevant, factors. The *Standards for Educational and Psychological Testing* (AERA et al., 1999) includes similar guidelines. As part of the effort to identify such problems, an evaluation of the NECAP items was conducted in terms of Differential Item Functioning (DIF) statistics.

For NECAP, the standardization DIF procedure (Dorans & Kulick, 1986) was employed to evaluate subgroup differences. The standardization DIF procedure is designed to identify items for which subgroups of interest perform differently, beyond the impact of differences in overall achievement. The DIF procedure

calculates the difference in item performance for two groups of students (at a time) matched for achievement on the total test. Specifically, average item performance is calculated for students at every total score. Then an overall average is calculated, weighting the total score distribution so that it is the same for the two groups. In order to calculate DIF statistics, a minimum of 200 students must be in each comparison group.

When differential performance between two groups occurs on an item (i.e., a DIF index in the "low" or "high" categories, explained in the following paragraph), it may or may not be indicative of item bias. Course-taking patterns or differences in school curricula can lead to DIF, but for construct-relevant reasons. On the other hand, if subgroup differences in performance could be traced to differential experience (such as geographical living conditions or access to technology), the inclusion of such items should be reconsidered.

Computed DIF indices have a theoretical range from –1.0 to 1.0 for multiple-choice items, and the index is adjusted to the same scale for open-response items. Dorans and Holland (1993) suggested that index values between –0.05 and 0.05 should be considered negligible. The preponderance of NECAP items fell within this range. Dorans and Holland further stated that items with values between –0.10 and –0.05 and between 0.05 and 0.10 (i.e., "low" DIF) should be inspected to ensure that no possible effect is overlooked, and that items with values outside the –0.10 to 0.10 range (i.e., "high" DIF) are more unusual and should be examined very carefully.[1]

For the 2013–14 NECAP tests, seven subgroup comparisons were evaluated for DIF:

- male versus female
- no disability versus disability
- non-economically disadvantaged versus economically disadvantaged
- non-LEP versus LEP
- White versus Asian
- White versus Black
- White versus Hispanic

The tables in Appendix G present the numbers of items classified, overall and by group favored, as either "low" or "high" DIF.

6.3 DIMENSIONALITY ANALYSIS

Because tests are constructed with multiple content area subcategories, and their associated knowledge and skills, the potential exists for a large number of dimensions being invoked beyond the common primary dimension. Generally, the subcategories are highly correlated with each other therefore, the

[1] It should be pointed out here that DIF for items is evaluated initially at the time of field testing. If an item displays high DIF, it is flagged for review by a Measured Progress content specialist. The content specialist consults with the Department of Education to determine whether to include the flagged item in a future operational test administration.

primary dimension they share typically explains an overwhelming majority of variance in test scores. In fact, the presence of just such a dominant primary dimension is the psychometric assumption that provides the foundation for the unidimensional IRT models that are used for calibrating, linking, scaling, and equating the NECAP test forms.

The purpose of dimensionality analysis is to investigate whether violation of the assumption of test unidimensionality is statistically detectable and, if so, (a) the degree to which unidimensionality is violated and (b) the nature of the multidimensionality. Findings from dimensionality analyses performed on the 2013-14 NECAP common items for mathematics, reading, and writing are reported in the following paragraphs. (Note: only common items were analyzed since they are used for score reporting, and grade 11 writing was not analyzed because it consisted of a single assessment task.) The dimensionality analyses were conducted using the nonparametric IRT-based methods DIMTEST (Stout, 1987; Stout, Froelich, & Gao, 2001) and DETECT (Zhang & Stout, 1999). Both of these methods use as their basic statistical building block the estimated average conditional covariances for item pairs. A conditional covariance is the covariance between two items conditioned on total score for the rest of the test, and the average conditional covariance is obtained by averaging over all possible conditioning scores. When a test is strictly unidimensional, all conditional covariances are expected to take on values within random noise of zero, indicating statistically independent item responses for examinees with equal expected scores. Non-zero conditional covariances are essentially violations of the principle of local independence, and local dependence implies multidimensionality. Thus, non-random patterns of positive and negative conditional covariances are indicative of multidimensionality.

DIMTEST is a hypothesis-testing procedure for detecting violations of local independence. The data are first randomly divided into a training sample and a cross-validation sample. Then an exploratory analysis of the conditional covariances is conducted on the training sample data to find the cluster of items that displays the greatest evidence of local dependence. The cross-validation sample is then used to test whether the conditional covariances of the selected cluster of items displays local dependence, conditioning on the total score on the non-clustered items. The DIMTEST statistic follows a standard normal distribution under the null hypothesis of unidimensionality.

DETECT is an effect-size measure of multidimensionality. As with DIMTEST, the data are first randomly divided into a training sample and a cross-validation sample (these samples are drawn independent of those used with DIMTEST). The training sample is used to find a set of mutually exclusive and collectively exhaustive clusters of items that best fit a systematic pattern of positive conditional covariances for pairs of items from the same cluster and negative conditional covariances from different clusters. Next, the clusters from the training sample are used with the cross-validation sample data to average the conditional covariances: within-cluster conditional covariances are summed, from this sum the between-cluster conditional covariances are subtracted, this difference is divided by the total number of item pairs, and this average is multiplied by 100 to yield an index of the average violation of local independence for an item pair. DETECT values less than 0.2 indicate very weak multidimensionality (or near unidimensionality), values of

0.2 to 0.4 indicate weak to moderate multidimensionality; values of 0.4 to 1.0 indicate moderate to strong multidimensionality, and values greater than 1.0 indicate very strong multidimensionality.

DIMTEST and DETECT were applied to the 2013–14 NECAP. The data for each grade and content area were split into a training sample and a cross-validation sample. Every grade/content area combination had at least 30,000 student examinees. Because DIMTEST was limited to using 24,000 students, the training and cross-validation samples for the DIMTEST analyses used 12,000 each, randomly sampled from the total sample. DETECT, on the other hand, had an upper limit of 50,000 students, so every training sample and cross-validation sample used with DETECT had at least 15,000 students. DIMTEST was then applied to every grade/content area. DETECT was applied to each data set for which the DIMTEST null hypothesis was rejected in order to estimate the effect size of the multidimensionality.

The results of the DIMTEST analyses indicated that the null hypothesis was rejected at a significance level of 0.01 for every data set. Because strict unidimensionality is an idealization that almost never holds exactly for a given data set, these DIMTEST results were not surprising. Because of the very large sample sizes of NECAP, DIMTEST would be expected to be sensitive to even quite small violations of unidimensionality. Thus it was important to use DETECT to estimate the effect size of the violations of local independence found by DIMTEST. Table 6.2 displays the multidimensional effect size estimates from DETECT.

Table 6-2. 2013–14 NECAP: Multidimensionality Effect Sizes by Content Area and Grade

Content Area	*Grade*	*Multidimensionality Effect Size*	
		2012–13	*2013–14*
Mathematics	3	0.16	0.15
	4	0.12	0.13
	5	0.17	0.14
	6	0.18	0.17
	7	0.14	0.17
	8	0.13	0.18
	11	0.12	0.12
	Average	0.14	0.15
Reading	3	0.14	0.21
	4	0.17	0.21
	5	0.23	0.22
	6	0.20	0.22
	7	0.26	0.28
	8	0.33	0.23
	11	0.30	0.29
	Average	0.23	0.24
Writing	5	0.23	0.24
	8	0.23	0.24
	Average	0.23	0.24

All of the DETECT values indicated very weak to weak multidimensionality. The average DETECT values for all three content areas indicated weak (reading, writing) or very weak (mathematics) multidimensionality. Also shown in Table 6.2 are the values reported in last year's dimensionality analyses. The individual values for the different grade levels as well as the averages for the three content areas are seen to be very similar to those from last year, with the exception of grade 8 reading which had a decrease of 0.10 (0.33 to 0.23) and thus, went from moderate to weak multidimensionality. Looking back over the analyses of the past six years, the 2013–14 results are similar to the average values across years for all grades and subjects.

The way in which DETECT divided the tests into clusters was also investigated to determine whether there were any discernable patterns with respect to the multiple-choice (MC) and constructed-response (CR) item types. Inspection of the DETECT clusters indicated that MC-CR separation occurred much more strongly with reading and writing than with mathematics, a pattern that has been consistent across all six years of dimensionality analyses for the NECAP fall tests. Specifically, for mathematics, grades 3, 5, and 6 showed some evidence of MC-CR separation in that they each had at least one cluster dominated by MC points, and at least one cluster dominated by CR points, as well as other clusters evenly mixed between MC and CR points. For the grades 5 and 6 mathematics tests, over 70% of the points were accounted for by the MC- and CR-dominated clusters, while for grade 3 it was only about 40%. The remaining mathematics tests displayed no substantial separation of MC and CR items in their DETECT solutions. In reading, on the other hand, grades 5, 6, 7, 8, and 11 all displayed strong MC-CR separation with one cluster containing all (or nearly all) the MC items with no CR, and the remaining cluster(s) containing all the CR items (for grades 3 and 4, about 75% of the items displayed such strong separation). Indeed, for reading grades 7 and 11 (the two with the largest DETECT index values), DETECT indicated a two-cluster solution in both cases where one cluster was all MC and the other was all CR. For writing, both grades displayed a strong MC-CR separation in the same manner as occurred with reading, with one cluster having all the MC items and the remaining clusters having all the CR items.

Thus, a tendency is suggested for MC and CR to sometimes measure statistically separable dimensions, especially in regard to the reading and writing tests. This has been consistent across all six years of analyses of the NECAP fall test administrations. However, it is important to emphasize that the degree of violation of unidimensional local independence has not been large in any of the three content areas over the six years of analysis. The degree to which these violations of local independence can be attributed to item type differences tends to be greater for reading and writing than for mathematics. More investigation by content experts would be required to better understand the violations of local independence that are due to sources other than item type.

In summary, for the 2013–14 analyses, the violations of local independence, as evidenced by the DETECT effect sizes, were weak or very weak in all cases. Thus, these effects do not seem to warrant any changes in test design or scoring, which are designed to be consistent across a range of grade levels. In

addition, the magnitude of the violations of local independence have been consistently low over the years, and the patterns with respect to the MC and CR items have also been consistent, with reading and writing tending to display more separation of MC and CR items than mathematics.

CHAPTER 7 ITEM RESPONSE THEORY SCALING AND EQUATING

This chapter describes the procedures used to calibrate, equate, and scale the NECAP tests. During the course of these psychometric analyses, a number of quality-control procedures and checks on the processes were implemented. These procedures included evaluations of the calibration processes (e.g., checking the number of Newton cycles required for convergence for reasonableness, checking item parameters and their standard errors for reasonableness, examination of Test Characteristic Curves [TCCs] and Test Information Functions [TIFs] for reasonableness); evaluation of model fit; evaluation of equating items (e.g., delta analyses, rescore analyses, examination of α-plots and b-plots for reasonableness); and evaluation of the scaling results (e.g., parallel processing by the Psychometrics and Research department and Data and Reporting Services department; comparing look-up tables to the previous year's). An equating report, which provided complete documentation of the quality-control procedures and results, was submitted to the member Departments of Education for their approval prior to production of student reports.

Table 7-1 lists items that required intervention either during item calibration or as a result of the evaluations of the equating items. For each flagged item, the table shows the reason it was flagged and what action was taken. The number of items identified for evaluation was very typical across the grades. Descriptions of the evaluations and results are included in Section 7.2 *Item Response Theory Results* and Section 7.4 *Equating Results*.

Table 7-1. 2013–14 NECAP: Items That Required Intervention During IRT Calibration and Equating

Content Area	*Grade*	*Item Number*	*Reason*	*Action*
Mathematics	3	119752	c-parameter	set c = 0
		119772	c-parameter	set c = 0
		139638	a-parameter	a set to initial
		139638	c-parameter	set c = 0
		145245	b/b analysis	removed from equating
		145245	delta analysis	removed from equating
		145672	c-parameter	set c = 0
		168763	a-parameter	a set to initial
		203037	c-parameter	set c = 0
		252111	c-parameter	set c = 0
	4	124525	c-parameter	set c = 0
		124620	c-parameter	set c = 0
		139468	c-parameter	set c = 0
		145070	c-parameter	set c = 0
		145848	c-parameter	set c = 0
		201335	b/b analysis	removed from equating
		252007	c-parameter	set c = 0
	5	120640	c-parameter	set c = 0
		120684	c-parameter	set c = 0

continued

Content Area	Grade	Item Number	Reason	Action
Mathematics	5	120757	c-parameter	set c = 0
		120759	c-parameter	set c = 0
		150808	b/b analysis	removed from equating
		204719	delta analysis	removed from equating
	6	119231	b/b analysis	removed from equating
		123316	c-parameter	set c = 0
		123513	b/b analysis	removed from equating
		123513	delta analysis	removed from equating
		145968	c-parameter	set c = 0
	7	120344	c-parameter	set c = 0
		120450	c-parameter	set c = 0
		121799	b/b analysis	removed from equating
		204996	c-parameter	set c = 0
		205017	c-parameter	set c = 0
		224856	delta analysis	removed from equating
		252129	c-parameter	set c = 0
	8	120985	b/b analysis	removed from equating
		120985	delta analysis	removed from equating
		120987	c-parameter	set c = 0
		121018	c-parameter	set c = 0
		144767	c-parameter	set c = 0
		256119	b/b analysis	removed from equating
	11	119616	delta analysis	removed from equating
		130037	b/b analysis	removed from equating
		130037	a-parameter	a set to initial
		130037	c-parameter	set c = 0
Reading	3	252067	c-parameter	set c = 0
	4	171503	c-parameter	set c = 0
		171510	c-parameter	set c = 0
		208211	c-parameter	set c = 0
		208431	c-parameter	set c = 0
		208748	c-parameter	set c = 0
		208802	c-parameter	set c = 0
		252172	c-parameter	set c = 0
		252309	c-parameter	set c = 0
		252341	delta analysis	removed from equating
		252379	c-parameter	set c = 0
		252420	b/b analysis	removed from equating
		252420	delta analysis	removed from equating
		252556	c-parameter	set c = 0
	5	171678	c-parameter	set c = 0
		171916	c-parameter	set c = 0
		209655	a-parameter	a set to initial
		209655	c-parameter	set c = 0
		209665	c-parameter	set c = 0
		252308	c-parameter	set c = 0
		252361	c-parameter	set c = 0
		252572	c-parameter	set c = 0
		252671	b/b analysis	removed from equating

continued

Content Area	Grade	Item Number	Reason	Action
Reading	6	171801	c-parameter	set c = 0
		171868	c-parameter	set c = 0
		171873	c-parameter	set c = 0
		208949	b/b analysis	removed from equating
		209089	c-parameter	set c = 0
		209310	c-parameter	set c = 0
		209316	c-parameter	set c = 0
		253032	c-parameter	set c = 0
		253049	c-parameter	set c = 0
		253051	c-parameter	set c = 0
		253052	b/b analysis	removed from equating
		253052	c-parameter	set c = 0
		253098	delta analysis	removed from equating
	7	147140	c-parameter	set c = 0
		147546	b/b analysis	removed from equating
		147546	c-parameter	set c = 0
		173091	c-parameter	set c = 0
		173304	c-parameter	set c = 0
		173319	c-parameter	set c = 0
		207604	c-parameter	set c = 0
		252454	c-parameter	set c = 0
		252680	c-parameter	set c = 0
		252716	c-parameter	set c = 0
		252722	c-parameter	set c = 0
		252741	c-parameter	set c = 0
	8	147351	delta analysis	removed from equating
		147516	c-parameter	set c = 0
		172442	c-parameter	set c = 0
		172658	c-parameter	set c = 0
		207580	c-parameter	set c = 0
		207586	c-parameter	set c = 0
		207875	c-parameter	set c = 0
		207959	c-parameter	set c = 0
		207969	c-parameter	set c = 0
		208284	c-parameter	set c = 0
		252836	c-parameter	set c = 0
		252839	c-parameter	set c = 0
		252867	c-parameter	set c = 0
		252874	c-parameter	set c = 0
		252884	c-parameter	set c = 0
		252889	c-parameter	set c = 0
		252906	c-parameter	set c = 0
		252958	c-parameter	set c = 0
		252978	c-parameter	set c = 0
		252998	c-parameter	set c = 0
		253042	c-parameter	set c = 0
		253077	c-parameter	set c = 0
	11	118852	c-parameter	set c = 0
		147556	delta analysis	removed from equating
		208350	c-parameter	set c = 0

continued

Content Area	Grade	Item Number	Reason	Action
Reading	11	208358	c-parameter	set c = 0
		208423	c-parameter	set c = 0
		208424	c-parameter	set c = 0
		208425	c-parameter	set c = 0
		208426	c-parameter	set c = 0
		208430	c-parameter	set c = 0
		208434	c-parameter	set c = 0
		252780	c-parameter	set c = 0
		252790	c-parameter	set c = 0
		252905	c-parameter	set c = 0
		252909	c-parameter	set c = 0
		252952	c-parameter	set c = 0
		253002	c-parameter	set c = 0
		253011	c-parameter	set c = 0
		253067	c-parameter	set c = 0
		258751	b/b analysis	removed from equating
		258751	c-parameter	set c = 0

7.1 ITEM RESPONSE THEORY

All NECAP items were calibrated using Item Response Theory (IRT). IRT uses mathematical models to define a relationship between an unobserved measure of student performance, usually referred to as theta (θ), and the probability (p) of getting a dichotomous item correct or of getting a particular score on a polytomous item. In IRT, all items are assumed to be independent measures of the same construct (i.e., of the same θ). Another way to think of θ is as a mathematical representation of the latent trait of interest. Several common IRT models are used to specify the relationship between θ and p (Hambleton & van der Linden, 1997; Hambleton & Swaminathan, 1985). The process of determining the specific mathematical relationship between θ and p is called item calibration. After items are calibrated, they are defined by a set of parameters that specify a nonlinear, monotonically increasing relationship between θ and p. Once the item parameters are known, an estimate of θ for each student can be calculated. This estimate, $\hat{\theta}$, is considered to be an estimate of the student's true score or a general representation of student performance. It has characteristics that may be preferable to those of raw scores for equating purposes.

For the 2013–14 NECAP tests, the three-parameter logistic (3PL) model was used for dichotomous (multiple-choice) items and the Graded-Response Model (GRM) was used for polytomous (open-response) items. The 3PL model for dichotomous items can be defined as:

$$P_i\left(1\middle|\theta_j,\xi_i\right) = c_i + (1 - c_i)\frac{\exp\left[Da_i(\theta_j - b_i)\right]}{1+\exp\left[Da_i(\theta_j - b_i)\right]}$$

where
i indexes the items,
j indexes students,
α represents item discrimination,

b represents item difficulty,
c is the pseudoguessing parameter,
ξ_i represents the set of item parameters (α, b, and c) for item i, and
D is a normalizing constant equal to 1.701.

In the GRM for polytomous items, an item is scored in a k + 1 graded category that can be viewed as a set of k dichotomies. At each point of dichotomization (i.e., at each threshold), a two-parameter model can be used. This implies that a polytomous item with a k + 1 category can be characterized by k Item Category Threshold Curves (ICTCs) of the two-parameter logistic form:

$$P_{ik}^{*}\left(1\middle|\theta_j, \alpha_i, b_i, d_{ik}\right) = \frac{\exp\left[Da_i\left(\theta_j - b_i + d_{ik}\right)\right]}{1+\exp\left[Da_i\left(\theta_j - b_i + d_{ik}\right)\right]}$$

where
i indexes the items,
j indexes students,
k indexes threshold,
α represents item discrimination,
b represents item difficulty,
d represents threshold, and
D is a normalizing constant equal to 1.701.

After computing k ICTCs in the GRM, k + 1 Item Category Characteristic Curves (ICCCs) are derived by subtracting adjacent ICTCs:

$$P_{ik}\left(1\middle|\theta_j\right) = P_{i(k-1)}^{*}\left(1\middle|\theta_j\right) - P_{ik}^{*}\left(1\middle|\theta_j\right)$$

where
P_{ik} represents the probability that the score on item i falls in category k, and
P_{ik}^{*} represents the probability that the score on item i falls above the threshold k
(P_{i0}^{*} = 1 and $P_{i(m+1)}^{*}$ = 0).

The GRM is also commonly expressed as:

$$P_{ik}\left(k\middle|\theta_j, \xi_i\right) = \frac{\exp\left[Da_i\left(\theta_j - b_i + d_k\right)\right]}{1+\exp\left[Da_i\left(\theta_j - b_i + d_k\right)\right]} - \frac{\exp\left[Da_i\left(\theta_j - b_i + d_{k+1}\right)\right]}{1+\exp\left[Da_i\left(\theta_j - b_i + d_{k+1}\right)\right]}$$

where
ξ_i represents the set of item parameters for item i.

Finally, the Item Characteristic Curve (ICC) for polytomous items is computed as a weighted sum of ICCCs, where each ICCC is weighted by a score assigned to a corresponding category.

$$P_i\left(1\middle|\theta_j\right) = \sum_{k}^{m+1} w_{ik} P_{ik}\left(1\middle|\theta_j\right)$$

For more information about item calibration and determination, the reader is referred to Lord and Novick (1968), Hambleton and Swaminathan (1985), or Baker and Kim (2004).

7.2 ITEM RESPONSE THEORY RESULTS

The tables in Appendix H give the IRT item parameters of all common items on the 2013–14 NECAP tests by grade and content area. In addition, Appendix I shows graphs of the TCCs and TIFs, which are defined below.

TCCs display the expected (average) raw score associated with each θ_j value between –4.0 and 4.0. Mathematically, the TCC is computed by summing the ICCs of all items that contribute to the raw score. Using the notation introduced in Section 7.1, the expected raw score at a given value of θ_j is

$$E(X|\theta_j) = \sum_{i=1}^{n} P_i(1|\theta_j)$$

where
i indexes the items (and n is the number of items contributing to the raw score),
j indexes students (here, θ_j runs from –4 to 4), and
$E(X|\theta_j)$ is the expected raw score for a student of ability θ_j.

The expected raw score monotonically increases with θ_j, consistent with the notion that students of high ability tend to earn higher raw scores than do students of low ability. Most TCCs are "S-shaped"—flatter at the ends of the distribution and steeper in the middle.

The TIF displays the amount of statistical information the test provides at each value of θ_j. Information functions depict test precision across the entire latent trait continuum. There is an inverse relationship between the information of a test and its Standard Error of Measurement (SEM). For long tests, the SEM at a given θ_j is approximately equal to the inverse of the square root of the statistical information at θ_j (Hambleton, Swaminathan, & Rogers, 1991), as follows:

$$SEM(\theta_j) = \frac{1}{\sqrt{I(\theta_j)}}$$

Compared to the tails, TIFs are often higher near the middle of the θ distribution where most students are located and where most items are sensitive by design.

Table 7-1 lists items that were flagged based on the quality-control checks implemented during the calibration process. (Note that some items were flagged as a result of the evaluations of the equating items; those results are described below.) In all cases, items flagged during this step were identified because of the pseudo-guessing parameter (*c* parameter) being poorly estimated. Difficulty in estimating the *c* parameter is not at all unusual and is well-documented in psychometric literature (see, for example, Nering & Ostini, 2010), especially when the item's discrimination is below 0.50. In all cases, fixing the *c* parameter resulted in reasonable and stable item parameter estimates and improved model fit.

The number of Newton cycles required for convergence for each grade and content area during the IRT analysis can be found in Table 7-2. The number of cycles required fell within acceptable ranges.

Table 7-2. 2013–14 NECAP: Number of Newton Cycles Required for Convergence

Content Area	*Grade*	*Cycles*
Mathematics	3	38
	4	31
	5	46
	6	53
	7	139
	8	61
	11	94
Reading	3	64
	4	61
	5	51
	6	42
	7	131
	8	40
	11	42

7.3 EQUATING

The purpose of equating is to ensure that scores obtained from different forms of a test are equivalent to each other. Equating may be used if multiple test forms are administered in the same year, as well as to equate one year's forms to those given in the previous year. Equating ensures that students are not given an unfair advantage or disadvantage because the test form they took is easier or harder than those taken by other students.

The 2013–14 administration of the NECAP tests used a raw score-to-theta equating procedure in which test forms were equated to the theta scale established on the reference form (i.e., the form used in the most recent standard setting). This is accomplished through the chained linking design, in which every new form is equated back to the theta scale of the previous year's test form. It can therefore be assumed that the theta scale of every new test form is the same as the theta scale of the reference form since this is where the chain originated.

The groups of students who took the equating items on the 2013–14 NECAP reading tests are not equivalent to the groups who took them in the reference years. IRT is particularly useful for equating scenarios that involve nonequivalent groups (Allen & Yen, 1979). Equating for NECAP uses the anchor-test-*nonequivalent-groups* design described by Petersen, Kolen, and Hoover (1989). In this equating design, no assumption is made about the equivalence of the examinee groups taking different test forms (that is, naturally occurring groups are assumed). Comparability is instead evaluated by utilizing a set of anchor items (also called equating items). However, the equating items are designed to mirror the common test in terms of item types and distribution of emphasis. Subsets of the equating items are distributed across forms.

Item parameter estimates for the 2013–14 NECAP tests were placed on the 2012–13 scale by using the method of Stocking and Lord (1983), which is based on the IRT principle of item parameter invariance.

According to this principle, the equating items for both the 2012–13 and 2013–14 NECAP tests should have the same item parameters. After the item parameters for each 2013–14 test were estimated using PARSCALE (Muraki & Bock, 2003), the Stocking and Lord method was employed to find the linear transformation (slope and intercept) that adjusted the equating items' parameter estimates such that the 2013–14 NECAP tests' TCC for the equating items was as close as possible to that of the 2012–13 NECAP tests.

7.4 EQUATING RESULTS

Prior to calculating the Stocking and Lord transformation constants, a variety of evaluations of the equating items were conducted. Items that were flagged as a result of these evaluations are listed in Table 7-1 at the beginning of this chapter. These items were scrutinized and a decision was made as to whether to include the item as an equating item or to discard it. The procedures used to evaluate the equating items are described below.

Appendix J presents the results from the delta analysis. This procedure was used to evaluate adequacy of equating items; the discard status presented in the appendix indicates whether the item was flagged as potentially inappropriate for use in equating.

Also presented in Appendix J are the results from the rescore analysis. With this analysis, 200 random papers from the previous year were interspersed with this year's papers to evaluate scorer consistency from one year to the next. All effect sizes were well below the criterion value for excluding an item as an equating item, 0.50 in absolute value.

Finally, α-plots and b-plots, which show IRT parameters for the 2013–14 NECAP tests plotted against the values of the 2012–13 NECAP tests, are presented in Appendix K. Any items that appeared as outliers in the plots were evaluated in terms of suitability for use as equating items.

Once all flagged items had been evaluated and appropriate action taken, the Stocking and Lord method of equating was used to place the item parameters onto the previous year's scale, as described above. The Stocking and Lord Transformation Constants are presented in Table 7-3.

Table 7-3. 2013–14 NECAP: Stocking and Lord Transformation Constants

Content Area	*Grade*	α-*slope*	b-*intercept*
Mathematics	3	1.043	0.011
	4	1.142	0.048
	5	1.037	0.083
	6	1.119	0.11
	7	1.065	0.259
	8	0.972	0.232
	11	1.028	0.215
Reading	3	1.049	0.06
	4	1.033	0.166
	5	0.99	0.2
	6	1.072	0.079

continued

Content Area	Grade	α-slope	b-intercept
Reading	7	1.122	0.061
	8	1.145	0.254
	11	1.163	0.497

The next administration of the NECAP test (in 2014–15) will be scaled to the 2013–14 NECAP administration using the same equating method described in this section.

7.5 ACHIEVEMENT STANDARDS

The NECAP standards to establish achievement level cut scores in reading and mathematics for grades 3 through 8 were set in January 2006, and in reading, mathematics, and writing for grade 11 in January 2008. Details of the standard setting procedures can be found in the respective standard setting reports, as well as in the technical reports of those years.

Achievement standards for writing grades 5 and 8 were set in December 2011; for complete details of the standard setting, please see the *2011–12 New England Common Assessment Program Standard Setting Report* (Measured Progress 2011).

The cuts on the theta scale that were established via standard setting and used for reporting in fall 2013 are presented in Table 7-4. Also shown in the table are the cutpoints on the reporting score scale (described below). These cutpoints will remain fixed throughout the assessment program unless standards are reset for any reason.

Table 7-4. 2013–14 NECAP: Cutpoints on the Theta Metric and Reporting Scale by Content Area and Grade

Content Area	Grade	Theta			Scaled Score				
		Cut 1	Cut 2	Cut 3	Minimum	Cut 1	Cut 2	Cut 3	Maximum
Mathematics	3	-1.038	-0.269	0.970	300	332	340	353	380
	4	-1.150	-0.378	0.949	400	431	440	455	480
	5	-0.928	-0.285	1.031	500	533	540	554	580
	6	-0.874	-0.224	1.034	600	633	640	653	680
	7	-0.708	-0.079	1.099	700	734	740	752	780
	8	-0.644	-0.029	1.118	800	834	840	852	880
	11	-0.117	0.619	2.059	1100	1134	1140	1152	1180
Reading	3	-1.323	-0.497	1.031	300	331	340	357	380
	4	-1.173	-0.314	1.147	400	431	440	456	480
	5	-1.335	-0.428	1.040	500	530	540	556	580
	6	-1.478	-0.518	1.125	600	629	640	659	680
	7	-1.483	-0.522	1.206	700	729	740	760	780
	8	-1.525	-0.522	1.134	800	828	840	859	880
	11	-1.207	-0.310	1.004	1100	1130	1140	1154	1180
Writing	5	-1.283	-0.009	1.524	500	527	540	555	580
	8	-1.349	-0.106	1.268	800	827	840	854	880

The tables in Appendix L show achievement level distributions by content area and grade. Results are shown for each of the last three years for grades 3 to 8 and 11 of reading and mathematics and for grades 5, 8, and 11 of writing.

7.6 Reported Scaled Scores

Because the θ scale used in IRT calibrations is not readily understood by most stakeholders, reporting scales were developed for NECAP. The reporting scales are simple linear transformations of the underlying θ scale. The reporting scales are developed such that they range from *x*00 through *x*80 (where *x* is grade level). In other words, grade 3 scaled scores ranged from 300 to 380, grade 4 from 400 through 480, and so forth through grade 11, where scores ranged from 1100 through 1180. The lowest scaled score in the Proficient range is fixed at *x*40 for each grade level. For example, to be classified in the Proficient achievement level or above, a minimum scaled score of 340 was required at grade 3, 440 at grade 4, and so forth.

By providing information that is more specific about the position of a student's results, scaled scores supplement achievement level scores. School- and district-level scaled scores are calculated by computing the average of student-level scaled scores. Students' raw scores (i.e., total number of points) on the 2013–14 NECAP tests were translated to scaled scores using a data analysis process called *scaling*. Scaling simply converts from one scale to another scale. In the same way that a given temperature can be expressed on either Fahrenheit or Celsius scales, or the same distance can be expressed in either miles or kilometers, student scores on the 2013–14 NECAP tests can be expressed in raw or scaled scores.

It is important to note that converting from raw scores to scaled scores does not change students' achievement level classifications. Given the relative simplicity of raw scores, it is fair to question why scaled scores for NECAP are reported instead of raw scores. Scaled scores make consistent the reporting of results. To illustrate, standard setting typically results in different raw cut scores across grades and content areas. The raw cut score between Partially Proficient and Proficient could be, say, 35 in mathematics and 33 in reading, yet both of these raw scores would be transformed to scaled scores of *x*40. It is this uniformity across scaled scores that facilitates the understanding of student performance. The psychometric advantage of scaled scores over raw scores comes from their being linear transformations of θ. Since the θ scale is used for equating, scaled scores are comparable from one year to the next. Raw scores are not.

The scaled scores are obtained by a simple translation of ability estimates ($\hat{\theta}$) using the linear relationship between threshold values on the θ metric and their equivalent values on the scaled score metric. Students' ability estimates are based on their raw scores and are found by mapping through the TCC. Scaled scores are calculated using the linear equation:

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

where
m is the slope, and
b is the intercept.

A separate linear transformation is used for each grade and content area combination. For NECAP, the transformation function is determined by fixing the Partially Proficient/Proficient cut score and the bottom of the scale—that is, the *x*40 and the *x*00 values (e.g., 440 and 400 for grade 4). The *x*00 location on the θ scale is beyond (i.e., below) the scaling of all items. To determine this location, a chance score (approximately equal to a student's expected performance by guessing) is mapped to a value of –4.0 on the θ scale. A raw score of 0 is also assigned a scaled score of *x*00. The maximum possible raw score is assigned a scaled score of *x*80 (e.g., 480 in the case of grade 4). Because only two points within the θ scaled score space are fixed, the scaled score cutpoints between Substantially Below Proficient and Partially Proficient and between Proficient and Proficient with Distinction are free to vary across the grade and content area combinations.

Table 7-5 shows the slope and intercepts terms used to calculate the scaled scores for each content area and grade. Note that the values in Table 7-5 will not change unless the standards are reset.

Table 7-5. 2013–14 NECAP: Scaled Score Slope and Intercept by Content Area and Grade

Content Area	*Grade*	*Slope*	*Intercept*
Mathematics	3	10.72	342.878
	4	11.043	444.173
	5	10.766	543.063
	6	10.592	642.369
	7	10.201	740.803
	8	10.072	840.288
	11	8.66	1134.64
Reading	3	11.419	345.675
	4	10.852	443.41
	5	11.197	544.788
	6	11.487	645.95
	7	11.502	746.007
	8	11.502	846.009
	11	10.84	1143.359
Writing	5	10.022	540.087
	8	10.272	841.088

Appendix M contains raw score to scaled score look-up tables for the 2013–14 NECAP tests. These are the actual tables used to determine student scaled scores, error bands, and achievement levels.

Appendix N contains scaled score distribution graphs for each grade and content area. These distributions were calculated using the sparse data matrix files that were used in the IRT calibrations.

CHAPTER 8 RELIABILITY

Although an individual item's performance is an important focus for evaluation, a complete evaluation of an assessment must also address the way items function together and complement one another. Tests that function well provide a dependable assessment of the student's level of ability. Unfortunately, no test can do this perfectly. A variety of factors can contribute to a given student's score being either higher or lower than his or her true ability. For example, a student may misread an item, or mistakenly fill in the wrong bubble when he or she knew the answer. Collectively, extraneous factors that affect a student's score are referred to as "measurement error." Any assessment includes some amount of measurement error; that is, no measurement is perfect. This is true of all academic assessments—some students will receive scores that underestimate their true ability, and other students will receive scores that overestimate their true ability. When tests have a high amount of measurement error, student scores are very unstable. Students with high ability may get low scores, or vice versa. Consequently, one cannot reliably measure a student's true level of ability with such a test. Assessments that have less measurement error (i.e., errors made are small on average and student scores on such a test will consistently represent their ability) are described as reliable.

There are a number of ways to estimate an assessment's reliability. One possible approach is to give the same test to the same students at two different points in time. If students receive the same scores on each test, the extraneous factors affecting performance are small and the test is reliable. (This is referred to as "test-retest reliability.") A potential problem with this approach is that students may remember items from the first administration or may have gained (or lost) knowledge or skills in the interim between the two administrations. A solution to the remembering items problem is to give a different, but parallel test at the second administration. If student scores on each test correlate highly, the test is considered reliable. (This is known as "alternate forms reliability" because an alternate form of the test is used in each administration.) This approach, however, does not address the problem that students may have gained (or lost) knowledge or skills in the interim between the two administrations. In addition, the practical challenges of developing and administering parallel forms generally preclude the use of parallel forms reliability indices. One way to address the latter two problems is to split the test in half and then correlate students' scores on the two half-tests; this in effect treats each half-test as a complete test. By doing this, the problems associated with an intervening time interval and with creating and administering two parallel forms of the test are alleviated. This is known as a "split-half estimate of reliability." If the two half-test scores correlate highly, items on the two half-tests must be measuring very similar knowledge or skills. This is evidence that the items complement one another and function well as a group. This also suggests that measurement error will be minimal.

The split-half method requires psychometricians to select items that contribute to each half-test score. This decision may have an impact on the resulting correlation, since each different possible split of the test into halves will result in a different correlation. Another problem with the split-half method of calculating

reliability is that it underestimates reliability, because test length is cut in half. All else being equal, a shorter test is less reliable than a longer test. Cronbach (1951) provided a statistic, α (alpha), which eliminates the problem of the split-half method by comparing individual item variances to total test variance. Cronbach's α was used to assess the reliability of the 2013–14 NECAP tests:

$$\alpha \equiv \frac{n}{n-1}\left[1 - \frac{\sum_{i=1}^{n} \sigma^2_{(Y_i)}}{\sigma^2_x}\right]$$

where
i indexes the item,
n is the total number of items,
$\sigma^2_{(Y_i)}$ represents individual item variance, and
σ^2_x represents the total test variance.

8.1 Reliability and Standard Errors of Measurement

Table 8-1 presents descriptive statistics, Cronbach's α coefficient, and the raw score Standard Errors of Measurements (SEMs) for each grade and content area. (Statistics are based on common items only.) Note that reliability could not be calculated for grade 11 writing because the test consists of a single writing prompt.

Table 8-1. 2013–14 NECAP: Raw Score Descriptive Statistics, Cronbach's Alpha, and Standard Errors of Measurement (SEM) by Content Area and Grade

Content Area	*Grade*	*Number of Students*	*Raw Score*			*Alpha*	*SEM*
			Maximum	*Mean*	*Standard Deviation*		
Mathematics	3	42,819	65	40.42	12.89	0.93	3.40
	4	43,456	65	40.09	13.10	0.93	3.46
	5	42,996	66	35.51	13.43	0.92	3.80
	6	43,408	66	33.48	13.97	0.92	3.84
	7	43,936	66	30.77	14.39	0.92	3.96
	8	43,812	66	32.16	15.35	0.93	3.97
	11	29,933	64	24.70	14.37	0.93	3.72
Reading	3	42,691	52	31.65	10.23	0.89	3.33
	4	43,324	52	33.02	8.67	0.88	3.02
	5	42,879	52	30.97	8.61	0.89	2.90
	6	43,300	52	31.43	8.12	0.88	2.85
	7	43,822	52	29.99	9.09	0.89	3.03
	8	43,733	52	30.01	8.73	0.87	3.13
	11	29,817	52	32.71	8.87	0.89	3.01
Writing	5	42,795	34	18.86	5.45	0.70	2.97
	8	43,568	34	20.36	5.65	0.77	2.68
	11	29,731	12	6.93	1.95		

Because different grades and content areas have different test designs (e.g., the number of items varies by test), it is inappropriate to make inferences about the quality of one test by comparing its reliability to that of another test from a different grade and/or content area.

8.2 Subgroup Reliability

The reliability coefficients discussed in the previous section were based on the overall population of students who took the 2013–14 NECAP test. Appendix O presents reliabilities for various subgroups of interest. Subgroup Cronbach's α's were calculated using the formula defined earlier in this chapter only on the members of the subgroup in question in the computations; values are only calculated for subgroups with 10 or more students.

For several reasons, the results of this section should be interpreted with caution. First, inherent differences between grades and content areas preclude making valid inferences about the quality of a test based on statistical comparisons with other tests. Second, reliabilities are dependent not only on the measurement properties of a test but on the statistical distribution of the studied subgroup. For example, it can be readily seen in Appendix O that subgroup sample sizes may vary considerably, which results in natural variation in reliability coefficients. Or α, which is a type of correlation coefficient, may be artificially depressed for subgroups with little variability (Draper & Smith, 1998). Third, there is no industry standard to interpret the strength of a reliability coefficient, and this is particularly true when the population of interest is a single subgroup.

8.3 Reporting Subcategory Reliability

Of even more interest are reliabilities for the reporting subcategories within NECAP content areas, as described in Chapter 3. Cronbach's α coefficients for subcategories were calculated via the same formula defined previously using just the items of a given subcategory in the computations. Results are presented in Appendix O. Because results are based on a subset of items rather than the full test, once again, as expected, computed subcategory reliabilities were lower (sometimes substantially so) than were overall test reliabilities, and interpretations should take this into account. The subcategory reliabilities were lower than those based on the total test and approximately to the degree one would expect based on classical test theory. Qualitative differences between grades and content areas once again preclude valid inferences about the quality of the full test based on statistical comparisons among subcategories.

8.4 Interrater Consistency

Chapter 5 of this report describes in detail the processes that were implemented to monitor the quality of the hand-scoring of student responses for constructed-response items. One of these processes was double-blind scoring: approximately 2% of student responses were randomly selected and scored independently by two different scorers, except for the writing prompts in grades 5, 8, and 11, which were 100% double scored.

Results of the double-blind scoring were used during the scoring process to identify scorers who required retraining or other intervention and are presented here as evidence of the reliability of the NECAP tests. A summary of the interrater consistency results are presented in Table 8-2. Results in the table are collapsed across the hand-scored items by grade and content area. The table shows the number of score categories, number of included scores, percent exact agreement, percent adjacent agreement, correlation between the first two sets of scores, and percentage of responses that required a third score. This same information is provided at the item level in Appendix P.

Table 8-2. 2013–14 NECAP: Summary of Interrater Consistency Statistics Collapsed Across Items by Content Area and Grade

Content Area	*Grade*	*Number of*		*Percent*		*Correlation*	*Percent of Third Scores*
		Score Categories	*Included Scores*	*Exact*	*Adjacent*		
Mathematics	3	2	8,538	96.84	3.16	0.93	0.00
		3	8,497	93.43	6.36	0.95	0.21
	4	5	5,178	82.25	16.61	0.94	1.12
		2	8,654	98.99	1.01	0.98	0.00
	5	3	8,670	95.74	4.03	0.96	0.23
		5	5,305	76.23	22.24	0.91	1.45
		2	5,164	98.10	1.90	0.96	0.00
	6	3	5,117	90.80	8.95	0.93	0.25
		5	3,574	84.83	13.37	0.93	1.79
		5	5,196	66.24	30.89	0.76	2.50
	7	5	2,594	62.49	34.16	0.65	3.35
		7	40,117	56.14	35.66	0.68	7.07
		2	5,249	97.73	2.27	0.95	0.00
	8	3	5,243	85.12	14.04	0.88	0.84
		5	3,552	81.93	15.85	0.92	2.28
		5	5,316	67.01	31.60	0.79	1.35
	11	2	5,278	98.16	1.84	0.96	0.00
		3	5,210	94.22	5.45	0.94	0.33
		5	3,552	79.67	17.57	0.93	2.67
Reading	3	5	5,230	61.45	34.93	0.75	3.31
	4	2	5,219	97.39	2.61	0.95	0.00
	5	3	5,147	94.00	5.67	0.95	0.33
	6	5	3,488	86.35	11.38	0.95	2.21
	7	5	5,409	63.67	33.09	0.79	2.96
	8	5	2,604	63.59	34.95	0.75	1.46
	11	7	41,977	54.39	40.49	0.73	4.92
Writing	5	2	6,862	96.75	3.25	0.93	0.00
		3	3,313	94.23	5.52	0.94	0.24
	8	5	2,277	87.83	10.94	0.95	1.23
		5	3,587	63.28	33.26	0.79	3.65
	11	7	27,683	60.81	36.78	0.77	1.99

8.5 Reliability of Achievement Level Categorization

While related to reliability, the accuracy and consistency of classifying students into achievement categories are even more important statistics in a standards-based reporting framework (Livingston & Lewis, 1995). After the achievement levels were specified and students were classified into those levels, empirical analyses were conducted to determine the statistical accuracy and consistency of the classifications. For NECAP, students are classified into one of four achievement levels: Substantially Below Proficient, Partially Proficient, Proficient, or Proficient with Distinction. This section of the report explains the methodologies used to assess the reliability of classification decisions, and results are given.

Accuracy refers to the extent to which decisions based on test scores match decisions that would have been made if the scores did not contain any measurement error. Accuracy must be estimated, because errorless test scores do not exist. Consistency measures the extent to which classification decisions based on test scores match the decisions based on scores from a second, parallel form of the same test. Consistency can be evaluated directly from actual responses to test items if two complete and parallel forms of the test are given to the same group of students. In operational test programs, however, such a design is usually impractical. Instead, techniques have been developed to estimate both the accuracy and consistency of classification decisions based on a single administration of a test. The Livingston and Lewis (1995) technique was used for the 2013–14 NECAP tests because it is easily adaptable to all types of testing formats, including mixed format tests.

The accuracy and consistency estimates reported in Appendix Q make use of "true scores" in the classical test theory sense. A true score is the score that would be obtained if a test had no measurement error. Of course, true scores cannot be observed and so must be estimated. In the Livingston and Lewis (1995) method, estimated true scores are used to categorize students into their "true" classifications.

For the 2013–14 NECAP tests, after various technical adjustments (described in Livingston & Lewis, 1995), a four-by-four contingency table of accuracy was created for each grade and content area, where cell [i, j] represented the estimated proportion of students whose true score fell into classification i (where i = 1 to 4) and observed score into classification j (where j = 1 to 4). The sum of the diagonal entries (i.e., the proportion of students whose true and observed classifications matched) signified overall accuracy.

To calculate consistency, true scores were used to estimate the joint distribution of classifications on two independent, parallel test forms. Following statistical adjustments per Livingston and Lewis (1995), a new four-by-four contingency table was created for each grade and content area and populated by the proportion of students who would be categorized into each combination of classifications according to the two (hypothetical) parallel test forms. Cell [i, j] of this table represented the estimated proportion of students whose observed score on the first form would fall into classification i (where i = 1 to 4) and whose observed score on the second form would fall into classification j (where j = 1 to 4). The sum of the diagonal entries

(i.e., the proportion of students categorized by the two forms into exactly the same classification) signified overall consistency.

Another way to measure consistency is to use Cohen's (1960) coefficient κ (kappa), which assesses the proportion of consistent classifications after removing the proportion of consistent classifications that would be expected by chance. It is calculated using the following formula:

$$\kappa = \frac{(Observed\ agreement)-(Chance\ agreement)}{1-(Chance\ agreement)} = \frac{\sum_i C_{ii}-\sum_i C_{i.}C_{.i}}{1-\sum_i C_{i.}C_{.i}}$$

where

$C_{i.}$ is the proportion of students whose observed achievement level would be Level i (where i = 1–4) on the first hypothetical parallel form of the test;

$C_{.i}$ is the proportion of students whose observed achievement level would be Level i (where i = 1–4) on the second hypothetical parallel form of the test; and

C_{ii} is the proportion of students whose observed achievement level would be Level i (where i = 1–4) on both hypothetical parallel forms of the test.

Because κ is corrected for chance, its values are lower than are other consistency estimates.

8.5.1 Accuracy and Consistency Results

The accuracy and consistency analyses described above are provided in Table Q-1 of Appendix Q. The table includes overall accuracy and consistency indices, including kappa. Accuracy and consistency values conditional upon achievement level are also given. For these calculations, the denominator is the proportion of students associated with a given achievement level. For example, the conditional accuracy value is 0.86 for Substantially Below Proficient for grade 3 mathematics. This figure indicates that among the students whose true scores placed them in this classification, 86% would be expected to be in this classification when categorized according to their observed scores. Similarly, a consistency value of 0.80 indicates that 80% of students with observed scores in the Substantially Below Proficient level would be expected to score in this classification again if a second, parallel test form were used.

For some testing situations, the greatest concern may be decisions around level thresholds. For example, in testing done for No Child Left Behind Act (NCLB) accountability purposes, the primary concern is distinguishing between students who are proficient and those who are not yet proficient. In this case, the accuracy of the Partially Proficient-Proficient threshold is of greatest interest. For the 2013–14 NECAP tests, Table Q-2 in Appendix Q provides accuracy and consistency estimates at each cutpoint as well as false positive and false negative decision rates. (A false positive is the proportion of students whose observed scores were above the cutpoint and whose true scores were below the cutpoint. A false negative is the proportion of students whose observed scores were below the cutpoint and whose true scores were above the cutpoint.)

The above indices are derived from Livingston and Lewis's (1995) method of estimating the accuracy and consistency of classifications. It should be noted that Livingston and Lewis discuss two versions of the

accuracy and consistency tables. A standard version performs calculations for forms parallel to the form taken. An "adjusted" version adjusts the results of one form to match the observed score distribution obtained in the data. The tables use the standard version for two reasons: (1) this "unadjusted" version can be considered a smoothing of the data, thereby decreasing the variability of the results; and (2) for results dealing with the consistency of two parallel forms, the unadjusted tables are symmetrical, indicating that the two parallel forms have the same statistical properties. This second reason is consistent with the notion of forms that are parallel; that is, it is more intuitive and interpretable for two parallel forms to have the same statistical distribution.

Note that, as with other methods of evaluating reliability, accuracy, and consistency, statistics calculated based on small groups can be expected to be lower than those calculated based on larger groups. For this reason, the values presented in Appendix Q should be interpreted with caution. In addition, it is important to remember that it is inappropriate to compare accuracy and consistency statistics between grades and content areas.

CHAPTER 9 SCORE REPORTING

9.1 TEACHING YEARS VERSUS TESTING YEAR REPORTING

The data used for the NECAP reports are the results of the fall 2013 NECAP test administration. It is important to note that the NECAP tests are based on the Grade Level Expectations (GLEs) from the previous year. For example, the grade 7 NECAP test administered in the fall of seventh grade is based on the grade 6 GLEs. Because many students receive instruction at a different school from where they were tested, the state Departments of Education determined that access to results information would be valuable to both the school where the student was tested and the school where the student received instruction. To achieve this goal, separate Item Analysis, School and District Results, and School and District Summary reports were created for the "testing" school and the "teaching" school. Every student who participated in the NECAP test was represented in testing reports, and most students were represented in teaching reports. In some cases (e.g., a student who recently moved to the state), it is not possible to provide information for a student in a teaching report.

9.2 PRIMARY REPORTING DELIVERABLES

The following reporting deliverables were produced for the 2013–14 NECAP tests:

- Student Report
- School and District Results Report
- School and District Summary Report
- School and District Student-Level Data File
- Analysis & Reporting System

With the exception of the Student Report, these reports and data files were available for schools and districts to view or download via the NECAP Analysis & Reporting System, a password-secure website hosted by Measured Progress. Each of these reporting deliverables is described in the following sections. Sample reports are provided in Appendix R.

Support is provided by the state Departments of Education and Measured Progress to stakeholders who use the various reporting deliverables by hosting report interpretation workshops and by providing the *Guide to Using the 2013 NECAP Reports*. These resources help foster proper use and interpretation of NECAP results.

The *Guide to Using the 2013 NECAP Reports* includes a table that shows the number of scaled score points that would indicate a statistically significant difference between two equally sized groups of students.

The calculations are performed by computing the standard error of the difference in means ($\sigma_{\overline{x}_1-\overline{x}_2}$) for different values of *n*, based on the observed scaled score standard deviations for each grade and content area. The formula for the variance error of the difference in means is:

$$\sigma^2_{\overline{x}_1-x_2} = \sigma_2^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)$$

By assuming $n_1 = n_2 = n$ and $\sigma_1^2 = \sigma_2^2 = \sigma_w^2$, this equation simplifies to:

$$\sigma^2_{\overline{x}_1-x_2} = \sigma_w^2\left(\frac{1}{n}+\frac{1}{n}\right) = \frac{2\sigma^2}{n}$$

and

$$\sigma_{\overline{x}_1-x_2} = \sqrt{2\sigma^2/n}$$

Therefore, if the difference in scaled scores of two equally sized groups is greater than or equal to $\sigma_{\overline{x}_1-x_2}$, you can be 67% certain that there is a true difference in performance between the two groups. Differences between two unequally sized groups can be interpreted, conservatively, by using the value associated with the size of the smaller group.

The *Guide to Using the 2013 NECAP Reports* also includes a second table that shows corresponding values based on percentages of students, to help interpret differences in percentages of students in performance level categories. The calculations for this table are based on the variance error of a proportion:

$$s_p^2 = \frac{S^2}{n} = \frac{p(1-p)}{n}$$

and

$$s_p = \sqrt{p(1-p)/n}$$

Together, these two tables in the *Guide to Using the 2013 NECAP Reports* help teachers, schools, and districts interpret differences in scores between two groups of students and, in this way, support appropriate interpretation of NECAP scores.

9.3 STUDENT REPORTS

The *NECAP Student Report* is a single-page, double-sided report printed on 8.5” by 14” paper. The front of the report includes informational text about the design and uses of the assessment. The front of the report also contains text describing the three corresponding sections on the reverse side of the report and the achievement level descriptions. The reverse side of the *NECAP Student Report* provides a complete picture of

an individual student's performance on the NECAP test, divided into three sections. The first section provides the student's overall performance for each content area. The student's achievement levels are provided, and scaled scores are presented numerically as well as in a graphic that depicts the scaled score with the standard error of measurement bar constructed about it, set within the full range of possible scaled scores demarcated into the four achievement levels.

The second section displays the student's achievement level in each content area relative to the percentage of students at each achievement level within the school, district, and state.

The third section shows the student's raw score performance in content area reporting categories relative to possible points; gives the average points earned for the school, district, and state; and gives the average points earned by students at the Proficient level on the overall content area test. For reading, with the exception of Word ID/Vocabulary items, items are reported by Type of Text (Literary, Informational) and Level of Comprehension (Initial Understanding, Analysis, and Interpretation). For mathematics, the reporting subcategories are Numbers and Operations; Geometry and Measurement; Functions and Algebra; and Data, Statistics, and Probability. Grade 5 and 8 writing report Multiple-Choice, Short-Responses, and Extended-Response as categories. Grade 11 writing only reports Extended-Response as a category.

The *NECAP Student Report* is confidential and should be kept secure within the school and district. The Family Educational Rights and Privacy Act (FERPA) requires that access to individual student results be restricted to the student, the student's parents/guardians, and authorized school personnel.

9.4 Item Analysis Reports

The *NECAP Item Analysis Report* provides a roster of all students in a school and provides their performance on the common items that are released to the public, one report per content area. For all grades and content areas, the student names and identification numbers are listed as row headers down the left side of the report. For grades 3 through 8 and 11 in reading and mathematics, the items are listed as column headers in the same order they appeared in the released item documents (not the position in which they appeared on the test).

For each item, seven pieces of information are shown: the released item number, the content strand for the item, the GLE/GSE code for the item, the Depth of Knowledge (DOK) code for the item, the item type, the correct response key for multiple-choice items, and the total possible points.

For each student, multiple-choice items are marked either with a plus sign (+), indicating that the student chose the correct multiple-choice response, or a letter (from A to D), indicating the incorrect response chosen by the student. For short-answer and constructed-response items, the number of points earned is shown. All responses to released items are shown in the report, regardless of the student's participation status.

The columns on the right side of the report show the Total Test Results, broken into several categories. Subcategory Points Earned columns show points earned by the student in each content area subcategory relative to total points possible. A Total Points Earned column is a summary of all points earned

and total possible points in the content area. The last two columns show the student's Scaled Score and Achievement Level. Students reported as Not Tested are given a code in the Achievement Level column to indicate the reason why the student did not test. Descriptions of these codes can be found on the legend, after the last page of data on the report. It is important to note that not all items used to compute student scores are included in this report, only released items. At the bottom of the report, the average percent correct for each multiple-choice item and average scores for the short-answer and constructed-response items are shown for the school, district, and state.

For grade 11 writing, the top portion of the *NECAP Item Analysis Report* consists of a single row of item information containing the content strand, GSE codes, DOK code, item type/writing prompt, and total possible points. The student names and identification numbers are listed as row headers down the left side of the report. The Total Test Results section to the right includes Total Points Earned and Achievement Level for each student. At the bottom, the average points earned on the writing prompt are provided for the school, district, and state.

The *NECAP Item Analysis Report* is confidential and should be kept secure within the school and district. FERPA requires that access to individual student results be restricted to the student, the student's parents/guardians, and authorized school personnel.

9.5 School and District Results Reports

The *NECAP School Results Report* and the *NECAP District Results Report* consist of three parts: the grade level summary report, the results for the content areas, and the disaggregated content area results.

The grade level summary report provides a summary of participation in the NECAP and a summary of NECAP results. The participation section on the top half of the page shows the number and percentage of students who were enrolled on or after October 1, 2013. The total number of students enrolled is defined as the number of students tested plus the number of students not tested.

Data are provided for the following groups of students who are considered tested in NECAP:

- **Students Tested**: This category provides the total number of students tested.
- **Students Tested with an Approved Accommodation**: Students in this category tested with an accommodation and did not have their test invalidated.
- **Current LEP Students**: Students in this category are currently receiving limited English proficiency (LEP) services.
- **Current LEP Student Tested with an Approved Accommodation**: Students in this category are currently receiving LEP services, tested with an accommodation, and did not have their test invalidated.
- **IEP Students**: Students in this category have an individual education plan (IEP).
- **IEP Student tested with an Approved Accommodation**: Students in this category have an IEP, tested with an accommodation, and did not have their test invalidated.

Because students who were not tested did not participate, average school scores were not affected by non-tested students. These students were included in the calculation of the percentage of students participating, but not in the calculation of scores. For students who participated in some, but not all, sessions of the NECAP test, actual scores were reported for the content areas in which they participated. These reporting decisions were made to support the requirement that all students participate in the NECAP.

Data are provided for the following groups of students who may not have completed the entire battery of NECAP tests:

- **Alternate Assessment**: Students in this category completed an alternate test for the 2012–13 school year.
- **First-Year LEP**: Students in this category are defined as being new to the United States after October 1, 2012, and were not required to take the NECAP tests in reading and writing. Students in this category were expected to take the mathematics portion of the NECAP tests.
- **Withdrew after October 1**: Students withdrawing from a school after October 1, 2013, may have taken some sessions of the NECAP tests prior to their withdrawal from the school.
- **Enrolled after October 1**: Students enrolling in a school after October 1, 2013, may not have had adequate time to participate fully in all sessions of NECAP testing.
- **Special Consideration**: Schools received state approval for special consideration for an exemption on all or part of the NECAP tests for any student whose circumstances are not described by the previous categories but for whom the school determined that taking the NECAP tests would not be possible.
- **Other**: Occasionally students will not have completed the NECAP tests for reasons other than those listed. These "other" categories were considered "not state-approved."

The results section in the bottom half of the page shows the number and percentage of students performing at each achievement level in each of the content areas across the school, district, and state. In addition, a mean scaled score is provided for each content area across school, district, and state levels except for grade 11 writing, where the mean raw score is provided across the school, district, and state. School information is blank for the district version of this report.

For reading and mathematics, the content area results pages provide information on performance in specific content categories of the tested content areas (for example, geometry and measurement within mathematics). For writing in grades 5 and 8, information is provided by item type (multiple-choice, short-response, and extended-response). The purpose of these sections is to help schools determine the extent to which their curricula are effective in helping students to achieve the particular standards and benchmarks contained in the GLEs and GSEs. The content area results pages provide data for the 2011–12, 2012–13, and 2013–14 NECAP individual test administrations as well as cumulative data for the three years in reading and mathematics and writing.

Information about each content area (reading and mathematics for all grades and writing for grades 5 and 8) for school, district, and state levels include

- the total number of students enrolled, not tested (state-approved reason), not tested (other reason), and tested;
- the total number and percentage of students at each achievement level (based on the number in the tested column); and
- the mean scaled score.

Information about each content area reporting category for reading and mathematics in all grades and about each item type for writing in grades 5 and 8 includes the following:

- The total possible points for that reporting category or item type. In order to provide as much information as possible for each category, the total number of points includes both the common items used to calculate scores and additional items in each category used for equating the test from year to year.
- A graphic display of the percentage of total possible points for each sub-content area/reporting category for the school, district, and state. In this graphic display, there are symbols representing school, district, and state performances. In addition, there is a line representing the standard error of measurement. This statistic indicates how much a student's score could vary if the student were examined repeatedly with the same test (assuming that no learning were to occur between test administrations).

The first content area results page for the grade 11 writing test provides data for the 2011–12, 2012–13, and 2013–14 NECAP individual test administrations as well as cumulative data for the three years. Information provided for the school, district, and state includes

- the total number of students enrolled, not tested (state-approved reason), not tested (other reason), and tested;
- the total number and percentage of students at each achievement level (based on the number in the tested column); and
- the mean raw score.

The bottom half of this results page includes a table that lists the type of writing (genre) for the common prompt (i.e., the prompt for which the results on the top half of the page are about) for each of the last three test administrations. The type of writing and a description of that type are included for each year.

The second content area results page lists the types of writing that are assessed in the grade 11 writing test. The list is comprised of the types of writing used to make both a common prompt (one that is administered to all students) and matrix prompts (ones that vary across the eight different forms of the test). The first column on this page provides the name and a description of each type of writing. The second column provides separate rows for the current year (2013–14) and the previous year that each type of writing was assessed. The symbol "(C)" indicates the type of writing that was common in that year's test. The number of students tested and the mean raw score are provided for the school, district, and state levels. A graphic display is also provided for each year and type of writing that shows the average score attained on the 0-to-12 scale for the school, district, and state levels. The scale of 0 to 12 on the graphic display represents the possible

score range for the writing prompt. The two scores assigned to the student's response from the 6-point rubric are added; the result is a score from 0 to 12. A score of 7 depicted on the scale represents the score needed to be proficient.

Finally, the third page of the grade 11 writing content area results contains a table that presents information on the distribution of scores across the 0-to-12 range. The first column of the table lists the possible scores from 12 down to 0. The next two columns ("Score 1" and "Score 2") represent the two independent scores assigned to a student's response to the common writing prompt. The student's total score on the common writing prompt is the sum of these two scores. The next four columns list the total number of students, N, and the percentage, %, of students for each score on the 0-to-12 scale for the school and district. The last column provides the percentage, %, of students for each score on the 0-to-12 scale for the state. The 6-point scoring rubric that is used to score student responses to the common writing prompt is also included on this page of the report.

The disaggregated content area results pages (all grades and content areas) present the relationship between performance and student reporting categories (see the following list) in each content area across school, district, and state levels. Each content area page shows the number of students categorized as enrolled, not tested (state-approved reason), not tested (other reason), and tested. The tables also provide the number and percentage of students within each of the four achievement levels and the mean scaled score (or mean raw score for grade 11 writing) by each reporting category.

The list of student reporting categories is as follows:

- All Students
- Gender
- Race/Ethnicity
- LEP Status
- IEP
- SES (socioeconomic status)
- Migrant
- Title I
- 504 Plan

The data for achievement levels and mean scaled score (or mean raw score for grade 11 writing) are based on the number shown in the tested column. The data for the reporting categories were provided by information coded on the students' answer booklets by teachers and/or data linked to the student label. Because performance is being reported by categories that can contain relatively low numbers of students, school personnel are advised, under FERPA guidelines, to treat these pages confidentially.

It should be noted that no data were reported for the 504 Plan in any of the content areas for New Hampshire and Vermont. Additionally, no data were reported for Title I in any of the content areas for Vermont.

9.6 School and District Summary Reports

The *NECAP School Summary Report* and the *NECAP District Summary Report* provide details, broken down by content area, on student performance by grade level tested in the school. The purpose of the summary is to help schools determine the extent to which their students achieve the particular standards and benchmarks contained in the GLEs and GSEs.

Information about each content area and grade level for school, district, and state includes

- the total number of students enrolled, not tested (state-approved reason), not tested (other reason), and tested;
- the total number and percentage of students at each achievement level (based on the number in the tested column); and
- the mean scaled score (mean raw score for grade 11 writing).

The data reported, the report format, and the guidelines for using the reported data are identical for both the school and district reports. The only difference between the reports is that the *NECAP District Summary Report* includes no individual school data. Separate school reports and district reports were produced for each grade level tested.

9.7 School and District Student-Level Data Files

In addition to the reports described, districts and schools received access to and were able to download student-level data files from the Analysis & Reporting System for each grade of students tested within their district or school. Student-level data files were produced for both "teaching year" and "testing year."

The student-level data files list students alphabetically within each school and contain all of the demographic information that was provided by the state for each student. Student records contain the scaled score, achievement level, and subscores earned by the student for each content area tested. In addition, the student records contain each student's actual performance on each of the released items for each content area tested as well as the student's responses to the student questionnaire.

The data collected from the optional reports field, if it was coded by schools on page 2 of the Student Answer Booklets, are also available for each student in the student-level data file. The optional reports field was provided to allow schools the option of grouping individual students into additional categories (e.g., by class or by previous year's teacher). This allows schools to make comparisons between subgroups that are not already listed on the disaggregated results pages of the school and district results reports.

The file layout of the student-level data files that lists all of the field names, variable information, and valid values for each field was also available to districts and schools on the Analysis & Reporting System.

9.8 ANALYSIS & REPORTING SYSTEM

NECAP results for the 2013–14 test administration were accessible online via the Analysis & Reporting System. In addition to accessing and downloading reports and student-level data files, this system includes interactive capabilities that allow school and district users to sort and filter item and subgroup data to create custom reports.

9.8.1 Interactive Reports

There are four interactive reports that were available from the Analysis & Reporting System: Item Analysis Report, Achievement Level Summary, Released Items Summary Data, and Longitudinal Data. Each of these interactive reports is described in the following sections. To access these four interactive reports, the user needed to click the "Interactive" tab on the home page of the system and select the report desired from the drop-down menu. Next, the user had to apply basic filtering options such as the name of the district or school and the grade level/content area test to open the specific report. At this point, the user had the option of printing the report for the entire grade level or applying advanced filtering options to select a subgroup of students for which to analyze their results. Advanced filtering options included gender, ethnicity, LEP, IEP, and SES. Users also needed to select either the "Teaching" or "Testing" cohort of students using the "Filter by Group" drop-down menu. All interactive reports, with the exception of the Longitudinal Data report, allowed the user to provide a custom title for the report.

9.8.1.1 Item Analysis Report

The Item Analysis report provides individual student performance data on the released items and total test results for a selected grade and content area. Please note that when advanced filtering criteria are applied by the user, the School and District Percent Correct and Average Score rows at the bottom of the report are blanked out and only the Group row and the State row for the group selected will contain data. This report can be saved, printed, or exported as a PDF.

9.8.1.2 Achievement Level Summary

The Achievement Level Summary report provides a visual display of the percentages of students in each achievement level for a selected grade and content area. The four achievement levels (Proficient with Distinction, Proficient, Partially Proficient, and Substantially Below Proficient) are represented by various colors in a pie chart. A separate table is also included below the chart that shows the number and percentage of students in each achievement level. This report can be saved, printed, or exported as a PDF or JPG file.

9.8.1.3 Released Items Summary Data

The Released Items Summary Data report is a school-level report that provides a summary of student responses to the released items for a selected grade and content area. The report is divided into two sections by item type (multiple-choice and open-response). For multiple-choice items, the content strand and GE code linked to the item are included as well as the total number and percentage of students who answered the item correctly and the number of students who chose each incorrect option or provided an invalid response. An invalid response on a multiple-choice item is defined as "the item was left blank" or "the student selected more than one option for the item." For open-response items, the content strand and GE code linked to the item are included as well as the point value and average score for the item. Users are also able to view the actual released items within the report. If a user clicks on a particular magnifying glass icon next to a released item number, a pop-up box will open, displaying the released item.

9.8.1.4 Longitudinal Data

The Longitudinal Data report is a confidential student-level report that provides individual student performance data for multiple test administrations. Fall 2013 NECAP scores and achievement levels are provided for each tested student in reading, mathematics, and writing. In addition, fall NECAP 2008, 2009, 2010, 2011, and 2012 reading, mathematics, and writing scores and achievement levels as well as spring NECAP science scores and achievement levels are also included for students in New Hampshire, Rhode Island, and Vermont. Maine students in grades 3 through 8 will show fall 2009, 2010, 2011, 2012, and 2013 NECAP scores and achievement levels in reading and mathematics, since this is only the fifth test administration for Maine since joining NECAP. Student performance on future science test administrations will be included on this report over time. This report can be saved, printed, or exported as a PDF file.

9.8.2 User Accounts

In the Analysis & Reporting System, principals have the ability to create unique user accounts by assigning specific usernames and passwords to educators, such as teachers, curriculum coordinators, or special education coordinators, in their school. Once the accounts have been created, individual students may be assigned to each user account. After users have received their usernames and passwords, they are able to log in to their accounts and access the interactive reports, which will be populated only with the subgroup of students assigned to them.

Information about the interactive reports and setting up user accounts is available in the *Analysis & Reporting System User Manual* that is available for download on the Analysis & Reporting System.

9.9 DECISION RULES

To ensure that reported results for the 2013–14 NECAP tests are accurate relative to collected data and other pertinent information, a document that delineates analysis and reporting rules was created. These decision rules were observed in the analyses of NECAP test data and in reporting the test results. Moreover, these rules are the main reference for quality assurance checks.

The decision rules document used for reporting results of the October 2013 administration of the NECAP is found in Appendix S.

The first set of rules pertains to general issues in reporting scores. Each issue is described, and pertinent variables are identified. The actual rules applied are described by the way they impact analyses and aggregations and their specific impact on each of the reports. The general rules are further grouped into issues pertaining to test items, school type, student exclusions, and number of students for aggregations.

The second set of rules pertains to reporting student participation. These rules describe which students were counted and reported for each subgroup in the student participation report.

9.9.1 Quality Assurance

Quality assurance measures are embedded throughout the entire process of analysis and reporting. The data processor, data analyst, and psychometrician assigned to work on NECAP implement quality control checks of their respective computer programs and intermediate products. Moreover, when data are handed off to different functions within the Data and Reporting Services and Psychometrics and Research departments, the sending function verifies that the data are accurate before handoff. Additionally, when a function receives a data set, the first step is to verify the data for accuracy.

Another type of quality assurance measure is parallel processing. Students' scaled scores for each content area are assigned by a psychometrician through a process of equating and scaling. The scaled scores are also computed by a data analyst to verify that scaled scores and corresponding achievement levels are assigned accurately. Respective scaled scores and assigned achievement levels are compared across all students for 100% agreement. Different exclusions that determine whether each student received scaled scores and/or was included in different levels of aggregation are also parallel processed. Using the decision rules document, two data analysts independently write a computer program that assigns students' exclusions. For each content area and grade combination, the exclusions assigned by each data analyst are compared across all students. Only when 100% agreement is achieved can the rest of data analysis be completed.

The third aspect of quality control involves the procedures implemented by the quality assurance group to check the accuracy of reported data. Using a sample of schools and districts, the quality assurance group verifies that reported information is correct. The step is conducted in two parts: (1) verify that the computed information was obtained correctly through appropriate application of different decision rules, and (2) verify that the correct data points populate each cell in the NECAP reports. The selection of sample

schools and districts for this purpose is very specific and can affect the success of the quality control efforts. There are two sets of samples selected that may not be mutually exclusive.

The first set of samples includes those that satisfy the following criteria:

- one-school district
- two-school district
- multi-school district

The second set of samples includes districts or schools that have unique reporting situations as indicated by decision rules. This second set is necessary to ensure that each rule is applied correctly. The second set includes the following criteria:

- private school
- small school that receives no school report
- small district that receives no district report
- district that receives a report but with schools that are too small to receive a school report
- school with excluded (not tested) students
- school with home-schooled students

The quality assurance group uses a checklist to implement its procedures. After the checklist is completed, sample reports are circulated for psychometric checks and program management review. The appropriate sample reports are then presented to the client for review and sign-off.

CHAPTER 10 VALIDITY

Because interpretations of test scores, and not a test itself, are evaluated for validity, the purpose of the *2013–14 NECAP Technical Report* is to describe several technical aspects of the NECAP tests in support of score interpretations (AERA, 1999). Each chapter contributes an important component in the investigation of score validation: test development and design; test administration; scoring, scaling, and equating; item analyses; reliability; and score reporting.

The *Standards for Educational and Psychological Testing* (AERA, et al., 1999) provides a framework for describing sources of evidence that should be considered when constructing a validity argument. The evidence around test content, response processes, internal structure, relationship to other variables, and consequences of testing speaks to different aspects of validity but are not distinct *types* of validity. Instead, each aspect of validity contributes to a body of evidence about the comprehensive validity of score interpretations.

Evidence on test content validity is meant to determine how well the assessment tasks represent the curriculum and standards for each grade level and content area. Content validation is informed by the item development process, including how the test blueprints and test items align to the curriculum and standards. Viewed through this lens provided by the standards, evidence based on test content was extensively described in Chapters 3 and 4. Item alignment with NECAP content standards; item bias, sensitivity, and content appropriateness review processes; adherence to the test blueprint; use of multiple item types; use of standardized administration procedures with accommodated options for participation; and appropriate test administration training are all components of validity evidence based on test content. As discussed earlier, all NECAP questions are aligned by educators from the member states to specific NECAP content standards and undergo several rounds of review for content fidelity and appropriateness. Items are presented to students in multiple formats (constructed-response, short-answer, and multiple-choice). Finally, tests are administered according to state-mandated standardized procedures, with allowable accommodations, and all test coordinators and administrators are required to familiarize themselves with and adhere to all of the procedures outlined in the *NECAP Principal/Test Coordinator Manual* and the *Test Administrator Manual*.

The scoring information in Chapter 5 describes the steps taken to train and monitor hand-scorers, as well as quality control procedures related to scanning and machine scoring. To speak to student response processes, however, additional studies would be helpful and might include an investigation of students' cognitive methods using think-aloud protocols.

Evidence based on internal structure is presented in great detail in the discussions of item analyses, scaling and equating, and reliability in Chapters 6 through 8. Technical characteristics of the internal structure of the assessments are presented in terms of classical item statistics (e.g., item difficulty, item-test correlation), differential item functioning analyses, dimensionality analyses, reliability, standard errors of

measurement, and item response theory parameters and procedures. Each test is equated to the same grade and content area test from the prior year in order to preserve the meaning of scores over time. In general, item difficulty and discrimination indices were in acceptable and expected ranges. Very few items were answered correctly at near-chance or near-perfect rates. Similarly, the positive discrimination indices indicate that most items were assessing consistent constructs, and students who performed well on individual items tended to perform well overall.

Evidence based on the consequences of testing is addressed in the scaled score information in Chapter 7 and the reporting information in Chapter 9, as well as in the *Guide to Using the 2013 NECAP Reports*, which is a separate document. Each of these chapters speaks to the efforts undertaken to promote accurate and clear information provided to the public regarding test scores. Scaled scores offer the advantage of simplifying the reporting of results across content areas, grade levels, and subsequent years. Achievement levels provide users with reference points for mastery at each grade and content area, which is another useful and simple way to interpret scores. Several different standard reports are provided to stakeholders. Additional evidence of the consequences of testing could be supplemented with broader investigation of the effect of testing on student learning.

To further support the validation of the assessment program, additional studies might be considered to provide evidence regarding the relationship of NECAP results to other variables, including the extent to which scores from NECAP converge with other measures of similar constructs, and the extent to which they diverge from measures of different constructs. Relationships among measures of the same or similar constructs can sharpen the meaning of scores and appropriate interpretations by refining the definition of the construct.

10.1 Questionnaire Data

External validity of the NECAP assessment is conveyed by the relationship of test scores and situational variables such as time-spent patterns and attitude toward content matter. These situational variables were all based on student questionnaire data collected during the administration of the NECAP test. Note that no inferential statistics are included in the results presented below; however, because the numbers of students are quite large, differences in average scores may be statistically significant.

10.1.1 Difficulty of Assessment

Examinees in all grades and content areas were asked how difficult the test was relative to their regular schoolwork. In the following sections, results are presented for selected grade levels for each content area.

10.1.1.1 Difficulty: Reading

Figures 10-1 and 10-2 show that students in grades 8 and 11 who thought the test was easier than their regular reading schoolwork did better overall than those who thought it was more difficult.

Question: How difficult was the reading test?

Figure 10-1. 2013–14 NECAP: Reading Grade 8 Questionnaire Responses—Difficulty

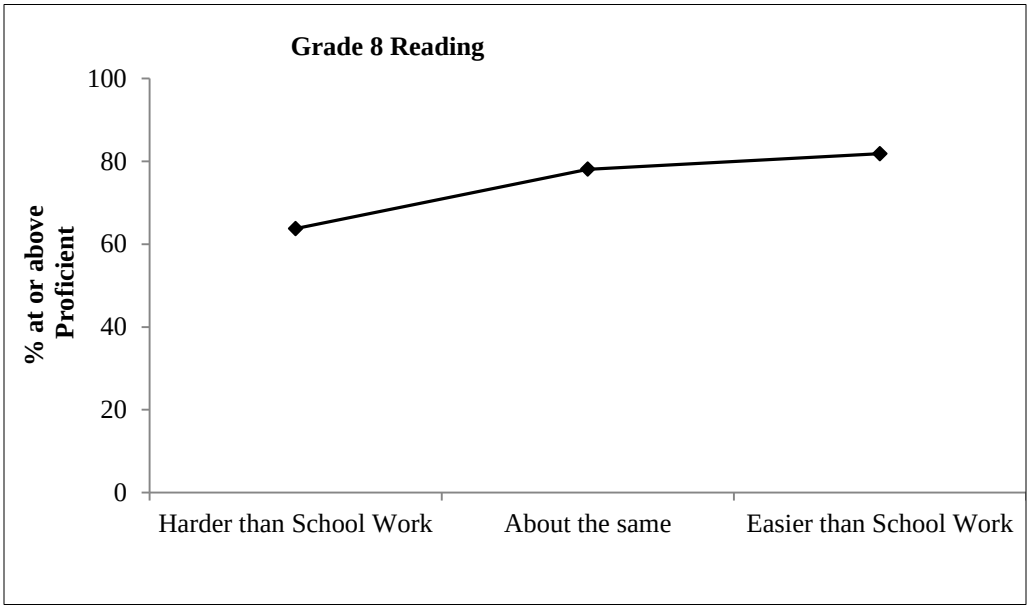
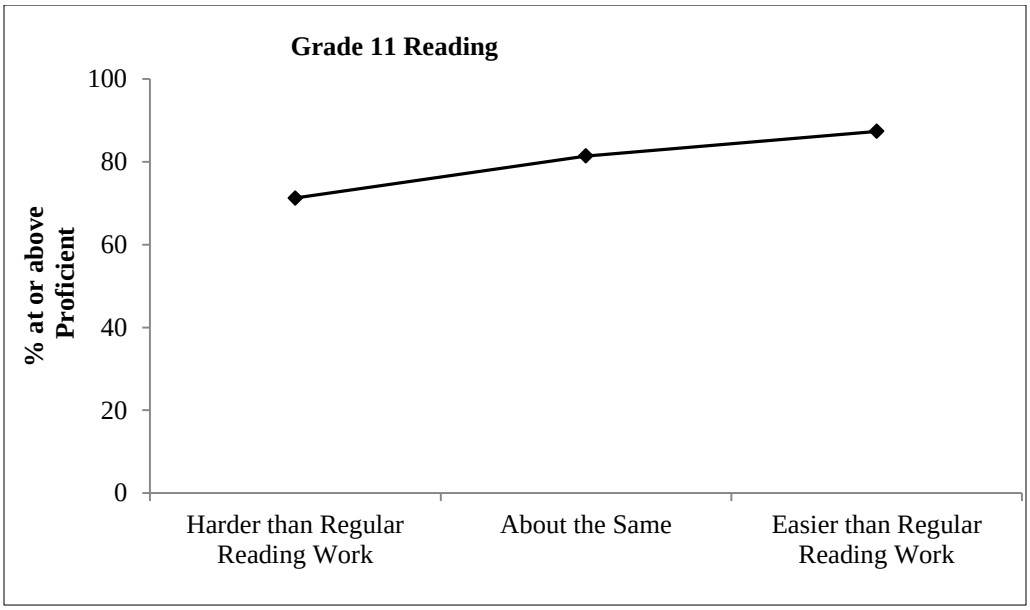


Figure 10-2. 2013–14 NECAP: Reading Grade 11 Questionnaire Responses—Difficulty

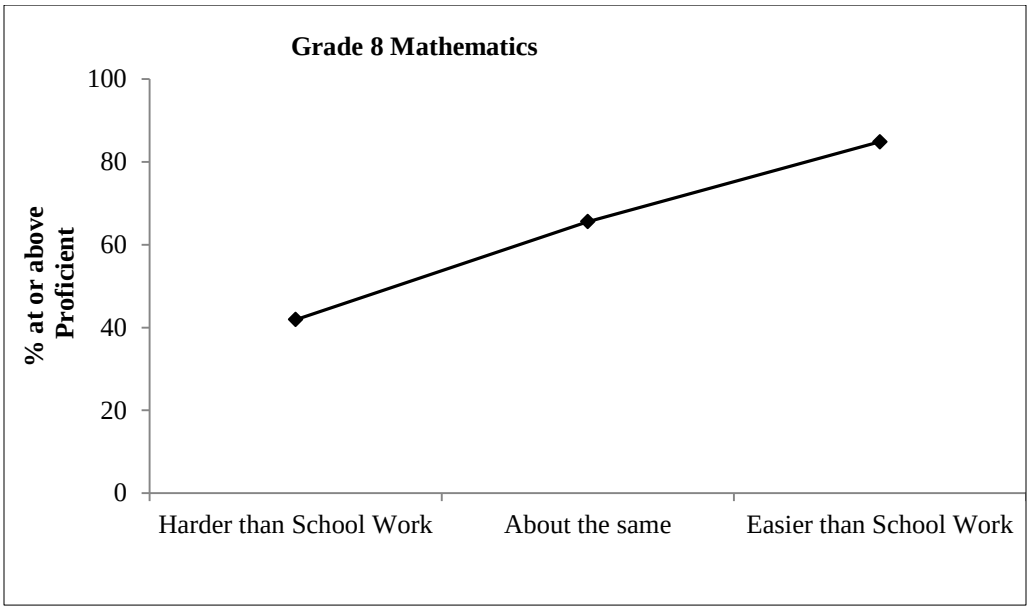


10.1.1.2 Difficulty: Mathematics

Figures 10-3 and 10-4 show a very similar pattern to that for reading: students in grades 8 and 11 who thought the test was easier than their regular mathematics schoolwork did better overall than those who thought it was more difficult.

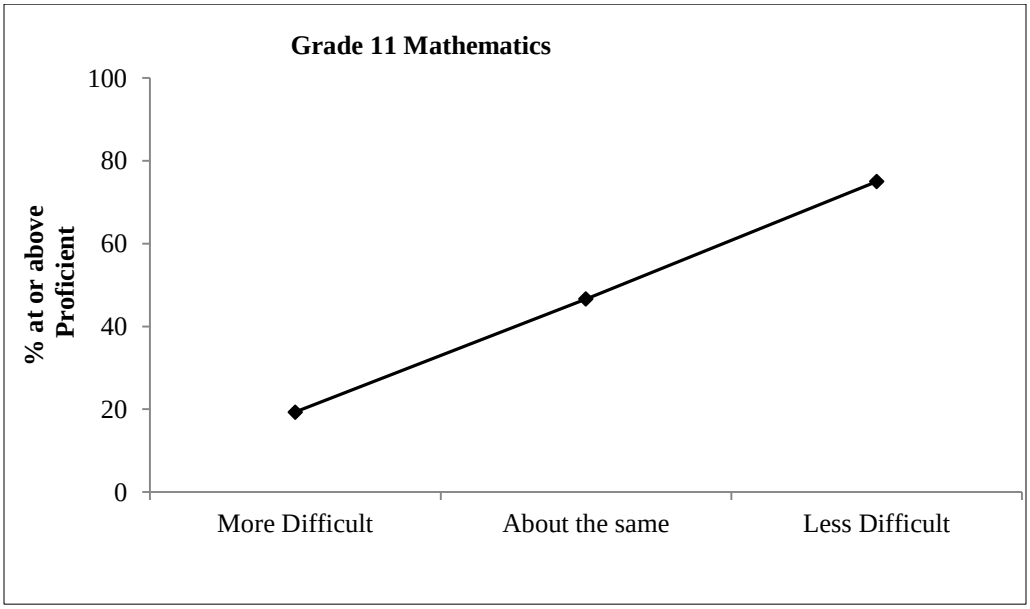
Question: How difficult was the mathematics test?

Figure 10-3. 2013–14 NECAP: Mathematics Grade 8 Questionnaire Responses—Difficulty



Question: How difficult was the mathematics test compared to your current or most recent mathematics class?

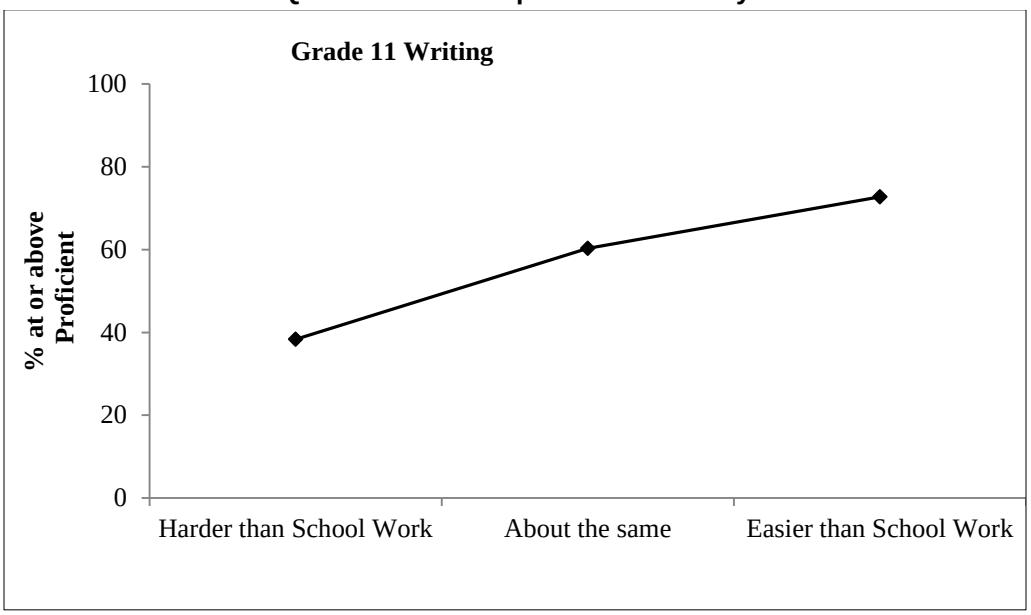
Figure 10-4. 2013–14 NECAP: Mathematics Grade 11 Questionnaire Responses—Difficulty



10.1.1.3 Difficulty: Writing

For writing, as shown in Figure 10-5, there was a pronounced relationship between perception of the difficulty of the test and student performance at grade 11.

Figure 10-5. Question: How difficult was the writing test?2013–14 NECAP: Writing Grade 11 Questionnaire Responses—Difficulty



10.1.2 Content

Across grades, examinees were asked about the frequency with which they engage in academic activities (specific to content area) that are expected to be related to test performance. In the following sections, results are presented for selected grade levels for each content area.

10.1.2.1 Content: Reading

Examinees in reading were asked how often they are asked to write at least one paragraph for reading/English language arts (grades 3 through 8) or reading (grade 11) class. Figures 10-6 through 10-9 show that students who indicated they write at least one paragraph a few times a week perform better than any of the other groups.

Figure 10-6. 2013–14 NECAP: Reading Grade 3 Questionnaire Responses—Content

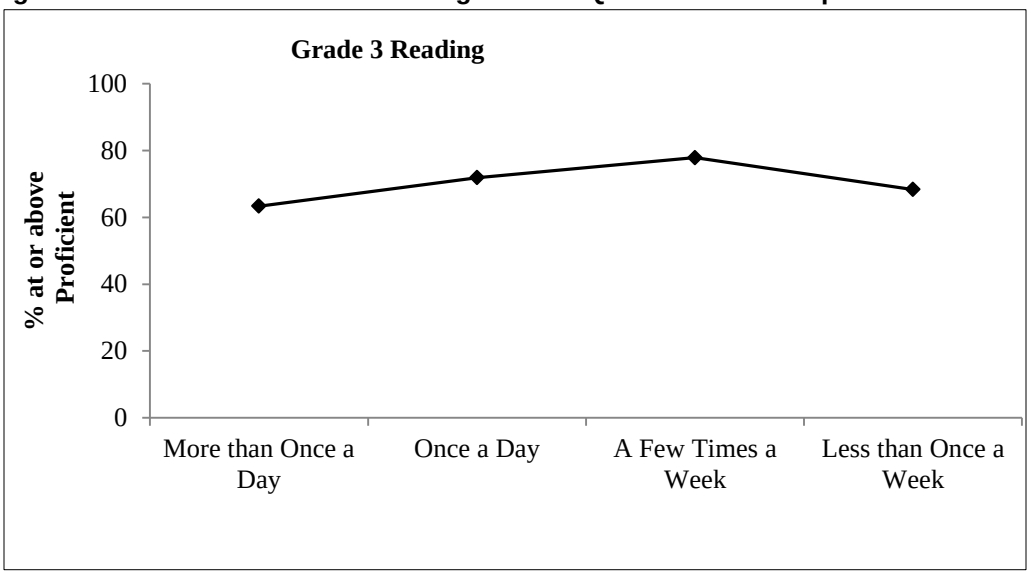


Figure 10-7. 2013–14 NECAP: Reading Grade 4 Questionnaire Responses—Content

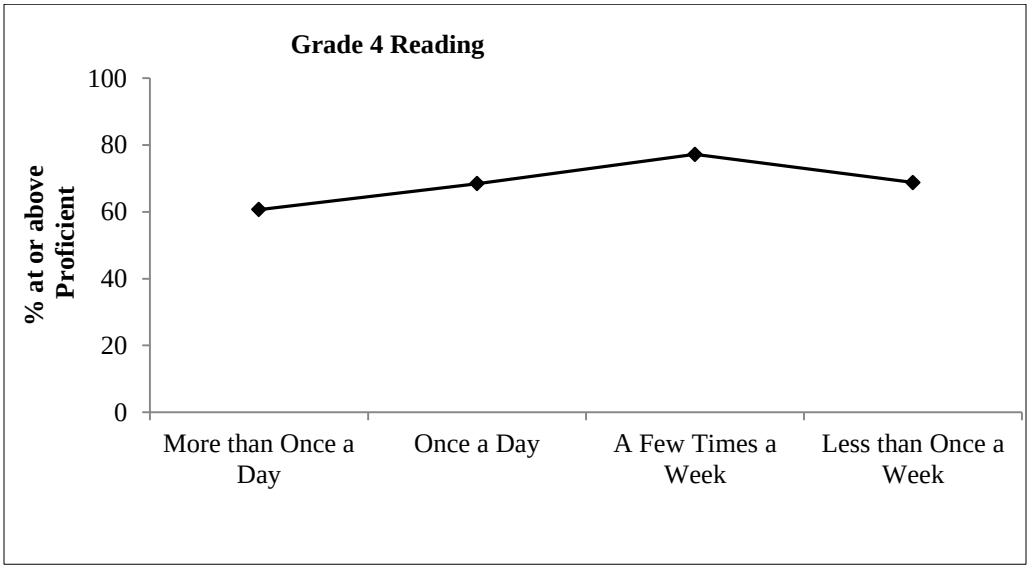


Figure 10-8. 2013–14 NECAP: Reading Grade 7 Questionnaire Responses—Content

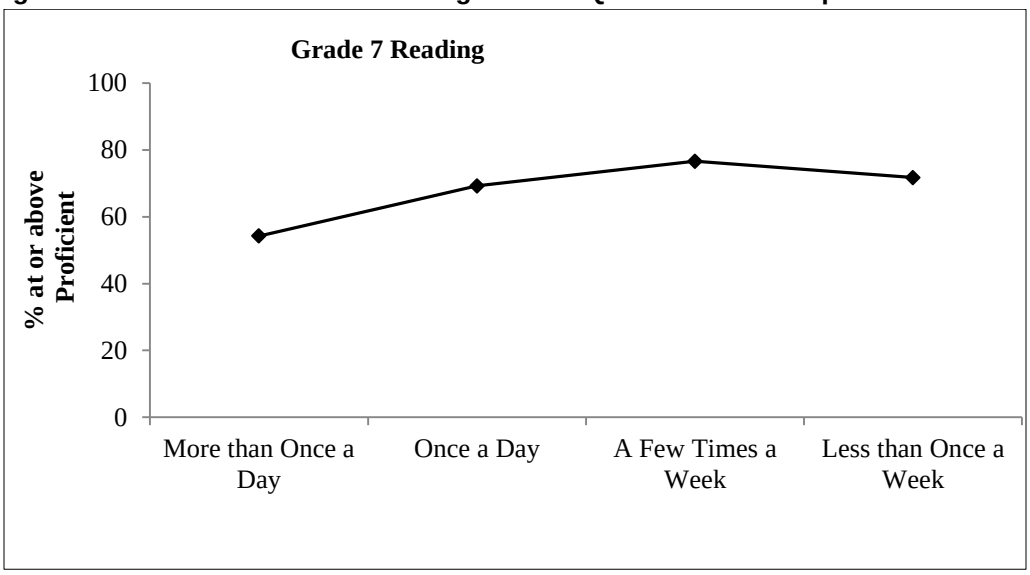
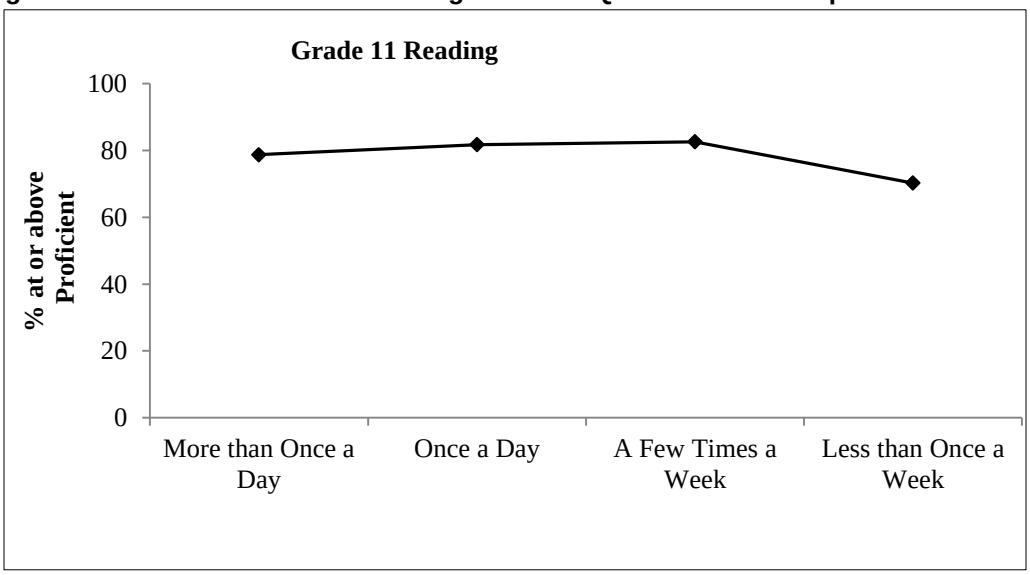


Figure 10-9. 2013–14 NECAP: Reading Grade 11 Questionnaire Responses—Content



10.1.2.2 Content: Mathematics

For mathematics, examinees in grades 7 and 8 were asked whether they were currently enrolled in an algebra I or higher mathematics class. In grade 11, examinees were asked which mathematics course they last completed (e.g., geometry). Figures 10-10 through 10-12 seem to suggest that students with more exposure to mathematics coursework tend to perform better than students who have been exposed to fewer mathematics courses.

Figure 10-10. 2013–14 NECAP: Mathematics Grade 7 Questionnaire Responses—Content

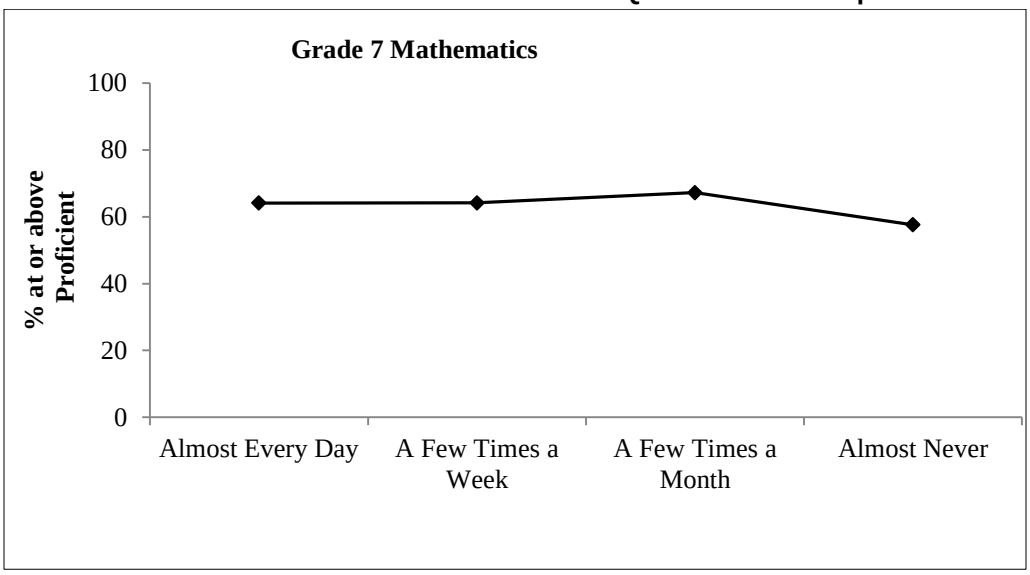


Figure 10-11. 2013–14 NECAP: Mathematics Grade 8 Questionnaire Responses—Content

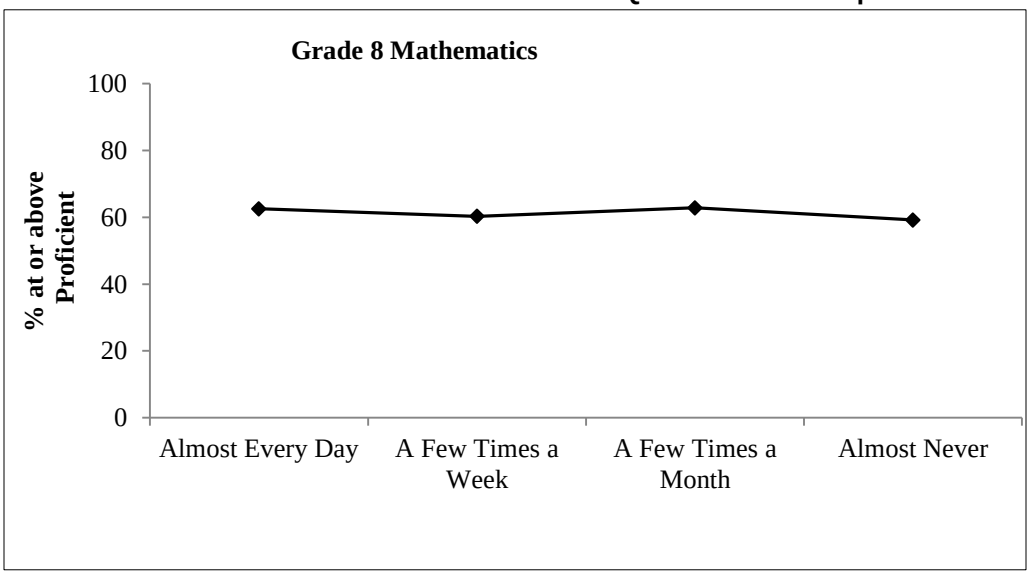
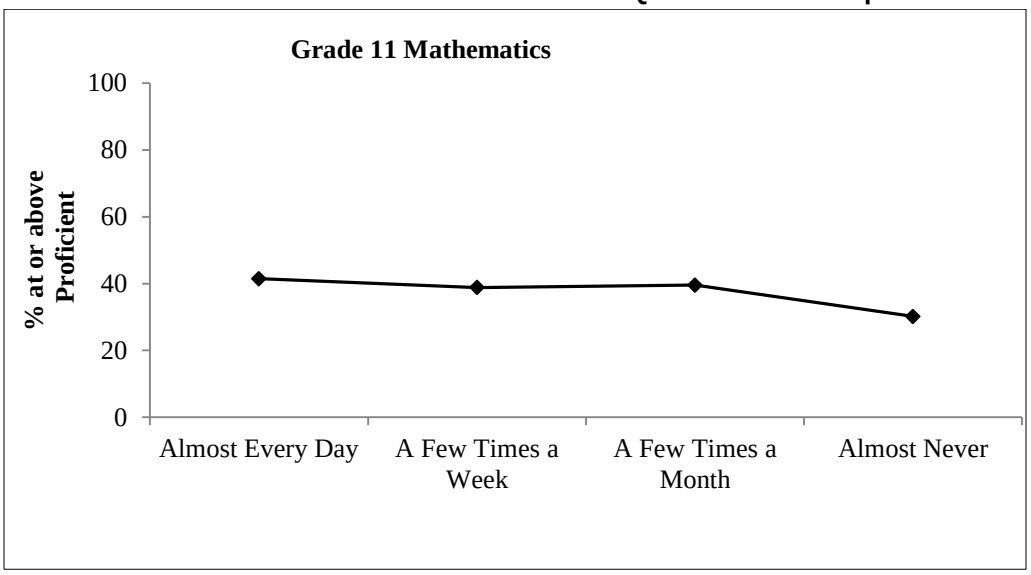


Figure 10-12. 2013–14 NECAP: Mathematics Grade 11 Questionnaire Responses—Content



10.1.2.3 Content: Writing

Examinees in writing were asked how often they write more than one draft. Figures 10-13 through 10-15 show that students who indicated they write multiple drafts more frequently did better than students who write multiple drafts less frequently, although the differences at grade 5 were slight.

Figure 10-13. 2013–14 NECAP: Writing Grade 5 Questionnaire Responses—Content

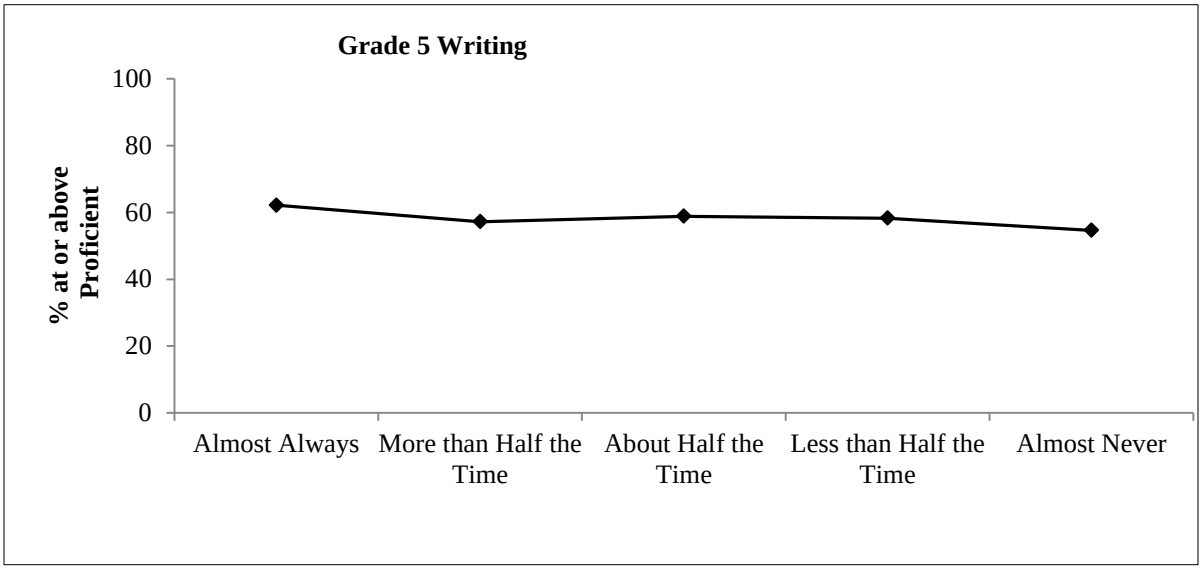


Figure 10-14. 2013–14 NECAP: Writing Grade 8 Questionnaire Responses—Content

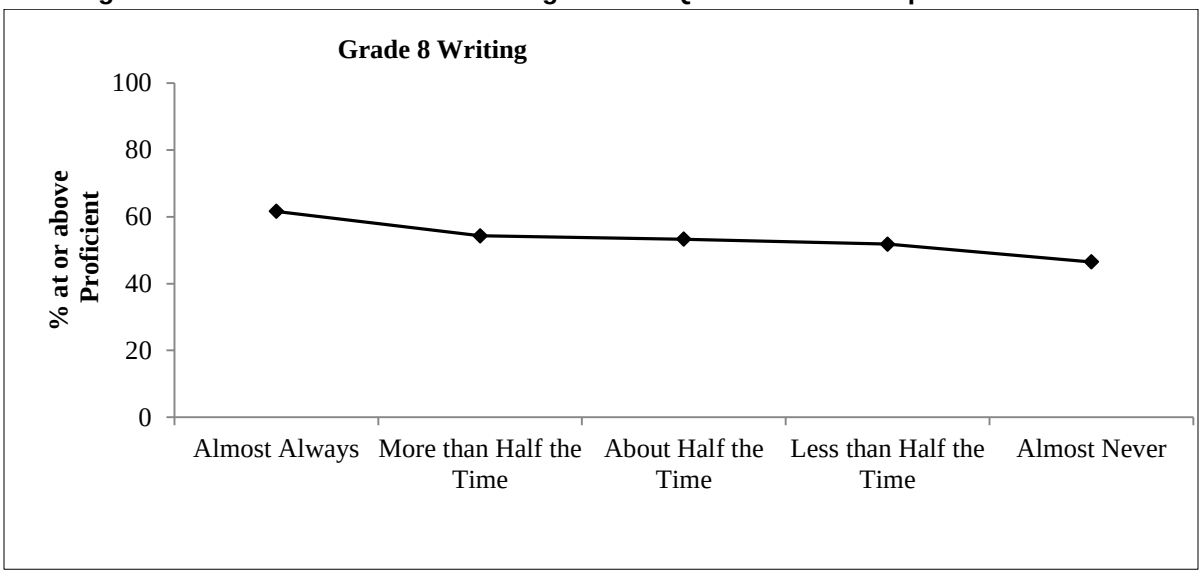
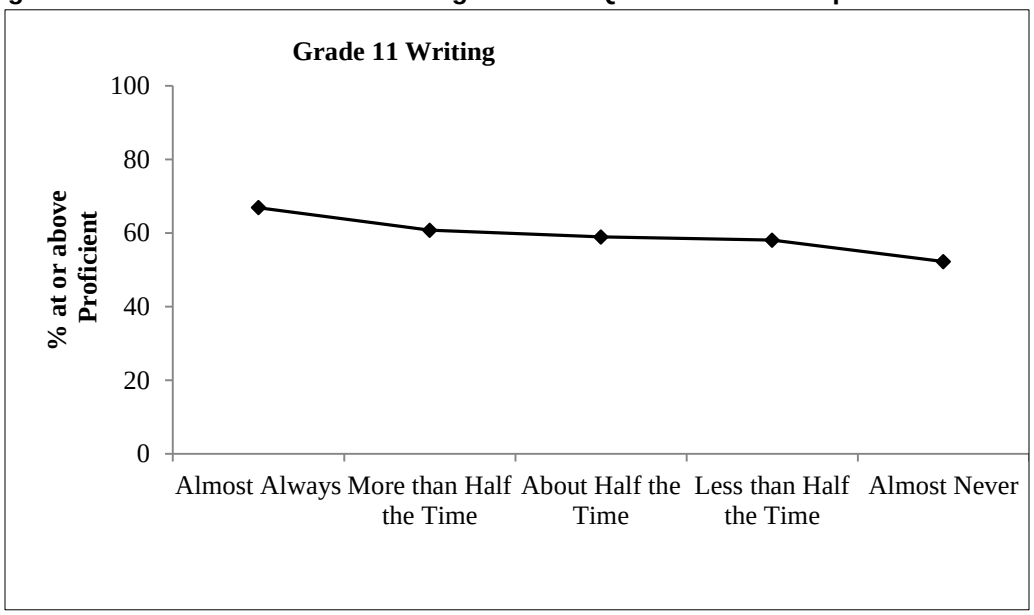


Figure 10-15. 2013–14 NECAP: Writing Grade 11 Questionnaire Responses—Content



10.1.3 Homework

Examinees in all grades in reading and mathematics were asked how often they have homework. In the following sections, results are presented for selected grade levels for each content area.

10.1.3.1 Homework: Reading

Figures 10-16 through 10-18 show that students in grades 4, 7, and 11 who indicated they had reading homework more frequently performed better than students who had less homework. The relationship is more pronounced in the higher grades.

Figure 10-16. 2013–14 NECAP: Reading Grade 4 Questionnaire Responses—Homework

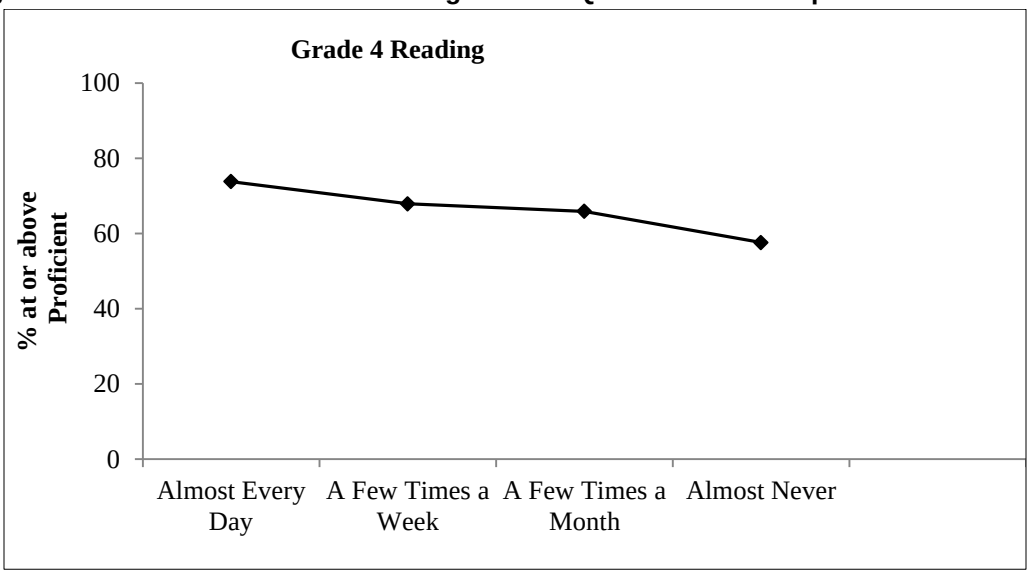


Figure 10-17. 2013–14 NECAP: Reading Grade 7 Questionnaire Responses—Homework

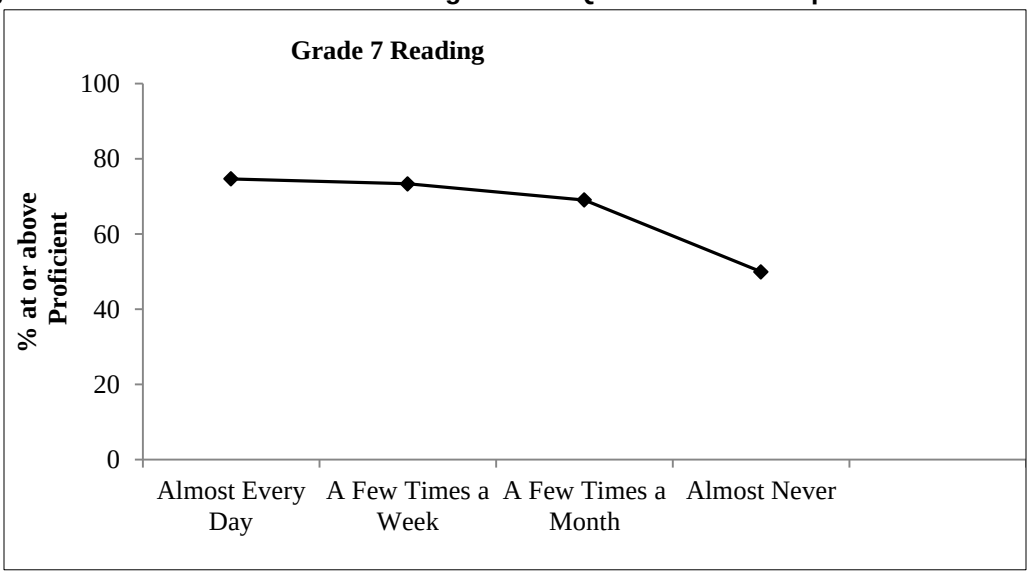
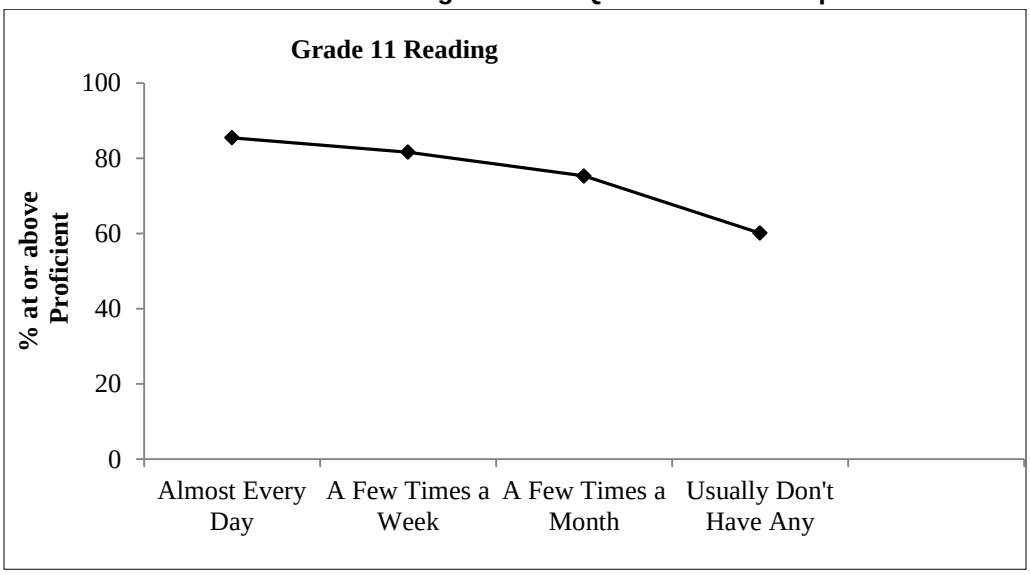


Figure 10-18. 2013–14 NECAP: Reading Grade 11 Questionnaire Responses—Homework



10.1.3.2 Homework: Mathematics

Figures 10-19 through 10-22 below show results that are very similar to those for reading; students in grades 4, 5, 8, and 11 who indicated they had mathematics homework more frequently performed better than students who had less homework. Again, the pattern is more pronounced in the higher grades.

Figure 10-19. 2013–14 NECAP: Mathematics Grade 4 Questionnaire Responses—Homework

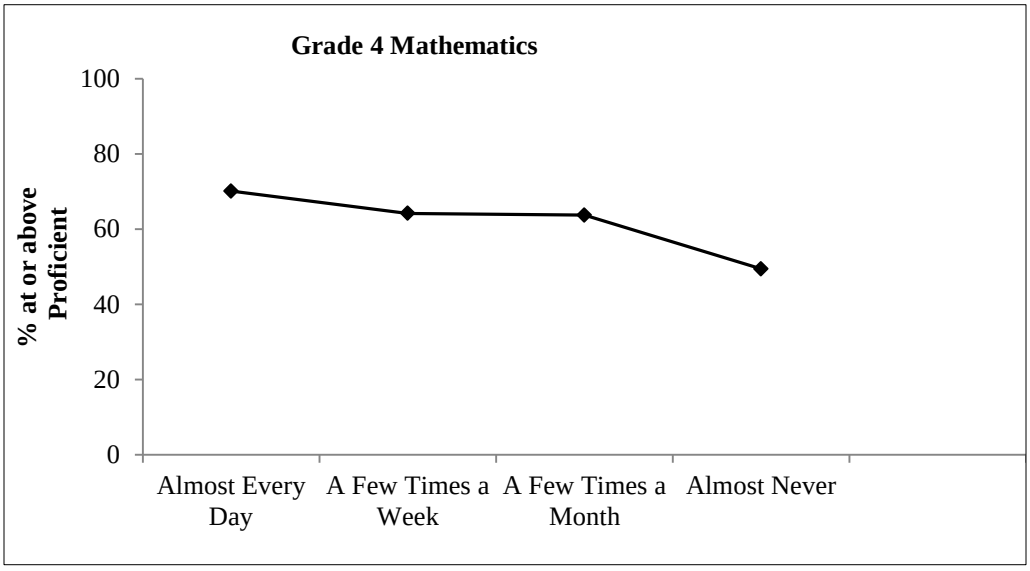


Figure 10-20. 2013–14 NECAP: Mathematics Grade 5 Questionnaire Responses—Homework

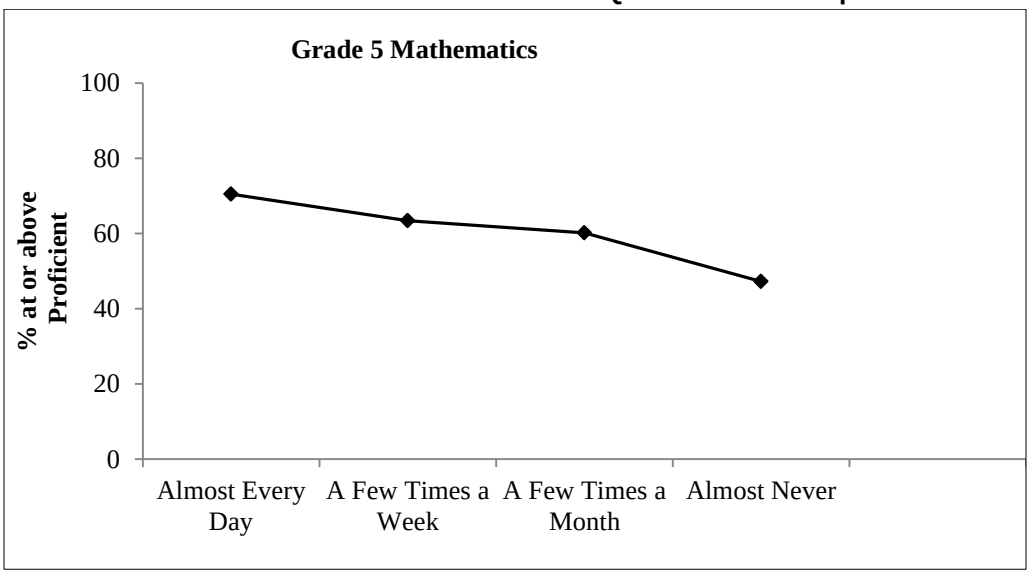


Figure 10-21. 2013–14 NECAP: Mathematics Grade 8 Questionnaire Responses—Homework

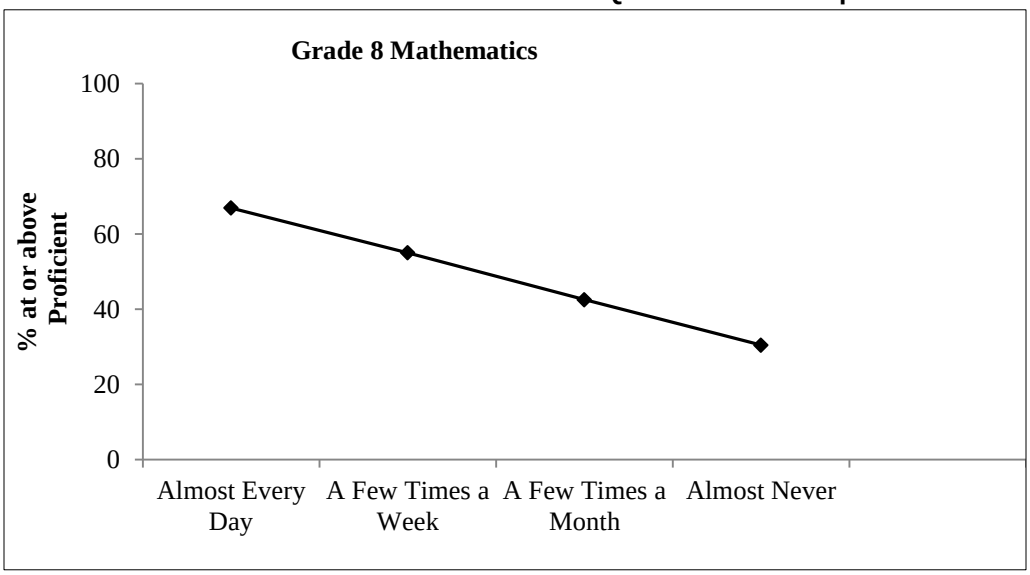
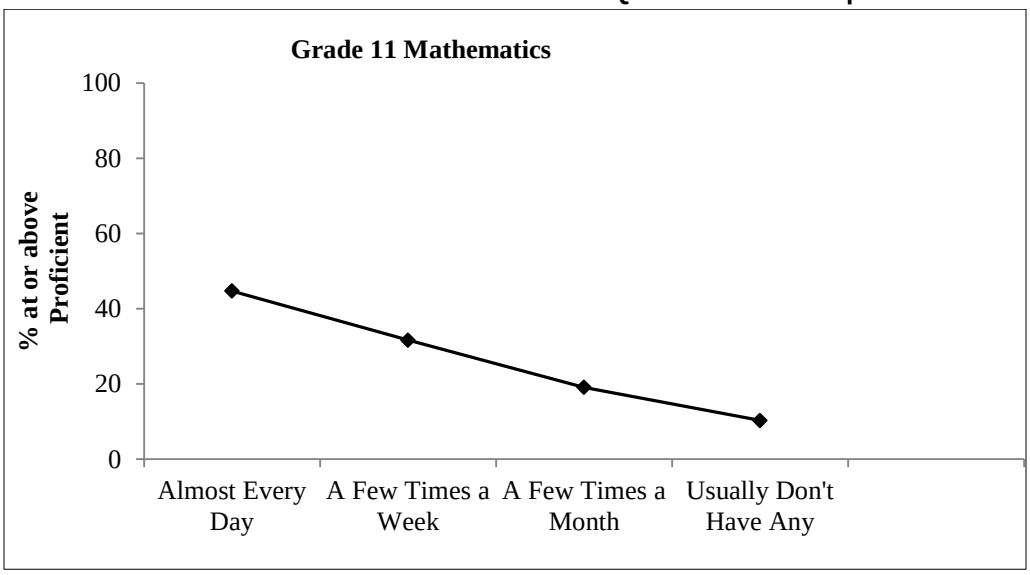


Figure 10-22. 2013–14 NECAP: Mathematics Grade 11 Questionnaire Responses—Homework



10.1.4 Performance in Courses

Students in grade 11 for both reading and mathematics were asked what their most recent course grade was. Figures 10-23 and 10-24 indicate that, for both reading and mathematics, there was a strong positive relationship between the most recent course grade and NECAP scores in that content area.

Figure 10-23. 2013–14 NECAP: Reading Grade 11 Questionnaire Responses—Performance

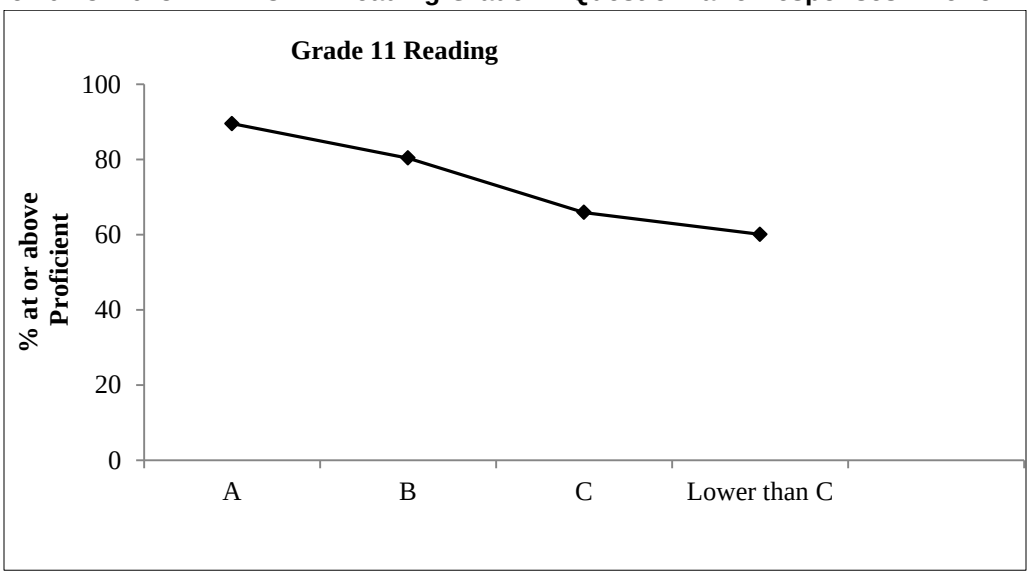
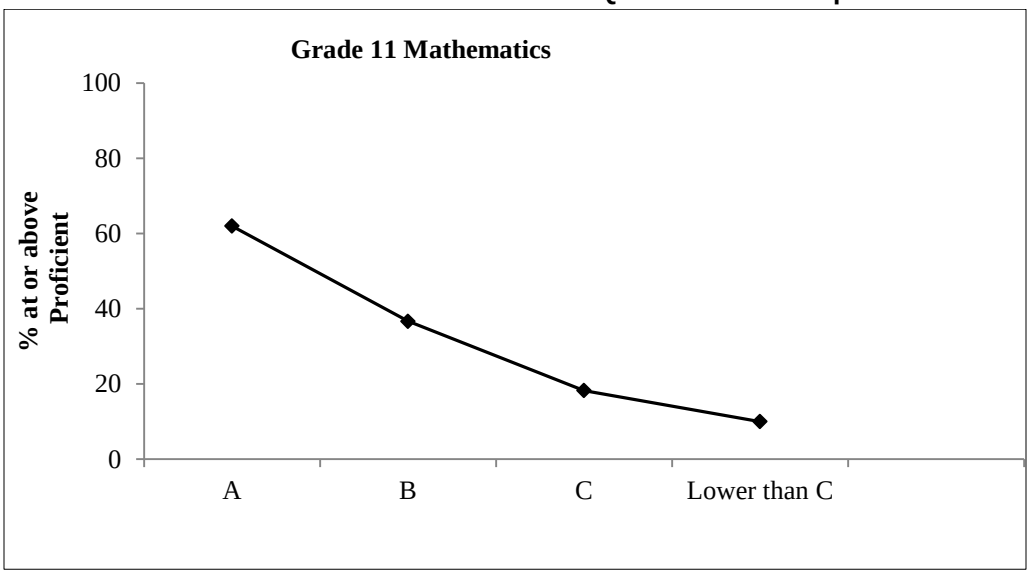


Figure 10-24. 2013–14 NECAP: Mathematics Grade 11 Questionnaire Responses—Performance



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APPENDICES

APPENDIX A—COMMITTEE MEMBERSHIP

TECHNICAL ADVISORY COMMITTEE MEMBERS
June 10 & 11, 2014

Name	*Association/Affiliation*
Dale Carlson	NAEP Coach, NAEO - Westat
Bill Erpenbach	WJE Consulting, LTD.
Phoebe Winter	Independent Consultant
Jim Pellegrino	University of Illinois
Joe Ryan	Consultant
Steve Slater	Oregon Department of Education
Martha Thurlow	NCEO, University of Minnesota
Craig Wells	University of Massachusetts - Amherst
Laurie Wise	Principal Scientist, HumRRO

APPENDIX B—PARTICIPATION RATES

Table B-1. 2013–14 NECAP: Summary of Participation by Demographic Category—Mathematics

Description	*Tested*	
	Number	*Percent*
All Students	290,360	100.00
Male	149,201	51.38
Female	141,019	48.57
Gender Not Reported	140	0.05
Hispanic or Latino	23,623	8.14
American Indian or Alaskan Native	1,603	0.55
Asian	7,141	2.46
Black or African American	11,042	3.80
Native Hawaiian or Pacific Islander	318	0.11
White (non-Hispanic)	239,518	82.49
Two or More Races (non-Hispanic)	6,281	2.16
No Primary Race/Ethnicity Reported	834	0.29
Currently Receiving LEP Services	9,674	3.33
Former LEP Student – Monitoring Year 1	1,554	0.54
Former LEP Student – Monitoring Year 2	1,254	0.43
LEP: All Other Students	277,878	95.70
Students with an IEP	42,541	14.65
IEP: All Other Students	247,819	85.35
Economically Disadvantaged Students	113,941	39.24
SES: All Other Students	176,419	60.76
Migrant Students	116	0.04
Migrant: All Other Students	290,244	99.96
Students Receiving Title 1 Services	53,496	18.42
Title 1: All Other Students	236,864	81.58
Plan 504	3,752	1.29
Plan 504: All Other Students	286,608	98.71

Table B-2. 2013–14 NECAP: Summary of Participation by Demographic Category—Reading

Description	*Tested*	
	Number	*Percent*
All Students	289,567	100.00
Male	148,781	51.38
Female	140,649	48.57
Gender Not Reported	137	0.05
Hispanic or Latino	23,188	8.01
American Indian or Alaskan Native	1,604	0.55
Asian	7,018	2.42
Black or African American	10,860	3.75
Native Hawaiian or Pacific Islander	312	0.11
White (non-Hispanic)	239,503	82.71
Two or More Races (non-Hispanic)	6,273	2.17
No Primary Race/Ethnicity Reported	809	0.28

continued

Description	Tested	
	Number	Percent
Currently Receiving LEP Services	8,888	3.07
Former LEP Student – Monitoring Year 1	1,554	0.54
Former LEP Student – Monitoring Year 2	1,256	0.43
LEP: All Other Students	277,869	95.96
Students with an IEP	42,551	14.69
IEP: All Other Students	247,016	85.31
Economically Disadvantaged Students	113,486	39.19
SES: All Other Students	176,081	60.81
Migrant Students	114	0.04
Migrant: All Other Students	289,453	99.96
Students Receiving Title 1 Services	53,981	18.64
Title 1: All Other Students	235,586	81.36
Plan 504	3,753	1.30
Plan 504: All Other Students	285,814	98.70

Table B-3. 2013–14 NECAP: Summary of Participation by Demographic Category—Writing

Description	Tested	
	Number	Percent
All Students	116,094	100.00
Male	59,726	51.45
Female	56,294	48.49
Gender Not Reported	74	0.06
Hispanic or Latino	9,164	7.89
American Indian or Alaskan Native	582	0.50
Asian	2,813	2.42
Black or African American	4,389	3.78
Native Hawaiian or Pacific Islander	141	0.12
White (non-Hispanic)	96,389	83.03
Two or More Races (non-Hispanic)	2,269	1.95
No Primary Race/Ethnicity Reported	347	0.30
Currently Receiving LEP Services	2,968	2.56
Former LEP Student – Monitoring Year 1	543	0.47
Former LEP Student – Monitoring Year 2	590	0.51
LEP: All Other Students	111,993	96.47
Students with an IEP	17,196	14.81
IEP: All Other Students	98,898	85.19
Economically Disadvantaged Students	42,823	36.89
SES: All Other Students	73,271	63.11
Migrant Students	37	0.03
Migrant: All Other Students	116,057	99.97
Students Receiving Title 1 Services	16,868	14.53
Title 1: All Other Students	99,226	85.47
Plan 504	1,587	1.37
Plan 504: All Other Students	114,507	98.63

APPENDIX C—ACCOMMODATION FREQUENCIES BY CONTENT AREA

Table C-1. 2013–14 NECAP: Numbers of Students Tested with and without Accommodations by Content Area and Grade

Content Area	*Grade*	*Number of Students Tested:*	
		with Accommodations	*without Accommodations*
Reading	3	7,982	34,709
	4	8,767	34,557
	5	8,999	33,880
	6	7,859	35,442
	7	7,463	36,359
	8	7,445	36,288
	11	4,386	25,431
Writing	3	8,620	34,175
	4	6,557	37,011
	5	3,735	25,996
	6	8,139	34,680
	7	8,682	34,774
	8	9,183	33,813
	11	7,825	35,583
Mathematics	5	7,589	36,347
	8	7,239	36,573
	11	5,296	24,637

Table C-2. 2013–14 NECAP: Numbers of Students Tested with Accommodations by Accommodation Type and Subject—Mathematics

Accommodation Code	*Grade 3*	*Grade 4*	*Grade 5*	*Grade 6*	*Grade 7*	*Grade 8*	*Grade 11*
mataccomT1	3,746	4,027	4,885	3,978	4,079	3,538	3,532
mataccomT2	163	156	224	190	144	117	47
mataccomT3	3,480	3,681	3,667	2,859	2,595	2,204	776
mataccomT4	156	199	188	166	133	141	40
mataccomS1	5,488	5,784	5,675	4,253	3,745	3,484	2,307
mataccomS2	51	96	44	36	51	46	26
mataccomP1	1,194	1,208	1,198	976	767	627	188
mataccomP2	5,621	6,167	6,237	5,340	5,020	4,858	1,908
mataccomP3	4,586	4,644	4,232	2,993	2,292	1,968	467
mataccomP4	376	471	441	441	554	441	166
mataccomP5	2,591	2,845	2,656	2,194	2,026	1,738	212
mataccomP6	19	24	13	17	25	20	8
mataccomP7	2,701	2,751	2,700	1,901	1,504	1,210	305
mataccomP8	45	49	49	61	38	35	14
mataccomP9	3	4	4	3	3	2	3
mataccomP10	16	27	51	59	78	127	106
mataccomP11	184	184	147	104	76	50	7
mataccomR1	1,715	1,625	1,603	1,011	707	538	64
mataccomR2	23	16	25	33	32	29	8
mataccomR3	348	339	319	218	96	82	11
mataccomR4	37	30	68	77	97	144	30
mataccomR5	117	107	104	104	55	53	19
mataccomR6	19	18	9	11	11	7	4

continued

Accommodation Code	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
mataccomR7	11	23	21	21	37	42	60
mataccomO1	4	3	6	5	6	7	0
mataccomM1	15	13	2	10	50	16	34
mataccomM3	1	1	1	3	6	4	1

Table C-3. 2013–14 NECAP: Numbers of Students Tested with Accommodations by Accommodation Type and Subject—Reading

Accommodation Code	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
reaaccomT1	3,783	4,255	4,803	4,076	4,029	3,841	2,584
reaaccomT2	169	170	211	186	137	115	63
reaaccomT3	3,558	3,705	3,689	2,913	2,646	2,251	765
reaaccomT4	160	202	191	172	132	137	41
reaaccomS1	5,461	5,732	5,594	4,268	3,770	3,569	2,118
reaaccomS2	48	98	47	35	55	39	37
reaaccomP1	1,222	1,225	1,201	987	780	638	196
reaaccomP2	5,530	6,109	6,168	5,385	5,082	4,952	1,940
reaaccomP4	591	742	643	541	610	475	181
reaaccomP5	2,535	2,786	2,653	2,213	2,041	1,717	212
reaaccomP6	17	26	15	14	28	20	7
reaaccomP7	2,673	2,736	2,682	1,894	1,518	1,220	333
reaaccomP8	45	52	46	62	38	36	14
reaaccomP9	3	4	4	3	3	2	3
reaaccomP11	212	239	158	82	77	60	4
reaaccomR1	1,806	2,025	1,944	1,366	988	671	68
reaaccomR2	22	28	31	37	44	37	8
reaaccomR3	351	344	336	217	97	78	11
reaaccomR4	41	39	135	148	248	304	67
reaaccomR5	106	109	110	109	53	48	21
reaaccomR6	17	24	10	13	8	8	2
reaaccomO1	5	2	6	3	6	7	1
reaaccomM2	16	9	4	7	21	10	6
reaaccomM3	3	2	2	3	6	7	2

Table C-4. 2013–14 NECAP: Numbers of Students Tested with Accommodations by Accommodation Type and Subject—Writing

Accommodation Code	Grade 5	Grade 8	Grade 11
wriaccomT1	4,365	3,053	1,825
wriaccomT2	225	96	44
wriaccomT3	3,441	2,023	843
wriaccomT4	208	123	43
wriaccomS1	5,360	3,271	2,057
wriaccomS2	64	43	18
wriaccomP1	1,096	586	199
wriaccomP2	5,946	4,541	1,929
wriaccomP3	3,817	1,861	540
wriaccomP4	430	404	167
wriaccomP5	2,568	1,611	218

continued

Accommodation Code	*Grade 5*	*Grade 8*	*Grade 11*
wriaccomP6	24	19	6
wriaccomP7	2,563	1,131	346
wriaccomP8	56	35	14
wriaccomP9	4	2	3
wriaccomP10	44	73	123
wriaccomP11	147	49	6
wriaccomR3	310	70	13
wriaccomR4	230	361	104
wriaccomR5	95	42	22
wriaccomR6	16	10	3
wriaccomR7	20	33	60
wriaccomO1	3	6	0
wriaccomO2	60	45	21
wriaccomM3	13	3	5

APPENDIX D—TABLE OF STANDARD ACCOMMODATIONS

NECAP Table of Standard Accommodations

Revised August 2009

Any accommodation(s) used for the assessment of an individual student will be the result of a team decision made at the local level. All decisions regarding the use of accommodations must be made on an individual student basis – not for a large group, entire class, or grade level. Accommodations are available to all students on the basis of individual need regardless of disability status and should be consistent with the student's normal routine during instruction and assessment. This table is not intended to be used as a stand-alone document and should always be used in conjunction with the *NECAP Accommodations Guide*.

T. Timing		
Code	Tests were administered	Details on Delivery of Accommodations
T1	with time to complete a session extended beyond the scheduled administration time within the same day.	NECAP tests are not designed to be timed or speeded tests. The scheduled administration time already includes additional time and the vast majority of students complete the test session within that time period. Extended time within a single sitting may be needed by students who are unable to meet time constraints. A test session may be extended until the student can no longer sustain the activity.
T2	so that only a portion of the test session was administered on a particular day.	In rare and severe cases, the extended time accommodation (T1) may not be adequate for a student not able to complete a test session within a single day. A test session may be administered to a student as two or more "mini-sessions" if procedures are followed to maintain test security and ensure that the student only has access to the items administered on that day (see the *NECAP Accommodations Guide* for details).
T3	with short, supervised breaks.	Multiple or frequent breaks may be required by a student whose attention span, distractibility, or physical condition, requires shorter working periods.
T4	at the time of day or day of week that takes into account the student's medical needs or learning style.	Individual scheduling may be used for a student whose school performance is noticeably affected by the time of day or day of the school week on which it is done. This accommodation may not be used specifically to change the order of administration of test sessions. This accommodation must not result in the administration of a test session to an individual student prior to the regularly scheduled administration time for that session for all students.

S. Setting		
Code	Tests were administered	Details on Delivery of Accommodations
S1	in a separate location within the school by trained school personnel.	A student or students may be tested individually or in small groups in an alternative site within the school to reduce distractions for themselves or others, or to increase physical access to special equipment.
S2	in an out-of-school setting by trained school personnel.	Out-of-school testing may be used for a student who is hospitalized or tutored because they are unable to attend school. The test must be administered by trained school personnel familiar with test administration procedures and guidelines. Relatives/guardians of the student may not be used as the test administrator.

P. Presentation		
Code	Tests were administered	Details on Delivery of Accommodations
P1	individually.	Individual or small group testing may be used to minimize distractions for a student or students whose test is administered out of the classroom or so that others will not be distracted by other accommodations being used (e.g., dictation)
P2	in a small group.	
P3	with test and directions read aloud in English or signed to the student. (**NOT allowed for the Reading test.**)	A reader may be used for a student whose inability to read would hinder performance on the Mathematics, Science, or Writing test. Words must be read as written. Guidelines for reading mathematical symbols must be followed. No translations (with the exception of signed language) or explanations are allowed. Trained personnel may use sign language to administer the test.
P4	with only test directions read aloud or signed to the student.	A reader may be used for a student whose inability to read or locate directions would hinder performance on the test. Note that most directions on the NECAP test occur at the beginning of the test session and are already read aloud by the test administrator. Guidelines for what are and are not "test directions" must be followed. With the exception of sign language and the case of students enrolled in a program where the test administrator routinely presents information in a foreign language, directions may not be translated.
P5	with administrator verification of student understanding following the reading of test directions.	After test directions have been read, the test administrator may ask the student to explain what he/she has been asked to do. If directions have been misunderstood by the student, the test directions may be paraphrased or demonstrated. Test items MUST NOT be paraphrased or explained.
P6	using alternative or assistive technology that is part of the student's communication system.	The test may be presented through his/her regular communication system to a student who uses alternative or assistive technology on a daily basis. Technology may not be used to "read" the Reading test to the student.
P7	by trained school personnel known to the student other than the student's classroom teacher.	A student may be more comfortable with a test administrator who works with the student on a regular basis, but is not the student's regular teacher for the general curriculum or other staff assigned as test administrator. All test administrators must be trained school personnel familiar with test administration and accommodations procedures and guidelines.
P8	using a large-print version of assessment.	Both large-print and Braille versions of the assessment require special preparation and processing and must be pre-ordered. Directions for ordering these materials are included in communications sent to school principals prior to the test.
P9	using Braille version of assessment.	
P10	using a word-to-word translation dictionary for ELL students. (**NOT allowed for the Reading test.**)	A student with limited English proficiency may have a word-to-word dictionary available for individual use as needed. A word-to-word dictionary is one that does not include any definitions. Information on acceptable dictionaries is provided on the departments' websites.
P11	using visual or auditory supports.	The test may be presented using visual aids such as visual magnification devices, reduction of visual print by blocking or other techniques, or acetate shields; or auditory devices such as special acoustics, amplification, noise buffers, whisper phones, or calming music.

R. Response		
Code	Tests were administered	Details on Delivery of Accommodations
R1	with a student dictating responses to school personnel. (**NOT allowed for the Writing test.** See O2 – using a scribe for the Writing test.)	A student may dictate answers to constructed-response or short-answer questions to locally trained personnel or record oral answers in an individual setting so that other students will not benefit by hearing answers or be otherwise disturbed. Policies regarding recorded answers must be followed prior to returning test materials.
R2	with a student dictating responses using alternative or assistive technology/devices that are part of the student's communication system. (**NOT allowed for the Writing test.** See O2 – using a scribe for the Writing test.)	Technology is used to permit a student to respond to the test. When using a computer, word processing device, or other assistive technology, spell and grammar checks must be turned off. Policies regarding recorded answers must be followed prior to returning test materials.
R3	with a student using approved tools or devices to minimize distractions.	Noise buffers, place markers, carrels, etc. may be used to minimize distractions for the student. This accommodation does NOT include assistive devices such as templates, graphic organizers, or other devices intended specifically to help students organize thinking or develop a strategy for a specific question.
R4	with a student writing responses using separate paper, a word processer, computer, brailler, or similar device.	A student may use technological or other tools (e.g., large-spaced paper) to write responses to constructed-response, short-answer, and extended response items. A key distinction between this accommodation and R2 is that the student using this accommodation is responding in writing rather than dictating. When using a computer, word processing device, or other assistive technology, spell and grammar checks must be turned off, as well as access to the Web. This accommodation is intended for unique individual needs, not an entire class. Policies regarding recorded answers must be followed prior to returning test materials.
R5	with a student indicating responses to multiple-choice items to school personnel.	A student unable to write or otherwise unable to fill-in answers to multiple-choice questions may indicate a response to trained school personnel. The school personnel records the student's response in the student answer booklet.
R6	with a student responding with the use of visual aids.	Visual aids include any optical or non-optical devices used to enhance visual capability. Examples include magnifiers, special lighting, markers, filters, large-spaced paper, color overlays, etc. An abacus may also be used for student with severe visual impairment or blindness on the Mathematics and Science tests. Note that the use of this accommodation still requires student responses to be recorded in a student answer booklet.
R7	with a student with limited English proficiency responding with use of a word-to-word dictionary. (**NOT allowed for the Reading test.**)	A student with limited English proficiency may have a word-to-word dictionary available for individual use as needed when responding. A word-to-word dictionary is one that does not include any definitions. Information on acceptable dictionaries is provided on each Department's website.

O. Other These accommodations require DOE approval.		
Code	Tests were administered	Details on Delivery of Accommodations
O1	using other accommodation(s) not on this list, requested by the accommodations team.	An IEP team or other appropriate accommodation team may request that a student be provided an accommodation not included on this standard list of accommodations. Like all other accommodations, these should be consistent with the student's normal routine during instruction and/or assessment. Requests should be made to the DOE when accommodation plans are being made for a student prior to testing. DOE approval must be received for the requested accommodation to be coded as an O1 accommodation. Non-approved accommodations used during test administration will be coded as an M3 modification.
O2	with a scribe used on the Writing test.	The use of a scribe for students dictating a response to the Writing test may only be used under limited circumstances and must be approved by the DOE. When approved as an accommodation, the scribe must follow established guidelines and procedures.

M. Modifications All modifications result in impacted items being scored as incorrect.		
Code	Tests were administered	Details on Delivery of Accommodations
M1	using a calculator and/or manipulatives on Session 1 of the Mathematics test or using a scientific or graphing calculator on Session 3 of the Science test	Inappropriate use of a calculator or other tools will result in impacted items being scored as incorrect.
M2	with the test administrator reading the Reading test.	The read aloud accommodation (P3) is not allowed for the Reading test. If it is used, all reading items in the sessions that are read aloud will be scored as incorrect.
M3	using an accommodation on this list not approved for a particular test or an accommodation not included on this list without prior approval of the DOE.	Inappropriate use of an accommodation included on this list or use of another accommodation without prior approval of the DOE will result in impacted items being scored as incorrect.

Note: English Language Learners may qualify for any of the accommodations listed as appropriate and determined by a team. Refer to the *NECAP Accommodations Guide* for additional information.

APPENDIX E—ITEM-LEVEL CLASSICAL STATISTICS

Table E-1. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 3

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
119681	MC	0.88	0.36	1
119685	MC	0.78	0.52	0
119752	MC	0.84	0.41	1
119760	SA	0.69	0.44	1
119770	MC	0.73	0.52	1
119772	MC	0.84	0.34	1
119775	SA	0.67	0.44	1
119829	SA	0.91	0.32	2
119848	MC	0.90	0.39	0
119869	MC	0.48	0.40	5
119873	SA	0.41	0.49	2
119882	MC	0.73	0.42	1
119905	SA	0.83	0.29	0
119907	SA	0.45	0.44	2
119918	SA	0.57	0.58	2
124290	MC	0.83	0.42	1
139603	SA	0.65	0.63	1
139638	MC	0.89	0.21	0
139647	SA	0.66	0.34	1
139673	SA	0.63	0.42	1
144611	SA	0.66	0.43	1
144617	SA	0.85	0.31	1
145040	MC	0.78	0.44	1
145244	MC	0.30	0.34	1
145259	SA	0.33	0.57	1
145503	SA	0.54	0.44	2
145522	MC	0.77	0.32	1
145532	SA	0.75	0.53	1
145691	SA	0.29	0.50	2
145708	MC	0.64	0.49	2

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
145720	MC	0.79	0.53	1
145729	MC	0.43	0.45	2
145750	MC	0.75	0.59	1
145760	MC	0.87	0.48	1
168362	MC	0.62	0.48	1
168364	MC	0.66	0.46	2
168404	MC	0.29	0.20	1
168412	SA	0.21	0.45	1
168613	SA	0.56	0.53	1
168743	MC	0.51	0.42	3
168747	MC	0.58	0.48	3
203024	MC	0.83	0.41	1
203037	MC	0.87	0.36	0
203045	MC	0.63	0.60	1
203189	MC	0.59	0.46	1
251979	MC	0.75	0.53	1
251989	MC	0.86	0.45	0
252009	MC	0.30	0.31	1
252028	SA	0.51	0.37	1
252087	MC	0.72	0.50	2
252091	SA	0.17	0.32	2
252097	MC	0.71	0.60	1
252104	MC	0.63	0.29	4
252106	MC	0.52	0.43	2
252111	MC	0.78	0.43	0

Table E-2. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 4

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
120069	MC	0.85	0.47	0
120087	MC	0.77	0.31	2
120183	MC	0.91	0.40	1
120197	SA	0.59	0.47	1
120209	MC	0.80	0.40	1
120240	SA	0.57	0.47	1
120245	MC	0.76	0.46	1
120253	MC	0.83	0.37	0
120280	SA	0.66	0.56	1
124525	MC	0.88	0.41	0
124545	SA	0.69	0.35	0
124556	MC	0.83	0.43	1
124700	SA	0.58	0.54	1
139432	MC	0.60	0.43	3
139443	MC	0.57	0.48	1
139449	SA	0.55	0.49	1
139468	MC	0.74	0.36	3
139482	SA	0.61	0.47	0
139489	MC	0.46	0.40	2
139509	MC	0.73	0.49	1
144634	MC	0.57	0.44	2
144645	SA	0.38	0.55	1
145070	MC	0.88	0.33	1
145073	SA	0.75	0.43	1
145545	SA	0.77	0.44	1
145766	MC	0.70	0.31	2
145780	MC	0.70	0.43	1
145803	MC	0.82	0.48	1
145814	SA	0.72	0.37	1
145848	MC	0.65	0.35	1

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
168384	MC	0.44	0.47	1
168395	MC	0.72	0.48	1
168410	SA	0.70	0.46	1
168419	SA	0.67	0.56	1
168901	MC	0.76	0.46	0
169090	MC	0.36	0.28	1
169113	SA	0.43	0.62	1
201350	SA	0.45	0.55	1
201352	MC	0.86	0.33	1
201360	MC	0.60	0.46	1
201369	MC	0.67	0.40	1
201375	MC	0.66	0.36	1
201377	MC	0.79	0.49	1
201393	MC	0.81	0.46	1
201423	SA	0.27	0.43	1
252007	MC	0.75	0.41	1
252013	SA	0.36	0.45	3
252019	SA	0.77	0.47	1
252045	MC	0.39	0.41	4
252048	SA	0.55	0.53	1
252054	MC	0.37	0.41	1
252060	SA	0.39	0.46	1
252078	MC	0.55	0.28	1
252095	MC	0.49	0.30	2
252100	MC	0.36	0.49	2

Table E-3. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 5

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
120640	MC	0.84	0.31	0
120680	MC	0.73	0.37	0
120684	MC	0.85	0.34	0
120713	MC	0.34	0.38	1
120759	MC	0.89	0.30	0
120803	MC	0.76	0.52	0
120807	MC	0.55	0.44	1
120822	SA	0.70	0.44	1
121647	SA	0.31	0.54	2
124783	MC	0.85	0.30	0
124881	MC	0.51	0.45	1
124895	SA	0.81	0.43	1
124951	SA	0.55	0.51	1
124961	MC	0.50	0.33	1
139136	SA	0.50	0.56	1
139164	MC	0.63	0.34	0
139324	MC	0.84	0.37	0
139346	SA	0.34	0.43	2
139429	CR	0.32	0.52	1
145293	MC	0.42	0.34	0
145297	SA	0.86	0.30	1
145304	MC	0.52	0.41	0
145305	MC	0.66	0.31	2
145568	MC	0.45	0.24	0
145576	CR	0.41	0.66	1
145888	SA	0.58	0.55	1

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
145937	MC	0.57	0.36	1
145939	MC	0.77	0.39	1
145946	MC	0.73	0.42	0
167682	MC	0.48	0.49	0
167693	MC	0.52	0.52	0
167778	CR	0.53	0.56	1
204217	MC	0.43	0.55	0
204248	MC	0.35	0.48	0
204645	MC	0.72	0.30	0
204694	MC	0.54	0.27	1
204848	SA	0.54	0.51	2
204890	MC	0.79	0.45	0
206553	SA	0.49	0.61	2
217424	SA	0.36	0.56	2
217924	MC	0.55	0.42	0
251995	MC	0.38	0.39	0
252011	MC	0.54	0.54	0
252032	MC	0.42	0.24	1
252600	MC	0.54	0.52	1
252619	SA	0.65	0.41	1
252627	CR	0.40	0.64	1
252659	MC	0.69	0.42	1

Table E-4. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 6

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
119178	MC	0.48	0.42	0
119183	MC	0.70	0.40	1
119186	MC	0.83	0.32	0
119193	MC	0.78	0.32	0
119200	SA	0.67	0.51	1
119267	SA	0.22	0.54	2
119274	MC	0.69	0.41	1
119298	MC	0.74	0.38	0
119309	MC	0.66	0.59	0
119316	MC	0.64	0.52	0
119339	SA	0.69	0.36	1
119351	MC	0.66	0.43	0
119353	MC	0.66	0.38	1
119354	MC	0.44	0.34	0
119364	MC	0.28	0.47	0
122089	CR	0.45	0.64	1
123316	MC	0.93	0.26	0
124994	SA	0.56	0.51	0
125150	CR	0.36	0.63	1
139274	MC	0.61	0.44	0
139306	MC	0.57	0.42	0
139380	SA	0.26	0.50	2
144700	MC	0.68	0.52	1
144703	MC	0.53	0.58	0
144710	MC	0.55	0.38	0
145326	MC	0.52	0.37	0

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
145332	MC	0.46	0.32	1
145627	SA	0.80	0.27	0
145629	SA	0.30	0.48	1
145968	MC	0.73	0.29	0
145995	SA	0.51	0.58	1
167690	MC	0.60	0.36	1
167819	SA	0.56	0.60	2
167946	MC	0.66	0.42	1
167991	MC	0.63	0.37	0
202526	MC	0.46	0.49	1
202550	MC	0.74	0.42	0
202561	SA	0.38	0.66	3
202674	MC	0.78	0.47	1
202701	SA	0.34	0.55	2
252183	MC	0.49	0.31	1
252201	MC	0.64	0.44	0
252237	MC	0.48	0.43	1
252315	MC	0.44	0.16	1
252321	SA	0.40	0.56	1
252334	MC	0.36	0.37	0
252364	CR	0.32	0.54	1
252400	CR	0.34	0.65	1

Table E-5. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 7

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
119398	SA	0.14	0.51	4
120336	SA	0.36	0.64	2
120340	MC	0.71	0.47	1
120344	MC	0.89	0.33	0
120380	MC	0.44	0.38	0
120411	MC	0.90	0.35	0
120450	MC	0.74	0.29	0
120522	MC	0.49	0.45	1
125287	MC	0.51	0.49	1
139923	MC	0.40	0.42	1
139926	MC	0.32	0.34	2
139930	MC	0.66	0.44	0
139980	SA	0.32	0.62	3
140223	CR	0.34	0.71	2
140238	MC	0.59	0.29	1
140259	MC	0.65	0.44	1
144724	MC	0.59	0.46	0
145161	MC	0.19	0.27	0
145166	MC	0.72	0.44	0
145365	SA	0.52	0.50	1
145369	MC	0.44	0.32	1
146128	SA	0.26	0.59	3
146965	SA	0.27	0.39	3
169225	SA	0.62	0.51	1
169401	SA	0.24	0.54	2
169407	MC	0.51	0.38	1
169418	MC	0.30	0.22	0
177604	CR	0.49	0.67	1
177608	SA	0.20	0.49	3
202652	MC	0.59	0.32	0
204397	CR	0.52	0.60	1
204705	CR	0.37	0.67	1
204874	MC	0.82	0.39	0
204939	MC	0.73	0.36	1
204996	MC	0.75	0.32	1
205005	SA	0.33	0.45	2
205013	MC	0.76	0.38	0
205017	MC	0.53	0.35	0
205028	MC	0.48	0.47	0
205037	MC	0.60	0.44	1
252129	MC	0.61	0.34	0
252136	MC	0.48	0.44	1
252145	MC	0.43	0.52	1
252147	SA	0.39	0.42	3
252175	MC	0.46	0.55	1
252263	SA	0.37	0.56	1
252268	MC	0.44	0.46	1
252385	MC	0.48	0.40	0

Table E-6. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 8

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
120887	MC	0.68	0.52	0
120890	SA	0.58	0.52	3
120906	MC	0.49	0.58	0
120912	MC	0.66	0.50	1
120923	MC	0.74	0.52	0
120927	MC	0.62	0.44	1
120933	SA	0.73	0.51	1
120936	SA	0.56	0.66	3
120959	SA	0.41	0.66	3
120987	MC	0.77	0.39	1
121004	MC	0.49	0.30	1
121018	MC	0.86	0.36	0
121083	SA	0.53	0.63	1
122583	SA	0.48	0.40	1
125469	MC	0.39	0.43	1
125580	MC	0.65	0.33	0
139782	MC	0.41	0.23	1
139805	MC	0.29	0.35	1
139813	SA	0.32	0.53	2
144763	CR	0.39	0.73	2
144767	MC	0.54	0.45	0
145179	MC	0.61	0.45	0
145390	SA	0.44	0.60	2
146291	MC	0.58	0.54	0
146358	MC	0.41	0.40	0
146362	MC	0.70	0.38	0

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
146373	MC	0.31	0.52	0
146455	MC	0.46	0.30	1
169228	CR	0.36	0.75	2
169266	SA	0.59	0.54	1
169286	CR	0.33	0.77	2
169375	MC	0.36	0.26	1
169410	MC	0.51	0.37	1
204924	MC	0.50	0.44	0
205079	MC	0.75	0.53	0
205110	MC	0.58	0.54	0
205123	SA	0.28	0.50	2
252285	MC	0.38	0.39	1
252292	SA	0.27	0.47	2
252422	MC	0.67	0.45	1
252432	SA	0.60	0.62	2
252434	MC	0.71	0.23	0
252436	MC	0.30	0.26	1
252438	MC	0.41	0.42	1
252443	MC	0.42	0.30	1
252446	MC	0.65	0.47	0
252522	MC	0.67	0.37	1
252540	CR	0.38	0.63	1

Table E-7. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Mathematics Grade 11

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
119450	MC	0.41	0.58	1
119479	SA	0.18	0.54	7
119498	SA	0.36	0.51	6
119582	SA	0.21	0.45	7
119592	MC	0.46	0.45	1
125753	MC	0.44	0.34	0
140068	MC	0.50	0.42	1
140189	SA	0.22	0.37	12
140196	MC	0.62	0.29	1
141248	MC	0.58	0.44	0
141291	CR	0.34	0.73	8
144787	MC	0.54	0.43	1
144806	MC	0.42	0.22	2
145212	SA	0.45	0.53	5
169503	MC	0.63	0.42	0
169688	MC	0.60	0.35	1
169691	MC	0.48	0.38	1
169704	MC	0.81	0.38	1
169705	SA	0.45	0.59	5
169794	SA	0.43	0.56	7
169800	CR	0.29	0.61	5
178054	SA	0.21	0.53	6
205687	MC	0.58	0.44	1
205791	MC	0.34	0.34	1
205813	SA	0.20	0.66	11

Item		*Difficulty*	*Discrimination*	*Percent Omitted*
Number	*Type*			
205829	MC	0.31	0.43	1
205839	MC	0.67	0.38	1
205844	SA	0.43	0.53	6
205905	MC	0.32	0.44	1
205911	MC	0.54	0.40	1
205985	SA	0.32	0.56	6
206039	MC	0.44	0.35	1
206086	SA	0.41	0.57	5
206318	SA	0.52	0.49	4
210417	SA	0.55	0.57	2
252431	SA	0.29	0.68	10
252435	MC	0.30	0.37	1
252442	SA	0.24	0.54	12
252464	CR	0.22	0.72	9
252506	CR	0.32	0.72	7
252536	MC	0.76	0.35	1
252552	MC	0.65	0.45	0
252699	SA	0.64	0.37	2
252712	SA	0.25	0.64	9
252714	MC	0.25	0.30	1
252719	MC	0.47	0.45	1

Table E-8. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 3

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
117641	MC	0.62	0.53	1
117642	MC	0.69	0.52	1
117643	MC	0.90	0.45	1
117644	MC	0.69	0.38	1
117650	CR	0.60	0.57	1
117665	MC	0.63	0.38	1
117666	MC	0.54	0.35	1
117667	MC	0.57	0.27	1
117668	MC	0.80	0.41	1
117669	CR	0.36	0.57	2
117697	MC	0.85	0.50	0
117699	MC	0.65	0.46	1
117700	MC	0.66	0.52	1
117701	MC	0.52	0.40	2
117702	MC	0.80	0.47	1
117703	MC	0.72	0.55	1
117704	MC	0.68	0.40	1
117705	CR	0.82	0.53	1
117706	CR	0.57	0.65	2
117738	MC	0.87	0.50	1
117740	MC	0.71	0.55	1
117741	MC	0.73	0.52	1
117744	MC	0.73	0.34	0
117745	CR	0.38	0.43	1
128558	MC	0.52	0.40	2
207973	MC	0.83	0.44	0
208000	MC	0.78	0.52	0
252067	MC	0.78	0.47	0
252072	MC	0.66	0.35	1
252074	CR	0.35	0.54	1
252180	MC	0.61	0.41	1
252184	MC	0.70	0.54	0
252233	MC	0.60	0.41	1
252355	MC	0.50	0.28	0

Table E-9. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 4

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
171492	MC	0.92	0.45	1
171503	MC	0.83	0.32	0
171505	MC	0.76	0.46	1
171510	MC	0.88	0.34	1
171519	CR	0.35	0.50	1
208209	MC	0.71	0.52	0
208211	MC	0.73	0.36	1
208227	MC	0.79	0.46	1
208230	MC	0.61	0.37	1
208232	MC	0.84	0.50	0
208238	MC	0.77	0.35	2
208250	MC	0.86	0.46	2
208263	MC	0.71	0.36	1
208272	CR	0.76	0.44	0

continued

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
208276	CR	0.45	0.57	1
208431	MC	0.91	0.38	0
208438	MC	0.59	0.42	0
208473	MC	0.49	0.30	1
208483	MC	0.78	0.54	1
208498	CR	0.33	0.49	1
208748	MC	0.58	0.31	0
208756	MC	0.72	0.35	1
208760	MC	0.77	0.45	1
208763	MC	0.66	0.27	1

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
208776	MC	0.56	0.47	1
208788	MC	0.61	0.34	1
208800	MC	0.67	0.45	1
208802	MC	0.64	0.26	3
208807	CR	0.89	0.48	0
208827	CR	0.52	0.58	1
208863	MC	0.80	0.45	0
252153	MC	0.59	0.41	0
252312	MC	0.35	0.33	1
252392	MC	0.72	0.33	1

Table E-10. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 5

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
148595	MC	0.78	0.46	0
148614	MC	0.71	0.41	1
148616	MC	0.86	0.48	0
148617	MC	0.69	0.43	0
148618	MC	0.87	0.54	1
148631	MC	0.85	0.46	1
148639	MC	0.68	0.40	1
148667	MC	0.71	0.40	1
148680	CR	0.39	0.64	1
148698	CR	0.39	0.65	1
171337	MC	0.87	0.43	0
171347	MC	0.71	0.46	0
171359	MC	0.77	0.41	0
171366	MC	0.87	0.45	1
171371	CR	0.49	0.55	1
171892	MC	0.65	0.40	0
171895	MC	0.84	0.49	0
171913	MC	0.83	0.33	0

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
171914	MC	0.82	0.41	0
171916	MC	0.74	0.30	1
171922	MC	0.88	0.43	1
171924	MC	0.56	0.31	1
171928	MC	0.93	0.43	1
171930	CR	0.37	0.55	1
171934	CR	0.46	0.51	1
172080	MC	0.65	0.39	0
209649	MC	0.62	0.32	0
209655	MC	0.91	0.32	0
209661	MC	0.60	0.43	0
209665	MC	0.80	0.40	1
209679	CR	0.35	0.49	1
252305	MC	0.53	0.20	0
252306	MC	0.58	0.29	0
252589	MC	0.88	0.36	0

Table E-11. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 6

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
171785	MC	0.73	0.37	0
171801	MC	0.90	0.30	0
171807	MC	0.45	0.33	0
171818	MC	0.64	0.39	1
171823	CR	0.43	0.54	1
171853	MC	0.70	0.44	0
171857	MC	0.48	0.20	1
171867	MC	0.86	0.45	0
171868	MC	0.94	0.40	1
171872	MC	0.78	0.44	1
171873	MC	0.95	0.35	1
171882	MC	0.76	0.39	1
171885	MC	0.92	0.44	1
171889	CR	0.42	0.57	1
171893	CR	0.46	0.57	1
208957	MC	0.67	0.37	0
208964	MC	0.87	0.38	0
208998	MC	0.88	0.44	0

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
209000	MC	0.62	0.28	0
209001	MC	0.79	0.39	0
209004	MC	0.75	0.40	0
209006	MC	0.84	0.40	0
209016	MC	0.85	0.45	1
209089	MC	0.70	0.28	1
209090	MC	0.73	0.37	1
209093	CR	0.37	0.58	1
209094	CR	0.37	0.60	1
252652	MC	0.91	0.35	0
252661	MC	0.65	0.31	0
252669	CR	0.48	0.52	0
253000	MC	0.72	0.25	0
253054	MC	0.63	0.35	0
253055	MC	0.87	0.47	0
253059	MC	0.70	0.37	1

Table E-12. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 7

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
147125	MC	0.79	0.45	0
147130	MC	0.65	0.50	0
147132	MC	0.58	0.23	0
147135	MC	0.76	0.44	0
147136	MC	0.68	0.35	0

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
147140	MC	0.68	0.36	1
147141	MC	0.71	0.40	1
147144	MC	0.63	0.41	1
147149	CR	0.43	0.55	0
147153	CR	0.38	0.60	1

continued

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
207539	MC	0.85	0.36	0
207793	MC	0.74	0.44	0
207817	MC	0.74	0.32	0
207819	MC	0.76	0.39	1
207820	MC	0.67	0.39	0
207827	CR	0.45	0.56	1
252445	MC	0.73	0.40	0
252493	MC	0.89	0.42	0
252500	MC	0.60	0.47	1
252503	MC	0.67	0.40	1
252521	MC	0.69	0.35	1
252525	MC	0.72	0.53	1

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
252528	MC	0.73	0.41	1
252533	CR	0.37	0.60	1
252588	MC	0.67	0.23	0
252684	MC	0.86	0.37	1
252686	CR	0.37	0.62	1
252689	MC	0.80	0.52	1
252690	MC	0.80	0.47	0
252722	MC	0.83	0.18	1
252725	CR	0.37	0.59	1
252741	MC	0.94	0.29	0
252742	MC	0.50	0.35	0
252743	MC	0.84	0.39	0

Table E-13. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 8

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
207571	MC	0.76	0.34	0
207576	MC	0.77	0.31	0
207580	MC	0.85	0.28	0
207586	MC	0.83	0.24	0
207600	CR	0.44	0.67	1
252759	MC	0.60	0.36	0
252833	MC	0.81	0.41	0
252836	MC	0.70	0.20	1
252839	MC	0.88	0.28	0
252851	MC	0.59	0.24	1
252857	CR	0.45	0.58	1
252867	MC	0.82	0.41	0
252871	MC	0.53	0.24	1
252874	MC	0.87	0.33	0
252878	CR	0.46	0.66	1

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
252884	MC	0.87	0.20	1
252887	MC	0.71	0.42	1
252889	MC	0.86	0.31	1
252900	MC	0.52	0.35	0
252945	MC	0.77	0.39	0
252958	MC	0.71	0.26	0
252970	CR	0.46	0.66	1
252975	MC	0.58	0.35	1
252978	MC	0.64	0.36	1
253024	MC	0.55	0.30	1
253042	MC	0.59	0.29	1
253046	CR	0.29	0.50	2
253077	MC	0.80	0.34	0
253082	MC	0.83	0.44	0
253087	CR	0.34	0.65	1

continued

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
253088	MC	0.78	0.41	1
253090	MC	0.55	0.31	1

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
253093	MC	0.82	0.43	1
253096	MC	0.64	0.37	1

Table E-14. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Reading Grade 11

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
147900	MC	0.55	0.27	0
208312	MC	0.79	0.30	1
208324	MC	0.52	0.28	1
208423	MC	0.88	0.40	0
208424	MC	0.90	0.31	0
208425	MC	0.88	0.41	0
208426	MC	0.77	0.17	1
208430	MC	0.77	0.33	0
208432	MC	0.95	0.36	0
208434	MC	0.63	0.29	0
208437	MC	0.91	0.39	0
208474	CR	0.60	0.65	1
208476	CR	0.57	0.63	1
252774	MC	0.83	0.44	1
252776	MC	0.83	0.50	1
252780	MC	0.88	0.39	1
252786	MC	0.61	0.32	1
252789	MC	0.69	0.39	1

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
252790	MC	0.69	0.29	1
252794	CR	0.34	0.57	3
252795	MC	0.53	0.25	1
252796	MC	0.78	0.49	1
252797	MC	0.83	0.41	1
252799	MC	0.65	0.30	1
252801	CR	0.37	0.66	4
252865	MC	0.82	0.43	1
252873	MC	0.82	0.52	1
252952	MC	0.64	0.29	1
252961	MC	0.90	0.44	1
252964	CR	0.48	0.66	4
253011	MC	0.87	0.35	1
253016	MC	0.59	0.41	1
253021	CR	0.55	0.68	2
253028	MC	0.64	0.43	1

Table E-15. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Writing Grade 5

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
148046	MC	0.89	0.35	0
148055	MC	0.76	0.30	0
148074	MC	0.85	0.33	0
148130	MC	0.71	0.26	0
148144	MC	0.63	0.36	0
148185	MC	0.54	0.29	0
148260	MC	0.83	0.37	0
148265	MC	0.89	0.34	0
148317	MC	0.78	0.38	1
148337	MC	0.57	0.32	0
150136	CR	0.47	0.55	0
150140	CR	0.42	0.56	1
150209	WP	0.49	0.56	0
150239	CR	0.49	0.57	1

Table E-16. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Writing Grade 8

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
148475	MC	0.64	0.32	0
148558	MC	0.57	0.32	0
148603	MC	0.86	0.32	0
148612	MC	0.48	0.33	1
148666	MC	0.63	0.36	0
148702	MC	0.84	0.36	0
148720	MC	0.63	0.33	0
148755	MC	0.81	0.30	0
148771	MC	0.76	0.33	0
148842	MC	0.72	0.29	0
150441	WP	0.50	0.67	0
150771	CR	0.62	0.68	1
150810	CR	0.63	0.67	0
150834	CR	0.60	0.68	1

Table E-17. 2013–14 NECAP: Item-Level Classical Test Theory Statistics
Writing Grade 11

Item		Difficulty	Discrimination	Percent Omitted
Number	Type			
248813	WP	0.58		

APPENDIX F—ITEM-LEVEL SCORE POINT DISTRIBUTIONS

Table F-1. 2013–14 NECAP: Item-Level Score Distributions for Constructed Response Items—Mathematics

Grade	Item Number	Total Possible Points	Percent of Students at Score Point				
			0	1	2	3	4
3	119760	1	30.17	68.70			
	119775	1	31.57	67.17			
	119829	1	7.53	90.89			
	119873	1	57.41	40.61			
	119905	1	16.40	83.10			
	119907	2	38.43	29.34	30.37		
	119918	2	35.39	11.15	51.44		
	139603	2	19.05	29.62	50.07		
	139647	1	33.53	65.61			
	139673	2	9.51	52.23	37.37		
	144611	1	32.32	66.30			
	144617	1	14.65	84.56			
	145259	2	51.22	29.69	17.68		
	145503	2	34.51	18.36	45.06		
	145532	2	5.28	36.87	56.68		
	145691	2	57.38	23.08	17.40		
	168412	2	68.04	19.51	11.31		
	168613	2	24.62	38.02	36.65		
	252028	1	48.29	51.05			
	252091	1	80.86	17.40			
4	120197	1	39.99	59.21			
	120240	1	41.28	57.42			
	120280	1	32.79	66.39			
	124545	2	18.05	25.29	56.21		
	124700	2	7.77	66.75	24.56		
	139449	1	44.30	54.79			
	139482	2	20.36	37.36	41.91		
	144645	2	56.98	8.17	33.66		
	145073	1	24.38	74.84			
	145545	1	21.82	76.78			
	145814	1	26.74	72.32			
	168410	1	28.80	69.74			
	168419	2	21.12	23.07	55.20		
	169113	2	37.02	37.34	24.44		
	201350	2	34.87	38.01	26.43		
	201423	2	66.11	11.72	20.69		
	252013	1	60.05	36.46			
	252019	1	21.69	77.28			
	252048	2	18.86	51.13	29.46		
	252060	2	43.92	32.64	22.61		
5	120822	1	29.64	69.83			
	121647	2	55.59	24.09	18.58		
	124895	1	18.85	80.53			
	124951	2	34.41	19.14	45.25		
	139136	1	48.79	50.25			
	139346	1	64.10	34.16			

continued

Grade	Item Number	Total Possible Points	Percent of Students at Score Point				
			0	1	2	3	4
5	139429	4	32.02	28.25	21.53	10.45	6.71
	145297	1	13.19	86.28			
	145576	4	27.51	16.92	30.19	10.51	13.87
	145888	2	29.19	23.34	46.61		
	167778	4	12.08	17.10	30.27	26.32	13.43
	204848	2	18.09	51.63	28.27		
	206553	2	30.12	38.29	29.59		
	217424	2	44.47	34.56	18.53		
	252619	1	34.60	64.58			
	252627	4	13.66	38.28	31.10	4.77	11.06
6	119200	1	31.82	67.45			
	119267	2	71.70	9.03	17.40		
	119339	2	16.36	28.81	54.24		
	122089	4	25.32	18.41	21.79	14.90	18.38
	124994	1	43.44	56.12			
	125150	4	24.01	18.22	45.93	8.80	2.15
	139380	2	55.10	32.94	9.99		
	145627	1	19.39	80.23			
	145629	1	69.47	29.84			
	145995	1	48.65	50.62			
	167819	2	31.37	21.10	45.54		
	202561	2	52.97	12.61	31.90		
	202701	2	44.38	39.50	14.48		
	252321	1	59.03	40.09			
	252364	4	26.35	43.26	9.54	13.59	6.28
	252400	4	41.27	10.22	30.08	4.04	13.23
7	119398	2	81.22	2.08	12.89		
	120336	2	49.43	24.74	23.75		
	139980	2	51.82	26.20	19.15		
	140223	4	39.83	19.49	15.58	10.00	13.46
	145365	1	47.03	52.15			
	146128	2	57.83	26.44	13.16		
	146965	1	70.65	26.72			
	169225	1	36.17	62.49			
	169401	1	74.37	23.87			
	177604	4	23.91	15.60	20.30	16.81	22.19
	177608	2	62.96	27.83	5.99		
	204397	4	17.32	22.55	15.76	20.26	23.39
	204705	4	27.80	25.03	23.39	12.00	10.37
	205005	1	65.47	33.02			
	252147	1	58.01	39.32			
	252263	2	49.18	24.70	25.11		
8	120890	2	25.04	27.75	44.44		
	120933	1	26.40	72.53			
	120936	2	34.61	12.72	49.45		
	120959	2	44.15	24.17	28.70		
	121083	1	45.49	53.39			
	122583	2	12.13	77.66	9.49		
	139813	2	51.35	29.11	17.07		

continued

Grade	Item Number	Total Possible Points	Percent of Students at Score Point				
			0	1	2	3	4
8	144763	4	37.79	12.96	17.37	11.75	18.23
	145390	1	54.38	43.80			
	169228	4	31.32	30.35	10.34	10.68	15.59
	169266	1	40.34	58.52			
	169286	4	36.31	23.46	19.51	5.54	13.45
	205123	1	70.04	28.27			
	252292	1	70.97	27.04			
	252432	2	27.75	21.14	49.07		
	252540	4	25.70	29.21	14.32	23.42	6.01
11	119479	2	70.97	9.53	12.84		
	119498	1	58.36	35.61			
	119582	1	72.12	21.37			
	140189	1	66.42	21.52			
	141291	4	36.04	6.22	32.06	4.93	12.89
	145212	1	49.77	45.48			
	169705	1	49.99	44.99			
	169794	2	27.86	44.25	20.99		
	169800	4	21.65	48.64	11.91	8.01	4.54
	178054	1	72.54	21.41			
	205813	2	57.81	24.15	7.54		
	205844	1	51.13	43.06			
	205985	1	62.65	31.69			
	206086	1	54.03	40.82			
	206318	1	43.93	52.18			
	210417	1	42.67	55.02			
	252431	2	50.92	21.49	17.92		
	252442	2	58.25	11.87	18.11		
	252464	4	47.93	16.21	17.16	2.23	7.90
	252506	4	39.77	20.96	8.55	8.70	15.47
	252699	1	34.56	63.68			
	252712	2	49.07	34.43	7.90		

Table F-2. 2013–14 NECAP: Item-Level Score Distributions for Constructed Response Items—Reading

Grade	Item Number	Total Possible Points	Percent of Students at Score Point				
			0	1	2	3	4
3	117650	4	7.30	21.62	21.07	21.94	27.25
	117669	4	19.39	31.09	32.73	10.66	4.16
	117705	4	1.09	5.36	13.68	20.42	58.82
	117706	4	24.28	10.82	11.33	10.54	40.97
	117745	4	6.99	49.72	29.41	9.43	3.46
	252074	4	12.42	42.46	35.70	7.07	0.94
4	171519	4	17.12	37.36	34.01	9.53	1.39
	208272	4	0.75	7.53	22.86	24.58	43.83
	208276	4	5.94	32.21	40.16	17.48	3.43
	208498	4	17.99	42.08	30.50	7.70	1.10
	208807	4	0.63	3.41	7.54	15.16	72.86
	208827	4	11.22	15.19	38.39	19.81	14.65

continued

Grade	Item Number	Total Possible Points	Percent of Students at Score Point				
			0	1	2	3	4
5	148680	4	11.46	36.18	38.06	10.99	2.28
	148698	4	9.78	34.37	42.05	10.84	1.71
	171371	4	4.34	26.76	42.36	18.21	7.35
	171930	4	16.51	30.46	39.54	9.67	2.71
	171934	4	6.54	30.28	39.97	16.23	6.11
	209679	4	19.87	34.20	32.05	10.66	2.56
6	171823	4	4.78	36.69	41.87	12.89	3.24
	171889	4	4.30	39.31	40.55	11.89	2.86
	171893	4	7.17	27.73	40.28	18.60	5.26
	209093	4	15.74	36.54	33.85	10.54	2.57
	209094	4	9.30	44.57	33.94	9.36	1.82
	252669	4	5.50	30.88	35.69	19.86	7.65
7	147149	4	9.62	33.54	34.58	16.99	4.78
	147153	4	17.40	30.51	35.22	13.22	2.74
	207827	4	11.01	25.44	38.02	19.68	5.07
	252533	4	14.06	37.48	35.12	10.31	1.93
	252686	4	15.82	34.45	36.55	10.43	1.82
	252725	4	20.47	30.47	30.57	13.89	3.81
8	207600	4	13.32	27.75	32.35	19.34	6.45
	252857	4	7.11	29.31	40.93	18.02	4.07
	252878	4	5.24	32.81	38.31	17.93	4.72
	252970	4	7.93	30.74	33.79	20.81	5.97
	253046	4	35.11	26.04	23.40	10.86	2.89
	253087	4	23.48	30.96	31.78	9.81	3.00
11	208474	4	2.33	11.72	35.30	39.37	10.26
	208476	4	2.27	17.67	39.49	28.68	10.90
	252794	4	21.41	33.49	29.12	11.30	2.14
	252801	4	20.99	27.36	29.73	13.81	4.48
	252964	4	8.16	21.44	37.30	22.45	6.99
	253021	4	2.72	18.42	38.91	29.75	8.38

Table F-3. Item-Level Score Distributions for Constructed–Response Items by Grade—Writing

Grade	*Item Number*	*Total Possible Points*	*Percent of Students at Score Point*												
			0	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
5	150136	4	3.76	26.75	49.11	15.89	4.13								
	150140	4	5.48	35.64	43.16	12.43	2.48								
	150209	12	8.77		2.45	2.11	9.52	8.63	26.09	14.32	17.48	6.90	3.03	0.30	0.05
	150239	4	4.13	21.41	48.90	21.79	3.26								
8	150441	12	1.85		4.19	4.37	11.94	11.13	24.72	14.87	16.85	6.45	2.94	0.19	0.08
	150771	4	1.42	10.84	37.52	38.05	11.52								
	150810	4	1.39	8.72	38.01	37.96	13.43								
	150834	4	2.94	12.33	32.69	40.38	10.65								
11	248813	12	0.39		2.05	1.53	8.79	7.02	22.03	13.32	24.52	11.58	7.97	0.67	0.15

APPENDIX G—DIFFERENTIAL ITEM FUNCTIONING RESULTS

Table G-1. 2013–14 NECAP: Number of Items Classified as "Low" or "High" DIF Overall and by Grade and Group Favored—Mathematics

Grade	*Group*		*Item Type*	*Number of Items*	*Number "Low"*			*Number "High"*		
	Reference	*Focal*			*Total*	*Favoring*		*Total*	*Favoring*	
						Reference	*Focal*		*Reference*	*Focal*
3	Male	Female	MC	35	2	2	0	0	0	0
			SA	20	2	1	1	0	0	0
	No Disability	Disability	MC	35	3	3	0	0	0	0
			SA	20	1	0	1	0	0	0
	Non-EconDis	EconDis	MC	35	0	0	0	0	0	0
			SA	20	0	0	0	0	0	0
	Non-LEP	LEP	MC	35	6	5	1	1	1	0
			SA	20	3	2	1	0	0	0
	White	Asian	MC	35	6	4	2	2	2	0
			SA	20	1	0	1	0	0	0
		Black	MC	35	3	2	1	1	1	0
			SA	20	0	0	0	0	0	0
		Hispanic	MC	35	7	6	1	0	0	0
			SA	20	1	1	0	0	0	0
4	Male	Female	MC	35	2	0	2	1	1	0
			SA	20	2	2	0	0	0	0
	No Disability	Disability	MC	35	3	3	0	0	0	0
			SA	20	0	0	0	0	0	0
	Non-EconDis	EconDis	MC	35	2	2	0	0	0	0
			SA	20	0	0	0	0	0	0
	Non-LEP	LEP	MC	35	1	0	1	2	2	0
			SA	20	1	1	0	0	0	0
	White	Asian	MC	35	4	1	3	1	1	0
			SA	20	2	0	2	0	0	0
		Black	MC	35	4	3	1	0	0	0
			SA	20	4	3	1	0	0	0
		Hispanic	MC	35	3	1	2	2	2	0
			SA	20	2	2	0	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
5	Male	Female	CR	4	0	0	0	0	0	0
			MC	32	1	1	0	2	2	0
			SA	12	0	0	0	0	0	0
	No Disability	Disability	CR	4	0	0	0	0	0	0
			MC	32	3	3	0	0	0	0
			SA	12	0	0	0	0	0	0
	Non-EconDis	EconDis	CR	4	0	0	0	0	0	0
			MC	32	0	0	0	0	0	0
			SA	12	0	0	0	0	0	0
	Non-LEP	LEP	CR	4	0	0	0	0	0	0
			MC	32	1	1	0	0	0	0
			SA	12	2	2	0	0	0	0
	White	Asian	CR	4	0	0	0	0	0	0
			MC	32	3	2	1	0	0	0
			SA	12	3	1	2	0	0	0
		Black	CR	4	0	0	0	0	0	0
			MC	32	3	1	2	0	0	0
			SA	12	0	0	0	0	0	0
		Hispanic	CR	4	0	0	0	0	0	0
			MC	32	4	3	1	0	0	0
			SA	12	2	2	0	0	0	0
6	Male	Female	CR	4	0	0	0	0	0	0
			MC	32	4	3	1	0	0	0
			SA	12	0	0	0	0	0	0
	No Disability	Disability	CR	4	0	0	0	0	0	0
			MC	32	1	1	0	0	0	0
			SA	12	0	0	0	0	0	0
	Non-EconDis	EconDis	CR	4	0	0	0	0	0	0
			MC	32	0	0	0	0	0	0
			SA	12	0	0	0	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
6	Non-LEP	LEP	CR	4	0	0	0	0	0	0
			MC	32	3	3	0	0	0	0
			SA	12	0	0	0	1	1	0
	White	Asian	CR	4	0	0	0	0	0	0
			MC	32	1	1	0	0	0	0
			SA	12	2	1	1	0	0	0
		Black	CR	4	0	0	0	0	0	0
			MC	32	2	2	0	1	1	0
			SA	12	1	1	0	1	1	0
		Hispanic	CR	4	0	0	0	0	0	0
			MC	32	2	2	0	0	0	0
			SA	12	1	1	0	1	1	0
7	Male	Female	CR	4	2	0	2	0	0	0
			MC	32	6	4	2	0	0	0
			SA	12	0	0	0	0	0	0
	No Disability	Disability	CR	4	2	2	0	0	0	0
			MC	32	2	2	0	0	0	0
			SA	12	0	0	0	0	0	0
	Non-EconDis	EconDis	CR	4	0	0	0	0	0	0
			MC	32	0	0	0	0	0	0
			SA	12	0	0	0	0	0	0
	Non-LEP	LEP	CR	4	0	0	0	0	0	0
			MC	32	6	4	2	1	1	0
			SA	12	3	2	1	0	0	0
	White	Asian	CR	4	0	0	0	0	0	0
			MC	32	3	2	1	0	0	0
			SA	12	2	1	1	0	0	0
		Black	CR	4	0	0	0	0	0	0
			MC	32	2	1	1	0	0	0
			SA	12	2	1	1	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
7	White	Hispanic	CR	4	1	1	0	0	0	0
			MC	32	4	2	2	0	0	0
			SA	12	4	3	1	0	0	0
8	Male	Female	CR	4	0	0	0	0	0	0
			MC	32	6	4	2	0	0	0
			SA	12	3	1	2	0	0	0
	No Disability	Disability	CR	4	0	0	0	0	0	0
			MC	32	2	1	1	0	0	0
			SA	12	1	1	0	0	0	0
	Non-EconDis	EconDis	CR	4	0	0	0	0	0	0
			MC	32	0	0	0	0	0	0
			SA	12	0	0	0	0	0	0
	Non-LEP	LEP	CR	4	0	0	0	0	0	0
			MC	32	2	1	1	0	0	0
			SA	12	2	2	0	0	0	0
	White	Asian	CR	4	0	0	0	0	0	0
			MC	32	1	0	1	0	0	0
			SA	12	1	1	0	0	0	0
		Black	CR	4	0	0	0	0	0	0
			MC	32	2	0	2	0	0	0
			SA	12	2	2	0	0	0	0
		Hispanic	CR	4	0	0	0	0	0	0
			MC	32	3	1	2	0	0	0
			SA	12	0	0	0	0	0	0
11	Male	Female	CR	4	0	0	0	0	0	0
			MC	24	4	4	0	0	0	0
			SA	18	4	1	3	1	1	0
	No Disability	Disability	CR	4	0	0	0	0	0	0
			MC	24	0	0	0	0	0	0
			SA	18	3	3	0	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
11	Non-EconDis	EconDis	CR	4	0	0	0	0	0	0
			MC	24	0	0	0	0	0	0
			SA	18	0	0	0	0	0	0
	Non-LEP	LEP	CR	4	0	0	0	1	1	0
			MC	24	9	3	6	1	0	1
			SA	18	2	2	0	5	4	1
	White	Asian	CR	4	0	0	0	0	0	0
			MC	24	3	1	2	0	0	0
			SA	18	6	3	3	0	0	0
		Black	CR	4	0	0	0	0	0	0
			MC	24	1	1	0	0	0	0
			SA	18	2	2	0	0	0	0
		Hispanic	CR	4	0	0	0	0	0	0
			MC	24	2	1	1	0	0	0
			SA	18	1	1	0	0	0	0

Table G-2. 2013–14 NECAP: Number of Items Classified as "Low" or "High" DIF Overall and by Grade and Group Favored—Reading

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
3	Male	Female	CR	6	1	1	0	0	0	0
			MC	28	1	0	1	0	0	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	3	3	0	0	0	0
	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	0	0	0	0	0	0
	Non-LEP	LEP	CR	6	1	1	0	0	0	0
			MC	28	5	5	0	1	1	0
	White	Asian	CR	6	0	0	0	0	0	0
			MC	28	5	4	1	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
3	White	Black	CR	6	0	0	0	0	0	0
			MC	28	5	5	0	0	0	0
		Hispanic	CR	6	1	1	0	0	0	0
			MC	28	6	5	1	0	0	0
4	Male	Female	CR	6	0	0	0	0	0	0
			MC	28	1	1	0	1	1	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	6	6	0	0	0	0
	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	1	1	0	0	0	0
	Non-LEP	LEP	CR	6	0	0	0	0	0	0
			MC	28	4	4	0	2	2	0
	White	Asian	CR	6	0	0	0	0	0	0
			MC	28	3	2	1	0	0	0
		Black	CR	6	0	0	0	0	0	0
			MC	28	2	2	0	1	1	0
		Hispanic	CR	6	0	0	0	0	0	0
			MC	28	5	4	1	1	1	0
5	Male	Female	CR	6	0	0	0	0	0	0
			MC	28	0	0	0	0	0	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	7	7	0	0	0	0
	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	1	1	0	0	0	0
	Non-LEP	LEP	CR	6	1	0	1	0	0	0
			MC	28	7	7	0	4	4	0
	White	Asian	CR	6	0	0	0	0	0	0
			MC	28	3	3	0	0	0	0
		Black	CR	6	1	0	1	0	0	0
			MC	28	9	9	0	0	0	0
		Hispanic	CR	6	0	0	0	0	0	0
			MC	28	6	6	0	1	1	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
					Total	Favoring		Total	Favoring	
	Reference	Focal				Reference	Focal		Reference	Focal
6	Male	Female	CR	6	1	0	1	0	0	0
			MC	28	0	0	0	0	0	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	8	8	0	0	0	0
	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	2	2	0	0	0	0
	Non-LEP	LEP	CR	6	0	0	0	0	0	0
			MC	28	9	9	0	5	5	0
	White	Asian	CR	6	0	0	0	0	0	0
			MC	28	6	4	2	0	0	0
	White	Black	CR	6	0	0	0	0	0	0
			MC	28	4	4	0	2	2	0
	White	Hispanic	CR	6	0	0	0	0	0	0
			MC	28	5	5	0	1	1	0
7	Male	Female	CR	6	3	0	3	0	0	0
			MC	28	6	6	0	1	1	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	4	4	0	0	0	0
	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	2	2	0	0	0	0
	Non-LEP	LEP	CR	6	1	0	1	0	0	0
			MC	28	4	4	0	9	9	0
	White	Asian	CR	6	0	0	0	0	0	0
			MC	28	3	3	0	0	0	0
	White	Black	CR	6	0	0	0	0	0	0
			MC	28	2	2	0	4	4	0
	White	Hispanic	CR	6	0	0	0	0	0	0
			MC	28	6	6	0	3	3	0
8	Male	Female	CR	6	3	0	3	0	0	0
			MC	28	4	4	0	1	1	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	4	4	0	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
8	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	2	2	0	0	0	0
	Non-LEP	LEP	CR	6	1	0	1	0	0	0
			MC	28	6	6	0	6	6	0
	White	Asian	CR	6	2	0	2	0	0	0
			MC	28	6	6	0	1	1	0
	White	Black	CR	6	0	0	0	0	0	0
			MC	28	6	6	0	3	3	0
	White	Hispanic	CR	6	0	0	0	0	0	0
			MC	28	10	10	0	1	1	0
11	Male	Female	CR	6	3	0	3	0	0	0
			MC	28	6	6	0	0	0	0
	No Disability	Disability	CR	6	0	0	0	0	0	0
			MC	28	5	5	0	0	0	0
	Non-EconDis	EconDis	CR	6	0	0	0	0	0	0
			MC	28	5	5	0	0	0	0
	Non-LEP	LEP	CR	6	3	1	2	0	0	0
			MC	28	7	6	1	9	9	0
	White	Asian	CR	6	2	0	2	0	0	0
			MC	28	8	8	0	0	0	0
	White	Black	CR	6	2	0	2	0	0	0
			MC	28	8	8	0	2	2	0
	White	Hispanic	CR	6	2	0	2	0	0	0
			MC	28	5	5	0	4	4	0

Table G-3. 2013–14 NECAP: Number of Items Classified as "Low" or "High" DIF Overall and by Grade and Group Favored—Writing

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
					Total	Favoring		Total	Favoring	
	Reference	Focal				Reference	Focal		Reference	Focal
5	Male	Female	CR	3	0	0	0	0	0	0
			MC	10	2	1	1	0	0	0
			WP	1	0	0	0	0	0	0
	No Disability	Disability	CR	3	0	0	0	0	0	0
			MC	10	7	7	0	1	1	0
			WP	1	1	1	0	0	0	0
	Non-EconDis	EconDis	CR	3	0	0	0	0	0	0
			MC	10	2	2	0	0	0	0
			WP	1	0	0	0	0	0	0
	Non-LEP	LEP	CR	3	0	0	0	0	0	0
			MC	10	3	3	0	3	3	0
			WP	1	0	0	0	0	0	0
	White	Asian	CR	3	0	0	0	0	0	0
			MC	10	0	0	0	1	0	1
			WP	1	0	0	0	0	0	0
	White	Black	CR	3	0	0	0	0	0	0
			MC	10	4	4	0	0	0	0
			WP	1	0	0	0	0	0	0
	White	Hispanic	CR	3	0	0	0	0	0	0
			MC	10	3	3	0	1	1	0
			WP	1	0	0	0	0	0	0
8	Male	Female	CR	3	0	0	0	0	0	0
			MC	10	3	2	1	0	0	0
			WP	1	0	0	0	0	0	0
	No Disability	Disability	CR	3	0	0	0	0	0	0
			MC	10	6	6	0	2	2	0
			WP	1	1	1	0	0	0	0
	Non-EconDis	EconDis	CR	3	0	0	0	0	0	0
			MC	10	2	2	0	0	0	0
			WP	1	0	0	0	0	0	0

continued

Grade	Group		Item Type	Number of Items	Number "Low"			Number "High"		
	Reference	Focal			Total	Favoring		Total	Favoring	
						Reference	Focal		Reference	Focal
8	Non-LEP	LEP	CR	3	0	0	0	0	0	0
			MC	10	0	0	0	5	5	0
			WP	1	0	0	0	0	0	0
	White	Asian	CR	3	0	0	0	0	0	0
			MC	10	3	1	2	1	1	0
			WP	1	0	0	0	0	0	0
	White	Black	CR	3	0	0	0	0	0	0
			MC	10	1	1	0	4	4	0
			WP	1	0	0	0	0	0	0
	White	Hispanic	CR	3	0	0	0	0	0	0
			MC	10	2	2	0	3	3	0
			WP	1	0	0	0	0	0	0
11	Male	Female	WP	1	1	0	1	0	0	0
	No Disability	Disability	WP	1	0	0	0	1	1	0
	Non-EconDis	EconDis	WP	1	1	1	0	0	0	0
	Non-LEP	LEP	WP	1	0	0	0	1	1	0
	White	Asian	WP	1	0	0	0	0	0	0
	White	Black	WP	1	0	0	0	0	0	0
	White	Hispanic	WP	1	0	0	0	0	0	0

APPENDIX H—ITEM RESPONSE THEORY CALIBRATION RESULTS

Table H-1. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 3

IREF	*Parameters and Measures of Standard Error*					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
251989	1.29796	0.02627	-1.00286	0.02495	0.34522	0.01264
252111	0.70526	0.00881	-1.34846	0.01547	0.00000	0.00000
119772	0.56636	0.00852	-1.98791	0.02616	0.00000	0.00000
145040	0.80978	0.01492	-1.07675	0.03491	0.11666	0.01650
203045	1.35742	0.01863	-0.24648	0.00995	0.07378	0.00504
119752	0.73341	0.00964	-1.68957	0.01817	0.00000	0.00000
203024	0.76857	0.01531	-1.40082	0.04674	0.13619	0.02228
145708	0.93927	0.01613	-0.29102	0.01920	0.12512	0.00869
145729	1.12281	0.02019	0.58506	0.01095	0.12170	0.00448
139638	0.40118	0.00000	-3.29118	0.06454	0.00000	0.00000
119685	0.96948	0.01367	-1.06321	0.01887	0.03549	0.00934
203037	0.67077	0.00968	-2.02338	0.02357	0.00000	0.00000
145522	0.49204	0.01036	-1.52016	0.06755	0.06197	0.02410
119869	0.91709	0.01957	0.52654	0.01620	0.17623	0.00632
145244	1.15156	0.02462	1.12424	0.01124	0.12050	0.00347
145750	1.52391	0.02281	-0.64139	0.01198	0.13176	0.00709
252104	0.42738	0.01444	-0.48685	0.09420	0.12494	0.02645
252087	1.09098	0.01927	-0.49235	0.01979	0.20581	0.00950
168362	1.05629	0.01928	-0.05444	0.01690	0.19646	0.00750
251979	1.21921	0.02003	-0.61624	0.01707	0.17724	0.00901
119770	0.94047	0.01381	-0.79846	0.01893	0.04739	0.00915
168743	0.77692	0.01573	0.26290	0.01979	0.10902	0.00780
119848	0.89519	0.01427	-2.00050	0.03011	0.03902	0.01562
145720	1.20484	0.01964	-0.84083	0.01862	0.15758	0.01028
124290	0.84243	0.01656	-1.24859	0.04015	0.17156	0.01931

IREF	*Parameters and Measures of Standard Error*					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252106	0.85118	0.01726	0.27972	0.01856	0.14709	0.00742
252097	1.44001	0.02079	-0.51604	0.01146	0.10875	0.00643
203189	1.02508	0.01965	0.09499	0.01696	0.20651	0.00721
252009	0.80707	0.02076	1.27822	0.01630	0.10639	0.00471
119681	0.72358	0.01386	-1.95364	0.05439	0.08620	0.02765
145760	1.09828	0.01827	-1.49898	0.02577	0.08995	0.01552
119882	0.82155	0.01725	-0.58378	0.03326	0.22482	0.01353
168747	0.99390	0.01754	0.01428	0.01614	0.14406	0.00712
168404	1.24835	0.03716	1.54878	0.01527	0.19687	0.00329
168364	0.71137	0.01114	-0.62100	0.02321	0.03067	0.00940
119829	0.66241	0.01075	-2.48771	0.03130	0.00000	0.00000
119760	0.65567	0.00794	-0.85391	0.01276	0.00000	0.00000
119775	0.65836	0.00791	-0.77237	0.01224	0.00000	0.00000
252091	0.66460	0.01005	1.72932	0.02097	0.00000	0.00000
252028	0.50256	0.00690	-0.02314	0.01227	0.00000	0.00000
119905	0.46564	0.00793	-2.25338	0.03494	0.00000	0.00000
144611	0.62171	0.00766	-0.75828	0.01275	0.00000	0.00000
139647	0.45044	0.00675	-0.92817	0.01822	0.00000	0.00000
119873	0.82555	0.00910	0.42010	0.00842	0.00000	0.00000
144617	0.51775	0.00839	-2.21198	0.03160	0.00000	0.00000

Table H-2. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 3

IREF	Parameters and Measures of Standard Error									
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*
119907	0.56824	0.00414	0.26335	0.00977	0.76149	0.01116	-0.76149	0.01161	0	0
119918	0.93192	0.00783	-0.21867	0.00699	0.21452	0.0076	-0.21452	0.00732	0	0
139603	0.96703	0.00676	-0.5838	0.0065	0.63052	0.00878	-0.63052	0.0071	0	0
139673	0.53815	0.00335	-0.97767	0.01068	1.705	0.01802	-1.705	0.01179	0	0
145259	1.01132	0.00709	0.74122	0.00628	0.60372	0.00688	-0.60372	0.00842	0	0
145503	0.57363	0.00484	-0.18544	0.01002	0.46689	0.01124	-0.46689	0.01084	0	0
145532	0.77457	0.00561	-1.41115	0.00859	1.18503	0.01617	-1.18503	0.00858	0	0
145691	0.8602	0.00658	0.94983	0.00776	0.52953	0.00785	-0.52953	0.00966	0	0
168412	0.83448	0.00688	1.36924	0.00924	0.55944	0.00841	-0.55944	0.01158	0	0
168613	0.73211	0.00484	-0.24854	0.00774	0.86304	0.01011	-0.86304	0.00905	0	0

Table H-3. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 4

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
120069	0.85942	0.01199	-1.62578	0.02279	0.02552	0.00977
145803	0.87082	0.01419	-1.32608	0.02876	0.08016	0.01384
252007	0.56817	0.00727	-1.32851	0.01759	0.00000	0.00000
144634	0.81969	0.01582	0.16115	0.02023	0.16406	0.00763
139443	1.02156	0.01784	0.14427	0.01520	0.17553	0.00627
145780	0.69894	0.01431	-0.58202	0.03613	0.17205	0.01339
252045	0.79227	0.01536	0.79295	0.01468	0.08467	0.00505
168384	0.97239	0.01656	0.53967	0.01233	0.10149	0.00470
139432	0.65565	0.01281	-0.21946	0.02922	0.09580	0.01063
124525	0.75196	0.00996	-2.01676	0.02010	0.00000	0.00000
120253	0.58630	0.01231	-1.71919	0.06725	0.10100	0.02694
139468	0.47973	0.00675	-1.47575	0.02172	0.00000	0.00000
168901	0.71980	0.01152	-1.14003	0.03014	0.04752	0.01264
201393	0.79184	0.01411	-1.28603	0.03571	0.11238	0.01619
145766	0.44501	0.01383	-0.81299	0.09649	0.17320	0.02661

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
169090	1.00893	0.02633	1.37957	0.01522	0.20562	0.00408
120209	0.67555	0.01414	-1.25806	0.05111	0.16261	0.02029
120087	0.41966	0.00972	-1.72532	0.09208	0.07405	0.02851
120245	0.70127	0.01162	-1.15500	0.03285	0.05375	0.01370
145848	0.44485	0.00627	-0.90548	0.01785	0.00000	0.00000
252100	1.36090	0.02160	0.79241	0.00827	0.08538	0.00294
252095	0.51901	0.01661	0.76934	0.03856	0.18423	0.01116
145070	0.54856	0.00850	-2.48023	0.03208	0.00000	0.00000
201360	0.84843	0.01554	-0.00599	0.02005	0.15665	0.00786
124556	0.76891	0.01486	-1.36312	0.04273	0.15559	0.01881
168395	0.90665	0.01646	-0.52015	0.02429	0.20319	0.01014
120183	0.90734	0.01746	-2.07331	0.04496	0.11975	0.02499
201352	0.55804	0.01364	-2.06290	0.09862	0.15684	0.03842
201369	0.55654	0.01135	-0.70089	0.04383	0.06769	0.01527
252078	0.38664	0.01415	0.12989	0.08450	0.12814	0.02111

continued

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
252054	0.87927	0.01697	0.89000	0.01323	0.09778	0.00448
201377	1.06256	0.01900	-0.78728	0.02308	0.23973	0.01060
139509	0.81436	0.01337	-0.80008	0.02534	0.08789	0.01096
201375	0.62676	0.01608	-0.12862	0.04262	0.25521	0.01303
139489	0.64355	0.01382	0.50827	0.02232	0.09126	0.00769
252013	0.68002	0.00793	0.70288	0.01062	0.00000	0.00000
145814	0.48876	0.00671	-1.30909	0.01975	0.00000	0.00000
145073	0.61834	0.00759	-1.25694	0.01588	0.00000	0.00000

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
139449	0.69458	0.00765	-0.14430	0.00963	0.00000	0.00000
120197	0.65041	0.00737	-0.36916	0.01068	0.00000	0.00000
120240	0.65105	0.00737	-0.28135	0.01042	0.00000	0.00000
120280	0.89794	0.00927	-0.59414	0.00897	0.00000	0.00000
168410	0.65112	0.00758	-0.91552	0.01304	0.00000	0.00000
145545	0.64233	0.00786	-1.34959	0.01610	0.00000	0.00000
252019	0.72042	0.00844	-1.28454	0.01427	0.00000	0.00000

Table H-4. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 4

IREF	Parameters and Measures of Standard Error									
	a	SE (a)	b	SE (b)	D0	SE (D0)	D1	SE (D1)	D2	SE (D2)
124545	0.40571	0.00325	-1.40744	0.01549	1.01034	0.0189	-1.01034	0.01488	0	0
124700	0.82665	0.00521	-0.55684	0.00784	1.7454	0.01395	-1.7454	0.00915	0	0
139482	0.55931	0.00376	-0.61789	0.0101	1.08051	0.01364	-1.08051	0.01119	0	0
144645	0.9389	0.00829	0.56355	0.00725	0.16456	0.00743	-0.16456	0.00766	0	0
168419	0.74559	0.00555	-0.70762	0.00849	0.58784	0.01049	-0.58784	0.00883	0	0
169113	0.96902	0.00632	0.3738	0.00613	0.75111	0.00747	-0.75111	0.00804	0	0
201350	0.73402	0.00478	0.29238	0.00772	0.87731	0.00933	-0.87731	0.00979	0	0
201423	0.68385	0.00635	1.22045	0.01103	0.32627	0.0099	-0.32627	0.01116	0	0
252048	0.691	0.00422	-0.24757	0.00829	1.2944	0.0117	-1.2944	0.01005	0	0
252060	0.56688	0.00394	0.69338	0.01001	0.91112	0.01108	-0.91112	0.01273	0	0

Table H-5. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 5

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
167693	1.00145	0.01537	0.15642	0.01228	0.06135	0.00537
252011	1.15432	0.01756	0.11746	0.01129	0.09084	0.00527
204248	1.27932	0.02133	0.79912	0.00878	0.08363	0.00327

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
124881	1.08923	0.02101	0.45616	0.01374	0.19125	0.00576
120803	1.21433	0.01909	-0.67767	0.01660	0.13083	0.00921
204645	0.55275	0.01773	-0.48699	0.07654	0.28038	0.02223

continued

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
145293	0.74345	0.01928	0.93078	0.01971	0.15808	0.00690
204217	1.67914	0.02559	0.51415	0.00717	0.10427	0.00326
120713	1.19456	0.02537	1.07853	0.01115	0.15046	0.00375
120807	1.09752	0.02185	0.40354	0.01474	0.22599	0.00612
120684	0.64216	0.00928	-1.88362	0.02335	0.00000	0.00000
120759	0.62313	0.00999	-2.29677	0.03040	0.00000	0.00000
145946	0.83005	0.01710	-0.55144	0.03248	0.20960	0.01367
139164	0.51762	0.01368	-0.40667	0.05917	0.09931	0.01973
217924	0.75595	0.01562	0.16501	0.02312	0.12298	0.00912
124783	0.61207	0.01665	-1.62549	0.09703	0.22773	0.03790
145304	0.93049	0.01996	0.47905	0.01748	0.20654	0.00683
139324	0.75516	0.01670	-1.31902	0.05492	0.19351	0.02485
167682	1.01159	0.01735	0.37812	0.01277	0.10354	0.00546
145939	0.68450	0.01400	-1.08768	0.04752	0.10470	0.02074
204694	0.66640	0.02323	0.89535	0.03180	0.31113	0.00927
120640	0.54871	0.00856	-2.01378	0.02826	0.00000	0.00000

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
204890	0.87650	0.01408	-1.11833	0.02700	0.05829	0.01377
145937	0.93210	0.02262	0.51561	0.02016	0.29340	0.00719
120680	0.61345	0.01399	-0.86268	0.05416	0.11665	0.02106
124961	0.68475	0.01901	0.66397	0.02704	0.20548	0.00917
251995	0.83941	0.01841	0.91344	0.01497	0.11142	0.00540
145568	0.51539	0.02159	1.20509	0.03957	0.21874	0.01159
252032	0.82342	0.02885	1.43497	0.02192	0.28051	0.00572
252600	1.05841	0.01697	0.12179	0.01296	0.09933	0.00591
252659	0.66399	0.01144	-0.74874	0.03121	0.04152	0.01282
145305	0.44477	0.01135	-0.78147	0.07383	0.06710	0.02307
124895	0.80070	0.00978	-1.32101	0.01426	0.00000	0.00000
139136	1.02143	0.01030	0.09203	0.00690	0.00000	0.00000
120822	0.70796	0.00836	-0.81334	0.01202	0.00000	0.00000
145297	0.58795	0.00916	-2.11608	0.02847	0.00000	0.00000
252619	0.59864	0.00753	-0.63543	0.01272	0.00000	0.00000
139346	0.68135	0.00838	0.80949	0.01120	0.00000	0.00000

Table H-6. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 5

IREF	Parameters and Measures of Standard Error													
	a	SE (a)	b	SE (b)	D0	SE (D0)	D1	SE (D1)	D2	SE (D2)	D3	SE (D3)	D4	SE (D4)
121647	0.88735	0.00661	0.88977	0.0073	0.5339	0.00759	-0.5339	0.00917	0	0				
124951	0.7348	0.00581	-0.10088	0.00801	0.41296	0.00913	-0.41296	0.00879	0	0				
145888	0.81904	0.00607	-0.25934	0.0073	0.48737	0.00874	-0.48737	0.00803	0	0				
204848	0.70865	0.00432	-0.16604	0.00805	1.23322	0.01116	-1.23322	0.00982	0	0				
206553	0.95781	0.00624	0.13826	0.00608	0.73373	0.00767	-0.73373	0.00761	0	0				
217424	0.85343	0.00576	0.70727	0.00701	0.75138	0.00783	-0.75138	0.0095	0	0				
139429	0.6951	0.00368	1.09193	0.0077	1.77705	0.00972	0.52209	0.00922	-0.63282	0.01147	-1.66632	0.01687	0	0
145576	1.04725	0.00561	0.46607	0.00521	1.18543	0.00735	0.53985	0.00662	-0.58946	0.00735	-1.13581	0.0089	0	0
167778	0.77357	0.00379	-0.02997	0.00672	1.77963	0.01201	0.70051	0.00896	-0.56086	0.00843	-1.91928	0.01152	0	0
252627	0.99554	0.00508	0.51378	0.0055	1.98586	0.00958	0.32716	0.00687	-0.9947	0.0088	-1.31833	0.01008	0	0

Table H-7. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 6

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
202550	0.98703	0.02079	-0.24750	0.02529	0.34341	0.00941
119309	1.16748	0.01514	-0.40740	0.01126	0.04063	0.00511
119316	0.93699	0.01468	-0.25952	0.01723	0.09459	0.00756
119354	0.88625	0.02191	1.02951	0.01689	0.22346	0.00548
144703	1.23382	0.01772	0.17362	0.01003	0.08821	0.00442
145332	0.86618	0.02348	1.11272	0.01839	0.25925	0.00564
119186	0.54719	0.01374	-1.66216	0.09383	0.15622	0.03506
145326	1.23116	0.02723	0.79714	0.01336	0.29628	0.00474
119353	0.92027	0.02156	0.21723	0.02426	0.35563	0.00800
202526	0.95266	0.01613	0.48889	0.01296	0.09790	0.00506
123316	0.62159	0.01085	-2.86521	0.03893	0.00000	0.00000
119351	0.93702	0.01939	0.02663	0.02248	0.28527	0.00836
119298	0.67703	0.01581	-0.66201	0.04792	0.24143	0.01674
252201	0.74833	0.01441	-0.26279	0.02781	0.13938	0.01081
139306	1.31626	0.02771	0.59551	0.01321	0.31883	0.00497
252237	0.92977	0.01863	0.62755	0.01546	0.17554	0.00575
119178	1.06473	0.02189	0.73693	0.01384	0.21729	0.00509
119364	1.27929	0.02214	1.13946	0.00897	0.07156	0.00258
119183	0.62330	0.01261	-0.70620	0.04211	0.09245	0.01595
252315	0.21458	0.01193	1.28461	0.15794	0.06578	0.02672
202674	0.86901	0.01382	-1.07583	0.02635	0.06966	0.01269

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
119193	0.65967	0.01902	-0.50990	0.05965	0.39872	0.01636
139274	0.80136	0.01560	-0.01084	0.02358	0.16733	0.00905
167991	0.72675	0.01768	0.12764	0.03196	0.27122	0.01039
252334	1.11187	0.02447	1.16871	0.01228	0.17473	0.00390
145968	0.40033	0.00642	-1.54933	0.02715	0.00000	0.00000
167946	0.71912	0.01530	-0.24961	0.03285	0.19000	0.01197
252183	0.62982	0.01930	0.93817	0.02890	0.23252	0.00871
144710	0.81970	0.01907	0.52444	0.02185	0.24701	0.00745
167690	0.64289	0.01649	0.18350	0.03620	0.22622	0.01149
119274	0.59675	0.01138	-0.74193	0.04007	0.05912	0.01500
144700	0.93094	0.01410	-0.50341	0.01829	0.07436	0.00828
145627	0.40563	0.00693	-2.17495	0.03620	0.00000	0.00000
124994	0.75853	0.00807	-0.14395	0.00904	0.00000	0.00000
145995	0.97486	0.00967	0.10584	0.00727	0.00000	0.00000
145629	0.82518	0.00932	0.98085	0.00997	0.00000	0.00000
252321	0.99849	0.01009	0.50263	0.00732	0.00000	0.00000
119200	0.82676	0.00875	-0.62569	0.00976	0.00000	0.00000

Table H-8. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 6

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
119267	1.07625	0.00983	1.23286	0.00785	0.21619	0.00725	-0.21619	0.00814	0	0				
119339	0.4365	0.0033	-1.21758	0.01387	1.08673	0.01793	-1.08673	0.01381	0	0				
139380	0.71678	0.00507	1.40159	0.00904	0.97543	0.00912	-0.97543	0.01389	0	0				
167819	0.87472	0.00645	-0.1275	0.00696	0.43595	0.00822	-0.43595	0.00774	0	0				

continued

IREF	Parameters and Measures of Standard Error													
	a	SE (a)	b	SE (b)	D0	SE (D0)	D1	SE (D1)	D2	SE (D2)	D3	SE (D3)	D4	SE (D4)
202561	1.29668	0.01025	0.55385	0.00539	0.22221	0.00586	-0.22221	0.0061	0	0				
202701	0.78523	0.00515	0.9075	0.00765	0.96453	0.0085	-0.96453	0.01115	0	0				
122089	0.86014	0.00462	0.3347	0.00617	1.24881	0.00884	0.43537	0.00777	-0.46704	0.00802	-1.21715	0.00952	0	0
125150	0.90924	0.0047	1.04636	0.0062	2.00588	0.00865	1.19218	0.00757	-0.96007	0.01093	-2.23799	0.02188	0	0
252364	0.74935	0.00391	1.10976	0.00729	2.03703	0.00975	0.05737	0.00926	-0.44715	0.01032	-1.64725	0.0161	0	0
252400	1.02364	0.0061	0.81187	0.00572	0.97812	0.00699	0.61093	0.00682	-0.66473	0.00838	-0.92432	0.00925	0	0

Table H-9. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 7

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
120344	0.79150	0.01119	-1.82480	0.02091	0.00000	0.00000
205013	0.66113	0.01350	-0.90305	0.04925	0.09547	0.02120
139923	1.12201	0.02308	1.10874	0.01202	0.17347	0.00425
145161	1.34779	0.03684	1.99239	0.01467	0.11114	0.00232
139930	0.72362	0.01327	-0.31535	0.02952	0.07405	0.01245
144724	0.81571	0.01478	0.09409	0.02136	0.10531	0.00895
169418	1.23395	0.03964	1.92460	0.01679	0.22319	0.00320
205017	0.46017	0.00647	0.04413	0.01334	0.00000	0.00000
169407	0.98369	0.02274	0.88464	0.01682	0.26544	0.00592
120340	0.97417	0.01680	-0.33976	0.02172	0.15043	0.01037
125287	1.24896	0.02222	0.62124	0.01158	0.19182	0.00495
120380	0.77222	0.01864	1.00964	0.01927	0.16951	0.00672
145166	0.84845	0.01550	-0.46772	0.02821	0.13404	0.01290
204874	0.80756	0.01355	-1.20488	0.03478	0.06074	0.01801
252385	1.32544	0.02835	0.99000	0.01185	0.26565	0.00436
252145	1.13715	0.01845	0.73251	0.01033	0.09718	0.00417
205028	1.34125	0.02491	0.77914	0.01081	0.21043	0.00445
204939	0.63360	0.01493	-0.61607	0.05468	0.15994	0.02080
252175	1.71724	0.02806	0.71399	0.00782	0.15760	0.00354
145369	0.67384	0.01973	1.18522	0.02432	0.19852	0.00781
205037	0.86366	0.01695	0.20855	0.02173	0.18047	0.00878

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
202652	0.46329	0.01387	0.00481	0.06853	0.10163	0.02070
120411	1.00836	0.01784	-1.60091	0.03474	0.08055	0.02225
140259	0.69162	0.01073	-0.37247	0.02356	0.02835	0.00949
120450	0.43676	0.00690	-1.34401	0.02523	0.00000	0.00000
252129	0.46303	0.00654	-0.39942	0.01513	0.00000	0.00000
204996	0.50798	0.00728	-1.22678	0.02084	0.00000	0.00000
140238	1.35994	0.03791	1.09817	0.01519	0.44285	0.00444
252136	0.94957	0.01880	0.73266	0.01523	0.16819	0.00591
120522	1.01528	0.01949	0.70659	0.01418	0.17427	0.00562
252268	1.21979	0.02320	0.90382	0.01125	0.18311	0.00437
139926	1.32366	0.03145	1.51969	0.01159	0.18221	0.00322
169401	1.13145	0.01231	1.24137	0.00833	0.00000	0.00000
145365	0.77666	0.00828	0.16974	0.00850	0.00000	0.00000
146965	0.60892	0.00810	1.45296	0.01557	0.00000	0.00000
205005	0.70071	0.00826	1.02952	0.01103	0.00000	0.00000
169225	0.88701	0.00916	-0.23293	0.00835	0.00000	0.00000
252147	0.59001	0.00734	0.78597	0.01158	0.00000	0.00000

Table H-10. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 7

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
119398	1.40219	0.01598	1.63908	0.00855	0.05833	0.00709	-0.05833	0.00747	0	0				
120336	1.05124	0.00744	0.78302	0.00597	0.48049	0.00665	-0.48049	0.00748	0	0				
139980	1.03809	0.00735	0.96098	0.00618	0.53974	0.00672	-0.53974	0.00806	0	0				
146128	0.98962	0.00717	1.26325	0.00686	0.62297	0.00705	-0.62297	0.0095	0	0				
177608	0.76692	0.00583	1.90306	0.00945	0.97843	0.00882	-0.97843	0.01603	0	0				
252263	0.8463	0.00612	0.77797	0.00713	0.52417	0.00781	-0.52417	0.0087	0	0				
140223	1.23549	0.00703	0.87942	0.00466	0.92048	0.00601	0.27084	0.00588	-0.33737	0.00655	-0.85395	0.00795	0	0
177604	1.04965	0.00568	0.3174	0.00511	1.02598	0.00753	0.37026	0.00664	-0.3629	0.00664	-1.03334	0.00762	0	0
204397	0.85034	0.00447	0.16851	0.00614	1.38181	0.00981	0.24831	0.00777	-0.38346	0.0077	-1.24668	0.00886	0	0
204705	1.0049	0.00522	0.81649	0.00534	1.38853	0.00753	0.42639	0.00675	-0.54319	0.00778	-1.27174	0.01024	0	0

Table H-11. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 8

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
144767	0.70582	0.00811	0.04610	0.00914	0.00000	0.00000
120887	1.47290	0.02575	0.03458	0.01293	0.25319	0.00679
252438	1.18406	0.02434	0.94216	0.01134	0.17205	0.00451
146291	1.28674	0.02058	0.19221	0.01176	0.14276	0.00598
252434	0.36029	0.01199	-1.06919	0.14650	0.09973	0.03954
252522	1.22293	0.03004	0.46865	0.01853	0.42657	0.00657
252285	1.18846	0.02632	1.10544	0.01148	0.18019	0.00423
120912	1.54504	0.02827	0.19340	0.01219	0.28902	0.00608
252422	1.10894	0.02188	0.07973	0.01907	0.26413	0.00856
146455	1.02469	0.02928	1.19026	0.01614	0.28591	0.00533
121018	0.85024	0.01131	-1.44319	0.01651	0.00000	0.00000
146362	1.08787	0.02596	0.21234	0.02298	0.39883	0.00843
252446	1.05468	0.01936	-0.00051	0.01878	0.19027	0.00893
146373	1.68939	0.02749	1.01262	0.00683	0.07786	0.00247
120906	1.37745	0.02012	0.40944	0.00869	0.08349	0.00416

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
169410	1.21122	0.02842	0.86342	0.01378	0.29414	0.00522
146358	1.03602	0.02311	0.98509	0.01328	0.17499	0.00512
252436	0.82885	0.02798	1.72991	0.02056	0.16423	0.00492
205079	1.52548	0.02506	-0.36196	0.01362	0.20210	0.00835
205110	1.39468	0.02306	0.28440	0.01101	0.17777	0.00556
139805	1.80066	0.04053	1.37143	0.00851	0.15772	0.00267
120923	1.27190	0.02039	-0.39599	0.01601	0.14873	0.00933
125469	1.01604	0.02057	0.93730	0.01222	0.11988	0.00483
204924	1.11271	0.02248	0.65702	0.01367	0.20179	0.00577
145179	1.05499	0.02092	0.24657	0.01805	0.22969	0.00792
125580	0.50898	0.01242	-0.44056	0.06017	0.06426	0.02121
169375	0.62047	0.02405	1.59519	0.02591	0.16737	0.00809
120927	0.99700	0.02036	0.21653	0.01999	0.23022	0.00859
121004	0.47321	0.01538	0.51365	0.05349	0.07621	0.01708
252443	0.48826	0.01596	0.88487	0.04007	0.06619	0.01344

continued

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
120987	0.73482	0.00920	-1.02815	0.01417	0.00000	0.00000
139782	0.67165	0.02800	1.59806	0.02685	0.24990	0.00773
145390	1.19653	0.01162	0.43583	0.00608	0.00000	0.00000
120933	1.05438	0.01110	-0.59580	0.00836	0.00000	0.00000

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
205123	0.97172	0.01079	1.03922	0.00872	0.00000	0.00000
121083	1.33717	0.01268	0.12980	0.00565	0.00000	0.00000
252292	0.90064	0.01038	1.12449	0.00975	0.00000	0.00000
169266	1.00324	0.01008	-0.07122	0.00713	0.00000	0.00000

Table H-12. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 8

IREF	Parameters and Measures of Standard Error													
	a	SE (a)	b	SE (b)	D0	SE (D0)	D1	SE (D1)	D2	SE (D2)	D3	SE (D3)	D4	SE (D4)
120890	0.7732	0.00552	-0.15683	0.00744	0.59242	0.00915	-0.59242	0.00827	0	0				
120936	1.27769	0.00989	0.06599	0.00521	0.20851	0.00584	-0.20851	0.00568	0	0				
120959	1.18297	0.00834	0.56003	0.00524	0.41141	0.00601	-0.41141	0.00642	0	0				
122583	0.74112	0.00419	0.33291	0.00939	2.04756	0.01244	-2.04756	0.01351	0	0				
139813	0.79391	0.00562	1.00706	0.00769	0.68332	0.00809	-0.68332	0.0101	0	0				
252432	1.05781	0.00771	-0.12974	0.00588	0.38428	0.00706	-0.38428	0.00648	0	0				
144763	1.41808	0.00824	0.61261	0.00409	0.69042	0.00537	0.28111	0.00518	-0.26587	0.00548	-0.70566	0.00631	0	0
169228	1.54468	0.00865	0.68085	0.00373	0.9764	0.00532	0.03973	0.005	-0.29702	0.00531	-0.71911	0.00622	0	0
169286	1.7093	0.00968	0.78857	0.00346	0.91584	0.00484	0.21907	0.00465	-0.44632	0.00544	-0.68859	0.00611	0	0
252540	1.02418	0.00526	0.78252	0.00524	1.40964	0.00738	0.3328	0.00656	-0.17881	0.00699	-1.56363	0.01222	0	0

Table H-13. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Mathematics Grade 11

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
252552	0.93911	0.02010	-0.13322	0.02520	0.14395	0.01156
205687	0.86618	0.02067	0.24076	0.02523	0.16200	0.01038
140196	0.75971	0.02958	0.72573	0.03892	0.39002	0.01095
140068	0.84741	0.02170	0.59828	0.02252	0.15986	0.00877
169503	0.88248	0.02215	0.14125	0.02847	0.21840	0.01143
252714	1.73712	0.05438	1.66541	0.01259	0.15878	0.00299
125753	1.09071	0.03461	1.22175	0.01778	0.27298	0.00570

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
169688	0.68642	0.02209	0.31411	0.04316	0.23871	0.01449
141248	1.11357	0.02703	0.46434	0.01888	0.25512	0.00771
252435	2.68057	0.07416	1.35935	0.00803	0.18150	0.00289
119592	1.54729	0.03747	0.91649	0.01176	0.23791	0.00471
205791	1.66126	0.04991	1.45131	0.01225	0.21931	0.00363
169704	0.89359	0.02126	-0.88428	0.04426	0.18861	0.02193
119450	1.63235	0.03043	0.72601	0.00886	0.10512	0.00380

continued

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
252536	0.69406	0.01884	-0.73966	0.06111	0.16794	0.02530
205839	0.67581	0.01756	-0.34019	0.04766	0.12081	0.01902
144787	0.97856	0.02421	0.52874	0.02042	0.20946	0.00816
205829	1.13078	0.02819	1.28191	0.01333	0.11248	0.00416
252719	1.08071	0.02578	0.74324	0.01600	0.18438	0.00640
206039	1.13829	0.03452	1.19019	0.01667	0.26210	0.00549
169691	1.02616	0.02929	0.95269	0.01852	0.25028	0.00661
205905	1.17466	0.02850	1.21497	0.01279	0.11924	0.00420
205911	0.71401	0.01924	0.33763	0.03223	0.13502	0.01222
144806	1.48954	0.06144	1.66198	0.01771	0.34309	0.00409
140189	0.64745	0.01095	1.66250	0.02133	0.00000	0.00000

IREF	Parameters and Measures of Standard Error					
	a	SE (a)	b	SE (b)	c	SE (c)
252699	0.59940	0.00898	-0.46172	0.01486	0.00000	0.00000
145212	0.93447	0.01149	0.39314	0.00889	0.00000	0.00000
205844	0.89517	0.01121	0.48822	0.00930	0.00000	0.00000
206318	0.82346	0.01046	0.13507	0.00980	0.00000	0.00000
119498	0.87953	0.01142	0.78548	0.01017	0.00000	0.00000
178054	1.06821	0.01479	1.32135	0.01136	0.00000	0.00000
205985	1.06514	0.01341	0.88895	0.00909	0.00000	0.00000
210417	1.12550	0.01317	0.05481	0.00788	0.00000	0.00000
206086	1.06904	0.01286	0.55071	0.00822	0.00000	0.00000
169705	1.17852	0.01378	0.39841	0.00753	0.00000	0.00000
119582	0.84657	0.01263	1.45518	0.01494	0.00000	0.00000

Table H-14. 2013–14 NECAP: IRT Parameters for Polytomous Items
Mathematics Grade 11

IREF	Parameters and Measures of Standard Error													
	a	SE (a)	b	SE (b)	D0	SE (D0)	D1	SE (D1)	D2	SE (D2)	D3	SE (D3)	D4	SE (D4)
119479	0.93027	0.01072	1.60111	0.01203	0.28536	0.01002	-0.28536	0.01206	0	0				
169794	0.84022	0.00639	0.52138	0.00824	0.93799	0.00998	-0.93799	0.0111	0	0				
205813	1.39995	0.01298	1.39482	0.00677	0.58182	0.00689	-0.58182	0.01065	0	0				
252431	1.35126	0.01208	0.98904	0.00631	0.40546	0.00681	-0.40546	0.00815	0	0				
252442	0.92944	0.00989	1.27267	0.01014	0.28472	0.00934	-0.28472	0.01073	0	0				
252712	1.1633	0.00989	1.28894	0.00718	0.80617	0.00755	-0.80617	0.0122	0	0				
141291	1.4535	0.01073	0.81654	0.00514	0.77073	0.00646	0.55999	0.00637	-0.55154	0.0077	-0.77918	0.00851	0	0
169800	0.90235	0.00568	1.29802	0.00749	2.04151	0.0101	0.08313	0.00987	-0.62508	0.0123	-1.49956	0.019	0	0
252464	1.48342	0.01135	1.26435	0.00538	0.83918	0.0063	0.30834	0.00666	-0.49222	0.00907	-0.65531	0.01001	0	0
252506	1.2225	0.00888	0.88547	0.00585	0.81234	0.00721	0.10167	0.0073	-0.24588	0.00785	-0.66813	0.0091	0	0

Table H-15. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 3

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252355	0.72035	0.02265	0.92176	0.02553	0.27517	0.00795
208000	1.07269	0.01768	-0.85295	0.02136	0.12660	0.01118
252067	0.78512	0.00925	-1.18311	0.01330	0.00000	0.00000
252180	1.03789	0.02184	0.21899	0.01815	0.27698	0.00720
252184	1.27220	0.02072	-0.35389	0.01450	0.17749	0.00744
252072	0.74224	0.01959	0.05777	0.03461	0.30395	0.01129
117697	1.11837	0.01881	-1.27732	0.02475	0.11010	0.01443
117700	1.11359	0.01843	-0.25593	0.01583	0.15405	0.00760
117699	0.90740	0.01725	-0.20934	0.02217	0.17867	0.00945
117701	0.84837	0.01757	0.37110	0.01851	0.15660	0.00729
117704	0.68753	0.01586	-0.41056	0.03986	0.17905	0.01481
117703	1.35904	0.02192	-0.40809	0.01380	0.18201	0.00734
117702	0.80728	0.01147	-1.27518	0.02348	0.02686	0.01047
128558	0.98225	0.02063	0.49665	0.01592	0.20926	0.00627

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
117641	1.33385	0.02163	-0.00442	0.01172	0.17202	0.00581
117665	0.68825	0.01642	-0.09929	0.03498	0.18829	0.01254
117642	1.38048	0.02357	-0.19980	0.01347	0.22987	0.00681
117643	1.16101	0.02262	-1.51165	0.03226	0.19755	0.01940
117666	0.70031	0.01780	0.39451	0.02768	0.19616	0.00966
117644	0.64054	0.01554	-0.48426	0.04671	0.17180	0.01682
117667	0.43598	0.01669	0.14021	0.08001	0.16410	0.02149
117668	0.68443	0.01194	-1.37896	0.04072	0.05349	0.01832
207973	0.81059	0.01288	-1.45029	0.03138	0.04595	0.01561
252233	0.86454	0.01857	0.15289	0.02213	0.21867	0.00855
117744	0.50664	0.01114	-1.17290	0.06465	0.06486	0.02297
117738	1.28172	0.02297	-1.22524	0.02316	0.18342	0.01386
117740	1.19012	0.01828	-0.51424	0.01508	0.11659	0.00781
117741	1.17330	0.01951	-0.52679	0.01738	0.17267	0.00883

Table H-16. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 3

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
117650	0.7478	0.00389	-0.49588	0.00704	1.90169	0.01515	0.33812	0.00942	-0.6285	0.00857	-1.61131	0.0095	0	0
117669	0.84765	0.00422	0.88995	0.00636	2.06225	0.0095	0.68334	0.00779	-0.81338	0.01031	-1.93222	0.01745	0	0
117705	0.75315	0.00489	-1.99016	0.00873	1.81206	0.02964	0.53127	0.01582	-0.65365	0.01051	-1.68967	0.0088	0	0
117706	1.04874	0.00669	-0.17894	0.00558	0.64957	0.00761	0.19218	0.00687	-0.23491	0.00661	-0.60684	0.0067	0	0
117745	0.61509	0.00298	0.92156	0.00901	3.63187	0.01787	0.43247	0.01029	-1.3063	0.01436	-2.75804	0.02538	0	0
252074	0.77641	0.00386	1.29878	0.00714	3.05911	0.0119	0.93095	0.00844	-1.10006	0.01422	-2.89	0.03797	0	0

Table H-17. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 4

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252153	0.71624	0.01531	0.06838	0.02801	0.13433	0.01086
208863	0.89589	0.01655	-0.89202	0.03149	0.14895	0.01533
208431	0.80704	0.01167	-1.99787	0.02256	0.00000	0.00000
208438	0.94523	0.01815	0.22002	0.01819	0.18199	0.00775
208473	0.69555	0.01963	0.84859	0.02562	0.21435	0.00867
208483	1.25089	0.01960	-0.68075	0.01661	0.12888	0.00934
208209	1.17484	0.01816	-0.35601	0.01504	0.12288	0.00787
208211	0.49698	0.00726	-1.14303	0.02030	0.00000	0.00000
208227	0.91826	0.01634	-0.88092	0.02898	0.13057	0.01442
208230	0.60085	0.01351	-0.17374	0.03881	0.08690	0.01424
208232	1.08299	0.01577	-1.16560	0.01952	0.03971	0.01042
208238	0.60309	0.01554	-0.92572	0.06903	0.19009	0.02508
208263	0.57890	0.01230	-0.76064	0.04932	0.07004	0.01872
208250	0.95444	0.01443	-1.38437	0.02480	0.03964	0.01297

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
208748	0.44292	0.00666	-0.31079	0.01512	0.00000	0.00000
208756	0.72845	0.01815	-0.28236	0.04196	0.28537	0.01460
208760	0.90080	0.01639	-0.72687	0.02851	0.14805	0.01360
208763	0.63735	0.02131	0.34095	0.04756	0.36758	0.01291
208776	1.10770	0.01845	0.24411	0.01300	0.13566	0.00606
208788	0.91625	0.02223	0.45900	0.02227	0.31508	0.00796
208800	1.03222	0.01929	-0.04188	0.01903	0.22022	0.00852
208802	0.34715	0.00631	-0.83225	0.02383	0.00000	0.00000
252392	0.49391	0.01023	-0.97601	0.05577	0.04999	0.01917
252312	0.87859	0.01937	1.11946	0.01407	0.11130	0.00489
171503	0.53303	0.00832	-1.89860	0.02865	0.00000	0.00000
171505	0.96855	0.01838	-0.54035	0.02629	0.21887	0.01212
171492	1.24017	0.02205	-1.68207	0.02696	0.08183	0.01788
171510	0.63283	0.00959	-2.03427	0.02724	0.00000	0.00000

Table H-18. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 4

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
171519	0.703	0.00343	1.40612	0.0076	2.83498	0.0116	0.98088	0.00899	-0.93064	0.01357	-2.88523	0.03483	0	0
208272	0.57085	0.00329	-1.96004	0.00974	2.90896	0.04487	0.68868	0.01831	-1.15756	0.01153	-2.44007	0.01078	0	0
208276	0.8392	0.00401	0.51773	0.00643	2.78512	0.0148	0.72027	0.00798	-0.93442	0.0092	-2.57096	0.01904	0	0
208498	0.66993	0.00329	1.64564	0.00802	3.06182	0.01187	0.94163	0.00952	-1.0067	0.01555	-2.99676	0.04055	0	0
208807	0.7823	0.00592	-2.35037	0.01058	1.67661	0.03669	0.42761	0.0187	-0.55642	0.0123	-1.54779	0.00928	0	0
208827	0.8253	0.00405	0.05141	0.00637	1.78445	0.01187	0.7988	0.00877	-0.79123	0.00815	-1.79202	0.01055	0	0

Table H-19. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 5

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252589	0.74921	0.01635	-1.61333	0.06440	0.12918	0.03345
252306	0.57196	0.01795	0.35233	0.04732	0.19924	0.01512
171337	0.98807	0.01969	-1.20378	0.03789	0.18120	0.02104
171347	0.89099	0.01546	-0.49134	0.02398	0.08834	0.01169
171359	0.75391	0.01543	-0.86202	0.04206	0.11570	0.01943
171366	1.02350	0.01852	-1.27669	0.03236	0.10961	0.01935
171892	0.66861	0.01208	-0.37825	0.02893	0.03983	0.01186
171895	1.06986	0.01794	-1.08479	0.02550	0.08880	0.01502
171913	0.61323	0.01414	-1.45976	0.07492	0.10869	0.03289
171914	0.79577	0.01462	-1.19859	0.03952	0.07518	0.02025
171916	0.44555	0.00737	-1.30995	0.02538	0.00000	0.00000
171922	0.95008	0.01463	-1.47947	0.02639	0.03759	0.01443
171924	0.47979	0.01280	-0.00515	0.05307	0.05929	0.01723
171928	1.19451	0.02114	-1.69079	0.02874	0.06645	0.01981

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
148595	0.96669	0.01725	-0.76510	0.02696	0.12586	0.01413
148616	1.19679	0.02107	-1.07697	0.02467	0.14225	0.01517
148617	0.92327	0.01790	-0.22129	0.02402	0.17893	0.01098
148618	1.66600	0.02885	-0.97950	0.01594	0.16215	0.01111
148614	1.10635	0.02277	-0.04695	0.02056	0.29985	0.00909
148631	1.07701	0.01970	-1.03537	0.02864	0.15599	0.01644
148639	0.79921	0.01671	-0.24333	0.03020	0.16203	0.01289
148667	0.89859	0.01908	-0.23805	0.02823	0.23948	0.01206
252305	0.28960	0.01172	0.23904	0.12268	0.06531	0.02631
172080	0.75486	0.01593	-0.19630	0.03098	0.13563	0.01298
209649	0.57551	0.01620	-0.02419	0.05100	0.15453	0.01740
209655	0.74564	0.00000	-2.18045	0.02864	0.00000	0.00000
209661	0.97969	0.01826	0.11667	0.01781	0.15852	0.00818
209665	0.69793	0.00919	-1.24402	0.01688	0.00000	0.00000

Table H-20. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 5

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE(D4)*
148680	1.08002	0.00536	0.86575	0.00516	2.25215	0.00947	0.69525	0.00639	-0.82982	0.00883	-2.11758	0.01894	0	0
148698	1.10012	0.00551	0.86537	0.00512	2.33979	0.00978	0.77731	0.00634	-0.86356	0.0089	-2.25354	0.02104	0	0
171371	0.78534	0.00373	0.20994	0.00683	2.71598	0.01704	0.70532	0.0087	-1.05991	0.00919	-2.36139	0.0147	0	0
171930	0.8244	0.00404	1.04972	0.00655	2.30676	0.01018	0.9209	0.00786	-0.94671	0.01126	-2.28096	0.02202	0	0
171934	0.69834	0.00328	0.45171	0.00761	2.83002	0.01632	0.7538	0.00927	-1.07514	0.01058	-2.50867	0.01778	0	0
209679	0.69469	0.0034	1.28356	0.00764	2.50033	0.01108	0.86774	0.00905	-0.86209	0.01279	-2.50599	0.02662	0	0

Table H-21. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 6

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252652	0.73620	0.01305	-2.21183	0.04674	0.05635	0.02312
253000	0.38602	0.01444	-1.04418	0.15048	0.16774	0.03874
171785	0.58369	0.01139	-0.98484	0.04506	0.05685	0.01724
171801	0.57335	0.00985	-2.63947	0.03799	0.00000	0.00000
171807	0.73083	0.01768	0.78032	0.02102	0.16381	0.00737
171818	0.77581	0.01640	-0.10000	0.02767	0.19615	0.01069
208998	0.88616	0.01441	-1.67865	0.03137	0.05020	0.01629
209000	0.39635	0.01229	-0.44998	0.08953	0.08501	0.02452
209001	0.63238	0.01074	-1.39704	0.03907	0.04221	0.01601
209004	0.77226	0.01628	-0.70398	0.03739	0.20844	0.01515
209006	0.73587	0.01404	-1.50494	0.04633	0.09072	0.02191
209016	0.97046	0.01750	-1.29398	0.03116	0.13694	0.01642
209089	0.37180	0.00648	-1.38287	0.02781	0.00000	0.00000
209090	0.55279	0.00887	-1.12669	0.03224	0.02555	0.01099

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
171853	0.81068	0.01458	-0.55819	0.02646	0.11271	0.01163
171857	0.60383	0.02534	1.45175	0.03409	0.31784	0.00852
171867	0.91310	0.01358	-1.55824	0.02460	0.03283	0.01188
171868	1.02894	0.01578	-2.26945	0.02119	0.00000	0.00000
171872	0.78580	0.01269	-1.12492	0.02864	0.04782	0.01312
171873	0.94713	0.01573	-2.53169	0.02643	0.00000	0.00000
171882	0.75747	0.01601	-0.79151	0.03963	0.19819	0.01616
171885	1.08524	0.01771	-1.94464	0.02636	0.04134	0.01475
208957	0.76720	0.01662	-0.23417	0.03104	0.21732	0.01183
208964	0.75758	0.01389	-1.78599	0.04616	0.07402	0.02307
253054	0.54088	0.01167	-0.47172	0.04369	0.05905	0.01526
253055	1.09531	0.01968	-1.32614	0.02785	0.15528	0.01556
252661	0.44897	0.01112	-0.64748	0.06549	0.06315	0.02024
253059	0.55029	0.01051	-0.90509	0.04318	0.04538	0.01567

Table H-22. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 6

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
171823	0.77967	0.00377	0.5324	0.00704	3.22494	0.0173	0.73049	0.00843	-1.21088	0.01082	-2.74456	0.02137	0	0
171889	0.8681	0.00428	0.57659	0.00643	3.10139	0.01586	0.64924	0.00769	-1.16193	0.01024	-2.58869	0.02053	0	0
171893	0.81373	0.00386	0.33805	0.00657	2.57561	0.01407	0.78724	0.00833	-0.92061	0.00917	-2.44224	0.01655	0	0
209093	0.84291	0.00412	0.98752	0.00641	2.45094	0.01042	0.76421	0.00778	-0.89344	0.01093	-2.32171	0.02217	0	0
209094	0.96176	0.00481	0.91788	0.00585	2.74207	0.01134	0.63464	0.00708	-0.9803	0.01043	-2.3964	0.02321	0	0
252669	0.69684	0.00329	0.14156	0.00757	2.94256	0.01825	0.61274	0.0094	-1.01577	0.00997	-2.53953	0.01606	0	0

Table H-23. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 7

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252588	0.32857	0.01375	-0.84963	0.18164	0.14972	0.04071
207539	0.64558	0.01148	-1.86732	0.05009	0.06045	0.02286
252741	0.68259	0.01228	-2.89230	0.03836	0.00000	0.00000
252742	0.58075	0.01428	0.38610	0.03237	0.11752	0.01074
252743	0.69220	0.01101	-1.71887	0.03632	0.04104	0.01637
252722	0.26796	0.00694	-3.65960	0.09177	0.00000	0.00000
147125	0.80364	0.01358	-1.18968	0.03208	0.07360	0.01546
147130	1.20642	0.02018	-0.15797	0.01435	0.19482	0.00680
147132	0.37991	0.01782	0.42017	0.10630	0.24089	0.02318
147135	0.89560	0.01753	-0.68690	0.02981	0.23223	0.01279
147136	0.53068	0.01387	-0.62649	0.06486	0.15020	0.02111
147140	0.48907	0.00672	-1.00940	0.01728	0.00000	0.00000
147141	0.67361	0.01437	-0.65672	0.04173	0.15384	0.01601
147144	0.71181	0.01522	-0.15791	0.03126	0.17435	0.01151

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252493	0.97787	0.01808	-1.73682	0.03723	0.12235	0.02196
252684	0.66512	0.01114	-1.88903	0.04306	0.04875	0.01960
252500	0.93706	0.01618	-0.06301	0.01763	0.14013	0.00756
252503	0.59460	0.01083	-0.72693	0.03654	0.04636	0.01379
252521	0.50849	0.00989	-0.96019	0.04915	0.04708	0.01703
252528	0.66891	0.01322	-0.87243	0.04135	0.10162	0.01688
252525	1.06571	0.01600	-0.65068	0.01675	0.08753	0.00842
252689	1.08293	0.01681	-1.07334	0.02043	0.08764	0.01118
252690	1.01725	0.01783	-1.00206	0.02580	0.16884	0.01319
252445	0.77701	0.01663	-0.54442	0.03560	0.23776	0.01363
207793	0.84519	0.01637	-0.67639	0.03069	0.19699	0.01310
207817	0.50316	0.01208	-1.18945	0.07620	0.09783	0.02649
207820	0.65863	0.01440	-0.42135	0.03915	0.15506	0.01439
207819	0.60707	0.01159	-1.23192	0.04851	0.06699	0.01974

Table H-24. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 7

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
147149	0.68592	0.00322	0.53205	0.00765	2.86623	0.01477	0.77079	0.00932	-0.94689	0.01086	-2.69014	0.02011	0	0
147153	0.82045	0.00399	0.90996	0.0065	2.3521	0.0102	0.89936	0.00801	-0.79725	0.01043	-2.45422	0.02213	0	0
207827	0.71811	0.00339	0.44996	0.00729	2.52337	0.01325	0.94253	0.00917	-0.83576	0.0101	-2.63015	0.01887	0	0
252533	0.84453	0.00413	1.02169	0.00642	2.6476	0.01067	0.84312	0.00785	-0.93383	0.01124	-2.5569	0.02525	0	0
252686	0.87135	0.00429	1.03997	0.00623	2.51461	0.01	0.89826	0.00766	-0.89599	0.01102	-2.51686	0.02521	0	0
252725	0.80513	0.00395	0.89446	0.00658	2.17267	0.00985	0.77055	0.0081	-0.71317	0.0102	-2.23005	0.01938	0	0

Table H-25. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 8

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252759	0.52647	0.01259	-0.03580	0.04771	0.09828	0.01554
252833	0.69199	0.01247	-1.28570	0.04393	0.07332	0.01999
207571	0.60639	0.01651	-0.55924	0.06604	0.30392	0.02014
207576	0.46319	0.01175	-1.31453	0.09787	0.10961	0.03252
207586	0.34943	0.00699	-2.60197	0.05300	0.00000	0.00000
207580	0.44147	0.00774	-2.37661	0.04054	0.00000	0.00000
253077	0.50895	0.00748	-1.64964	0.02517	0.00000	0.00000
253082	0.89229	0.01674	-1.09701	0.03564	0.17009	0.01761
253024	0.45289	0.01445	0.43942	0.06207	0.15000	0.01705
253088	0.72096	0.01495	-0.83111	0.04482	0.18010	0.01839
253090	0.46583	0.01429	0.40832	0.05861	0.14693	0.01648
253093	0.79334	0.01492	-1.10666	0.03985	0.13271	0.01882
253042	0.34287	0.00573	-0.40988	0.01986	0.00000	0.00000
253096	0.52399	0.01217	-0.30627	0.05238	0.09107	0.01747

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
252867	0.70645	0.00902	-1.43906	0.01745	0.00000	0.00000
252871	0.32744	0.01312	0.44147	0.10947	0.09489	0.02491
252874	0.56219	0.00871	-2.11764	0.03001	0.00000	0.00000
252975	0.55132	0.01380	0.18939	0.04394	0.13992	0.01402
252884	0.32046	0.00764	-3.50967	0.08250	0.00000	0.00000
252887	0.62659	0.01007	-0.72473	0.03077	0.03462	0.01190
252889	0.51043	0.00821	-2.17499	0.03308	0.00000	0.00000
252978	0.45489	0.00634	-0.58778	0.01653	0.00000	0.00000
252945	0.62666	0.01261	-1.01615	0.05116	0.09716	0.02084
252900	0.52507	0.01287	0.41148	0.03894	0.08994	0.01244
252836	0.23973	0.00567	-1.94111	0.05414	0.00000	0.00000
252839	0.49435	0.00869	-2.55536	0.04128	0.00000	0.00000
252958	0.31853	0.00597	-1.54075	0.03532	0.00000	0.00000
252851	0.29964	0.01138	-0.19893	0.14366	0.08881	0.03079

Table H-26. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 8

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
207600	1.03278	0.00504	0.59378	0.0052	1.97017	0.00951	0.63134	0.00688	-0.64145	0.00755	-1.96006	0.01253	0	0
252857	0.78859	0.00374	0.58486	0.0068	2.82501	0.01474	0.90052	0.00864	-0.97851	0.00974	-2.74702	0.01924	0	0
252878	1.00895	0.00495	0.48707	0.00546	2.62251	0.01334	0.63578	0.00712	-0.91032	0.00801	-2.34799	0.01465	0	0
252970	0.99149	0.0048	0.47387	0.00544	2.33189	0.01176	0.60106	0.00716	-0.73692	0.00772	-2.19604	0.01344	0	0
253046	0.62978	0.00334	1.73658	0.00853	2.15669	0.01039	0.8971	0.01016	-0.6336	0.01371	-2.4202	0.02745	0	0
253087	0.99713	0.00505	1.20408	0.0055	2.00338	0.0081	0.74344	0.00699	-0.77705	0.00974	-1.96977	0.01782	0	0

Table H-27. 2013–14 NECAP: IRT Parameters for Dichotomous Items
Reading Grade 11

IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
208324	0.46835	0.01920	1.07630	0.06242	0.19772	0.01655
147900	0.32269	0.01083	0.30249	0.09212	0.05300	0.02111
208312	0.40256	0.01088	-1.47902	0.11102	0.08056	0.03314
253028	0.77230	0.01853	0.31879	0.03148	0.18981	0.01166
208423	0.65910	0.01119	-1.72442	0.02920	0.00000	0.00000
208424	0.52362	0.01081	-2.42850	0.04927	0.00000	0.00000
208425	0.67122	0.01132	-1.70936	0.02860	0.00000	0.00000
208426	0.18754	0.00696	-3.30874	0.14069	0.00000	0.00000
208430	0.41864	0.00793	-1.38117	0.03487	0.00000	0.00000
208432	0.86012	0.01930	-2.28073	0.05141	0.06187	0.02605
208434	0.33877	0.00690	-0.50309	0.02809	0.00000	0.00000
208437	0.76561	0.01699	-1.82800	0.05987	0.08917	0.03025
253011	0.56588	0.01035	-1.93352	0.03628	0.00000	0.00000
252865	0.72720	0.01707	-0.89947	0.05405	0.14894	0.02304

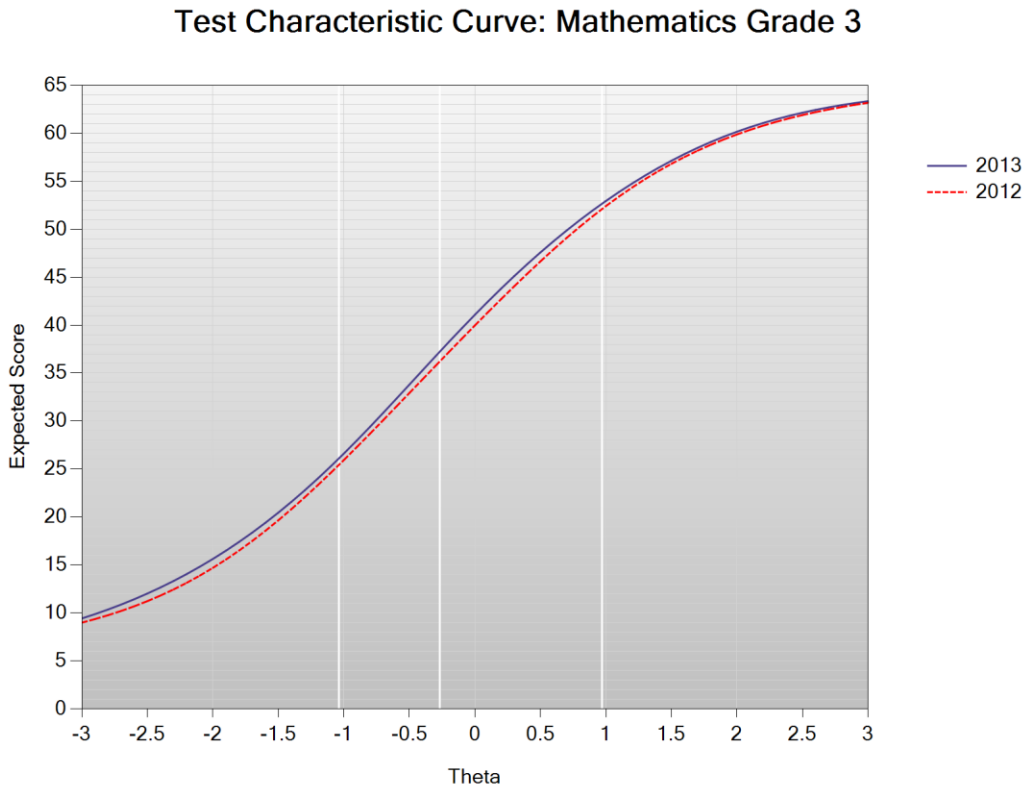
IREF	Parameters and Measures of Standard Error					
	a	*SE (a)*	*b*	*SE (b)*	*c*	*SE (c)*
253016	0.73912	0.01809	0.51572	0.03018	0.16940	0.01089
252873	1.02246	0.02034	-0.67920	0.02859	0.13545	0.01437
252795	0.36611	0.01844	0.98105	0.10611	0.16611	0.02450
252797	0.67307	0.01496	-1.17726	0.05742	0.09163	0.02479
252796	0.95258	0.02019	-0.39372	0.03047	0.18639	0.01385
252799	0.40105	0.01398	-0.20860	0.10689	0.10649	0.02864
252774	0.72403	0.01341	-1.13385	0.03782	0.04466	0.01610
252776	0.98053	0.02009	-0.82454	0.03268	0.13757	0.01642
252952	0.34047	0.00693	-0.56587	0.02874	0.00000	0.00000
252780	0.67798	0.01152	-1.74830	0.02901	0.00000	0.00000
252786	0.41854	0.01323	-0.00134	0.08257	0.08087	0.02304
252789	0.55811	0.01448	-0.28182	0.05869	0.10401	0.02014
252961	0.90899	0.01829	-1.51831	0.03986	0.06870	0.02093
252790	0.34820	0.00713	-0.97109	0.03381	0.00000	0.00000

Table H-28. 2013–14 NECAP: IRT Parameters for Polytomous Items
Reading Grade 11

IREF	Parameters and Measures of Standard Error													
	a	*SE (a)*	*b*	*SE (b)*	*D0*	*SE (D0)*	*D1*	*SE (D1)*	*D2*	*SE (D2)*	*D3*	*SE (D3)*	*D4*	*SE (D4)*
208474	0.94634	0.00563	-0.13334	0.00705	2.39741	0.02235	0.95263	0.01191	-0.70866	0.00883	-2.64138	0.01352	0	0
208476	0.90389	0.00531	0.01831	0.00725	2.64438	0.02356	0.77798	0.01108	-0.94591	0.00924	-2.47645	0.01364	0	0
252794	0.81794	0.00494	1.63306	0.00798	2.29876	0.01153	0.79547	0.00984	-0.7188	0.01341	-2.37542	0.02966	0	0
252801	1.12026	0.00687	1.2317	0.00596	1.71916	0.00916	0.6365	0.00775	-0.59849	0.00948	-1.75716	0.0165	0	0
252964	1.01257	0.00596	0.67685	0.00646	1.99261	0.01264	0.78077	0.00888	-0.68538	0.00898	-2.088	0.01488	0	0
253021	1.05512	0.00628	0.21703	0.00632	2.3662	0.0182	0.78226	0.00963	-0.78349	0.00831	-2.36496	0.01345	0	0

APPENDIX I—TEST CHARACTERISTIC CURVES AND TEST INFORMATION FUNCTION PLOTS

Figure I-1. 2013–14 NECAP: Mathematics Grade 3 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



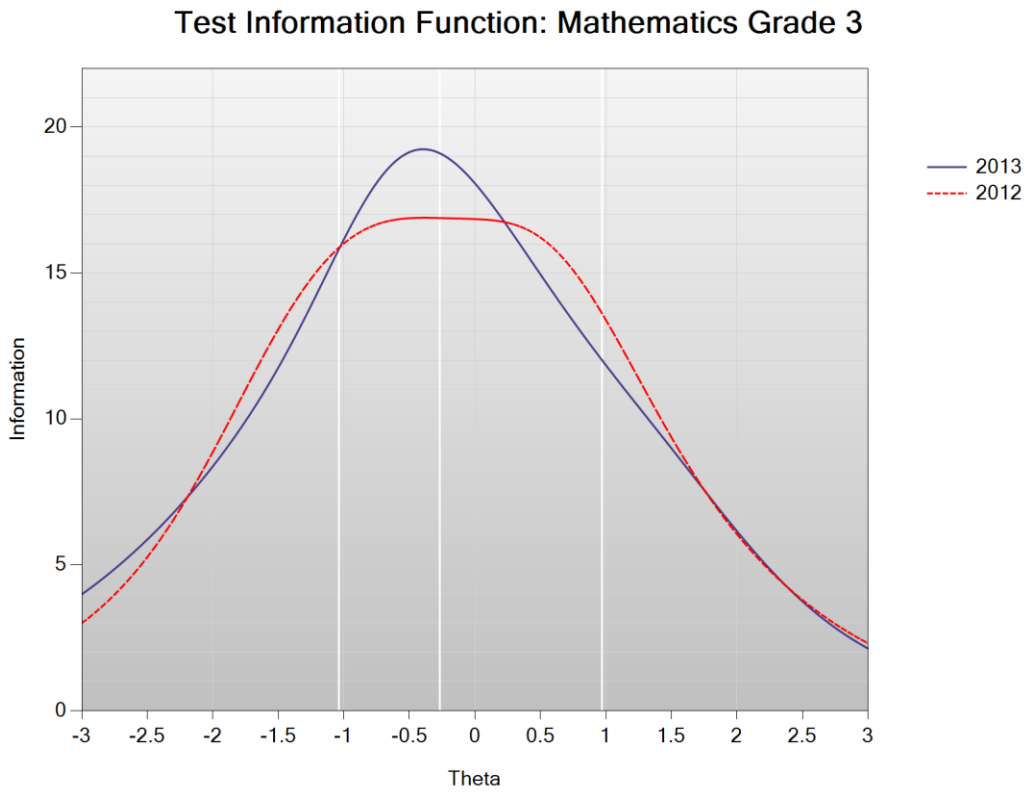
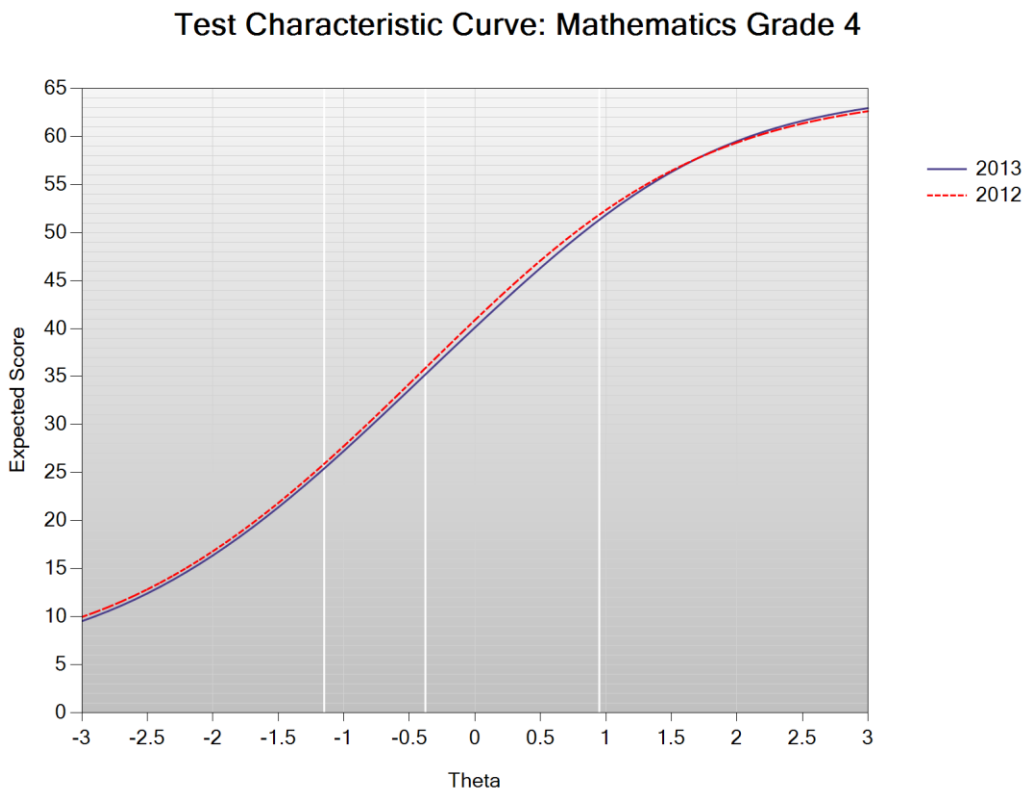


Figure I-2. 2013–14 NECAP: Mathematics Grade 4 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



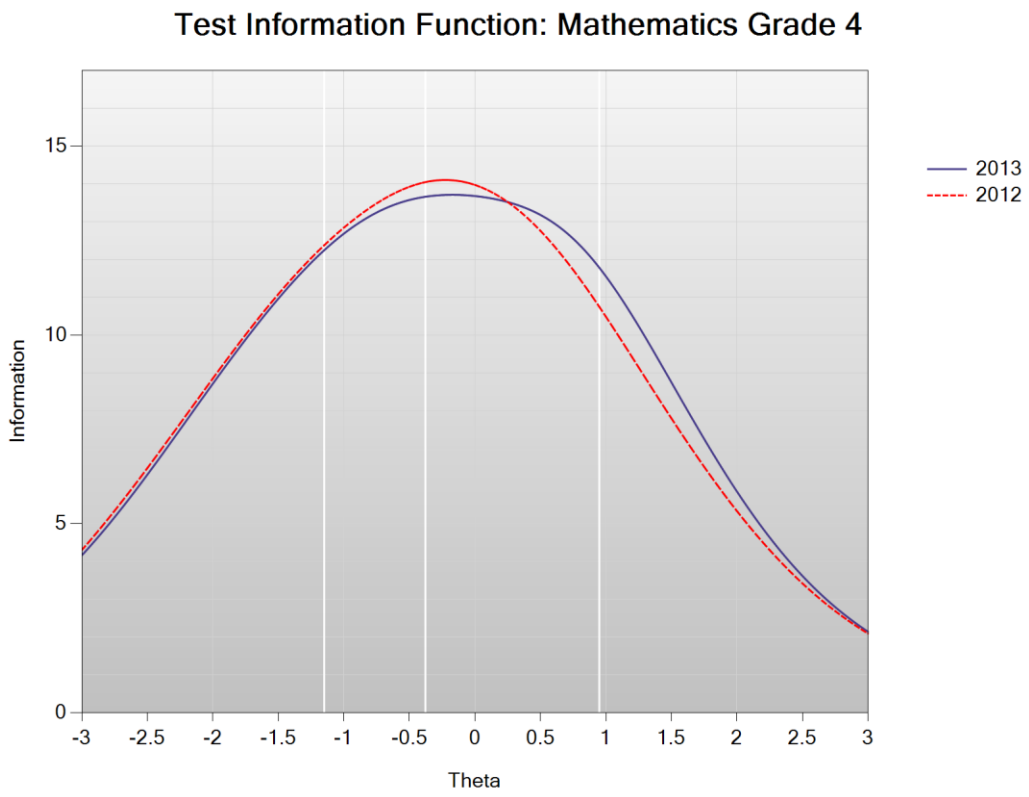
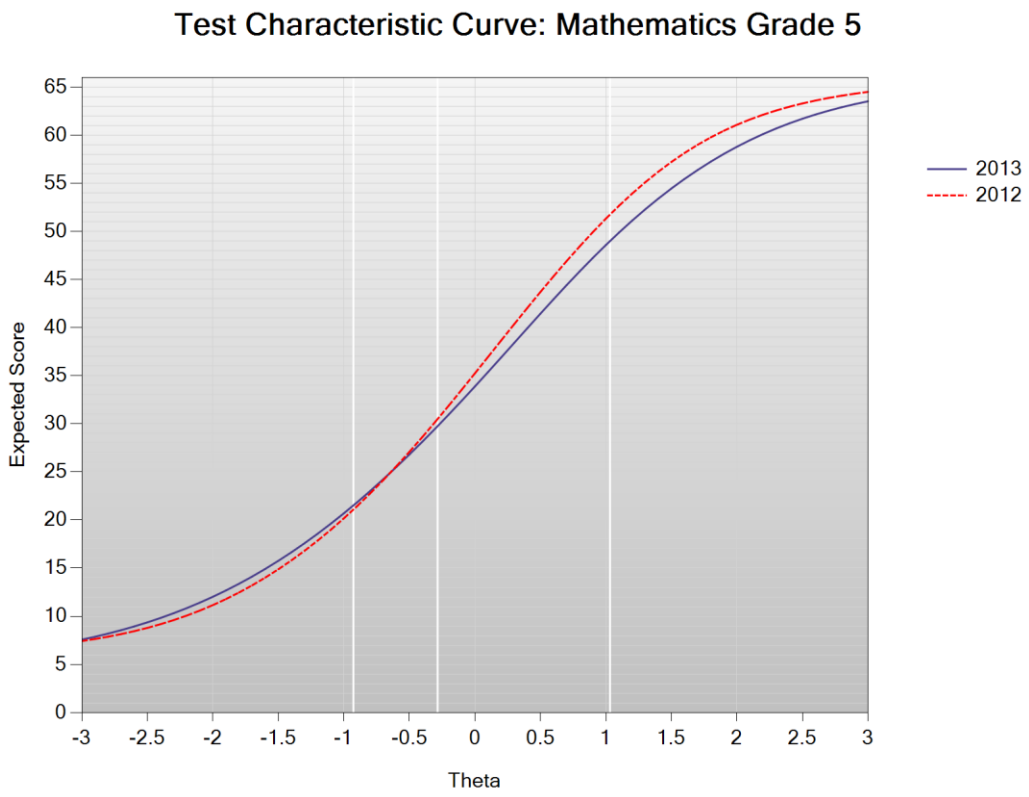


Figure I-3. 2013–14 NECAP: Mathematics Grade 5 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



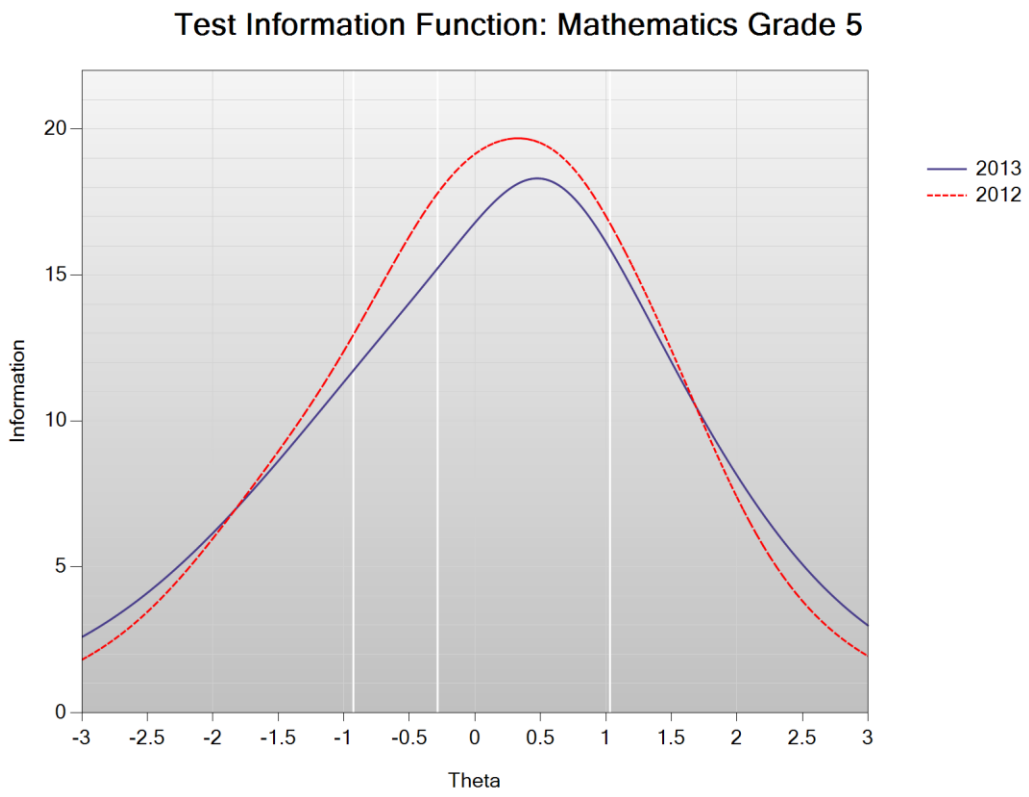
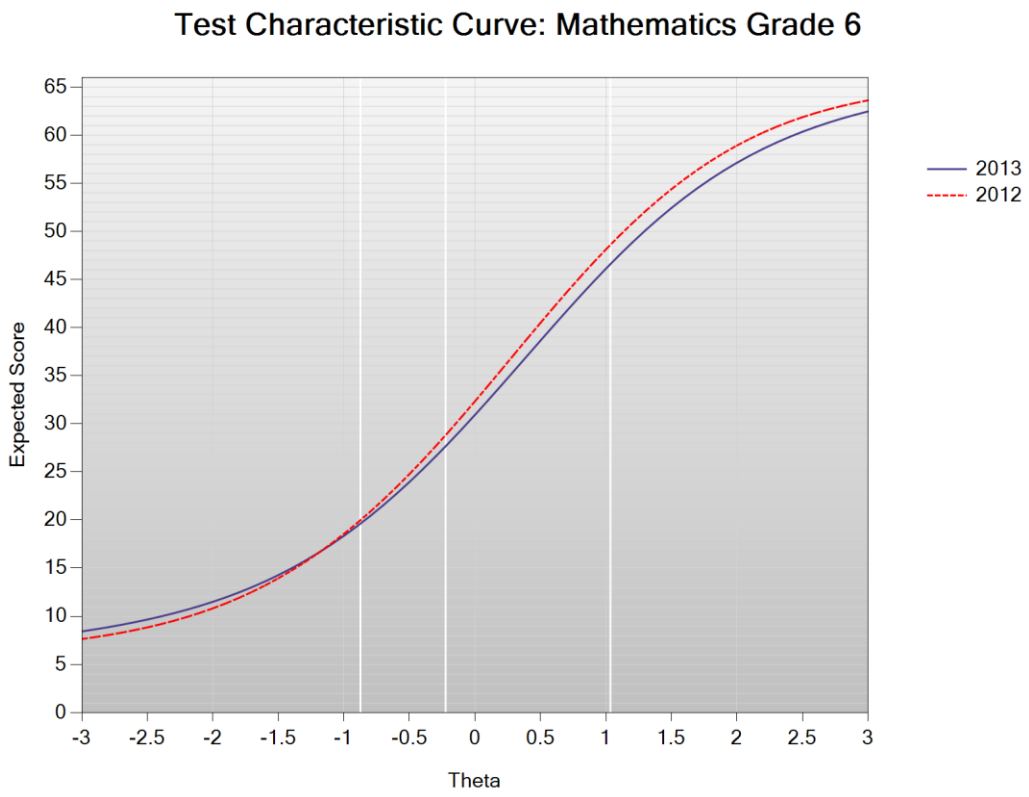


Figure I-4. 2013–14 NECAP: Mathematics Grade 6 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



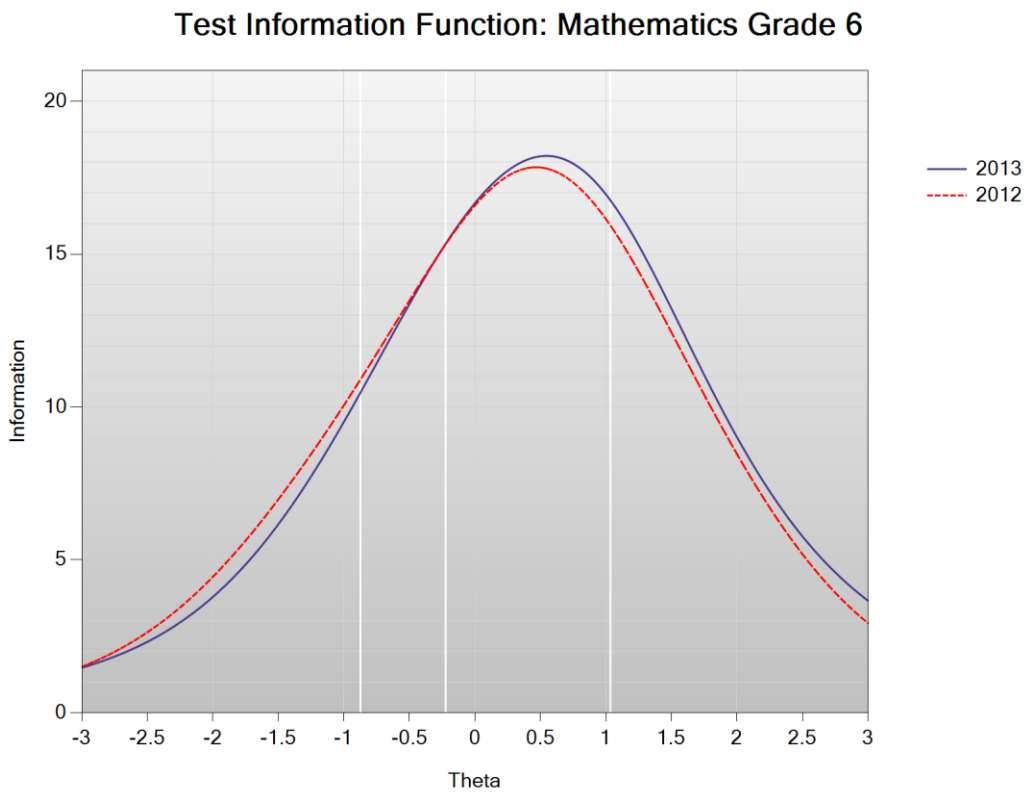
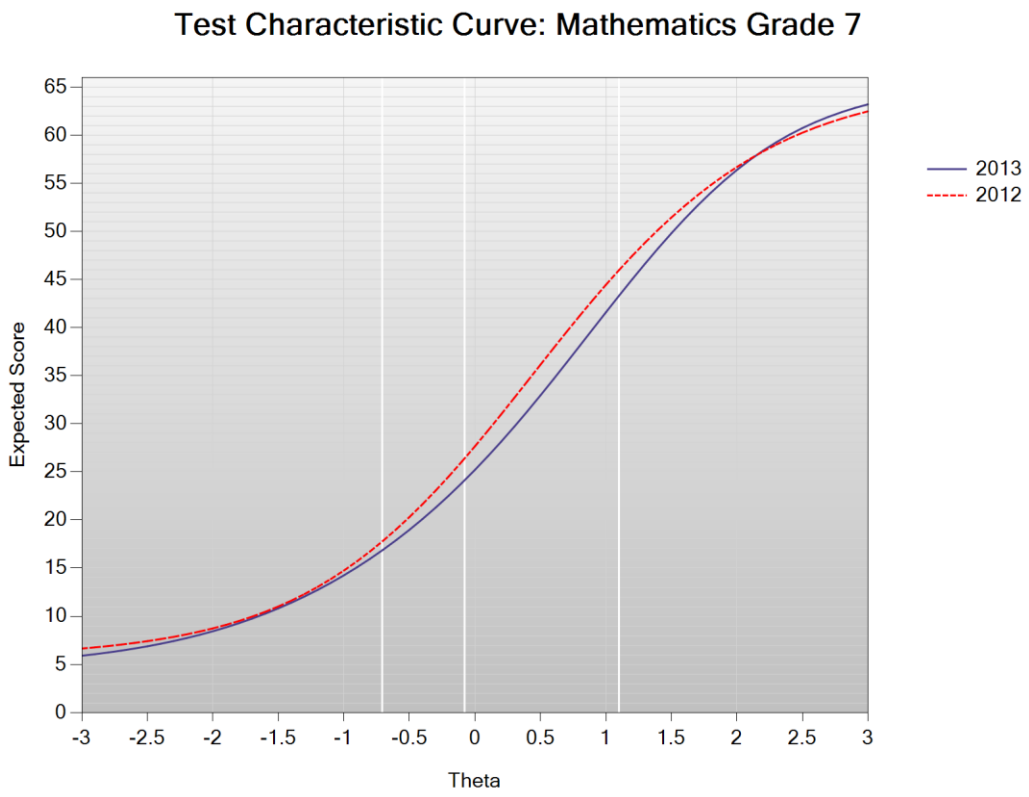


Figure I-5. 2013–14 NECAP: Mathematics Grade 7 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



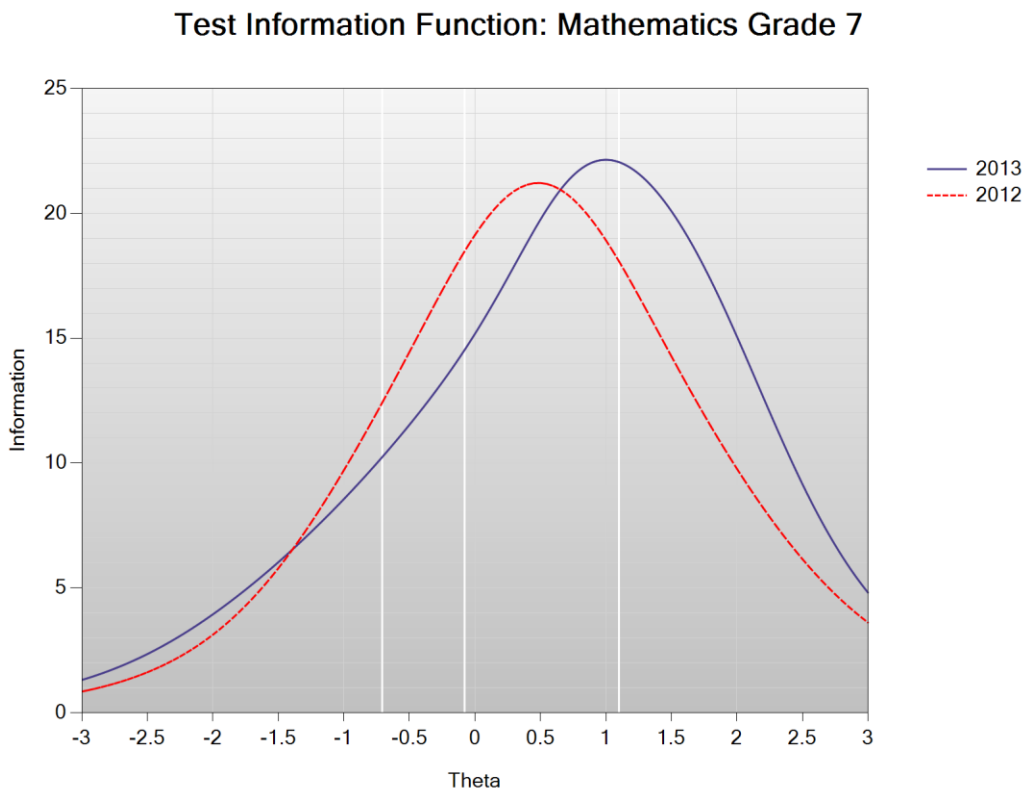
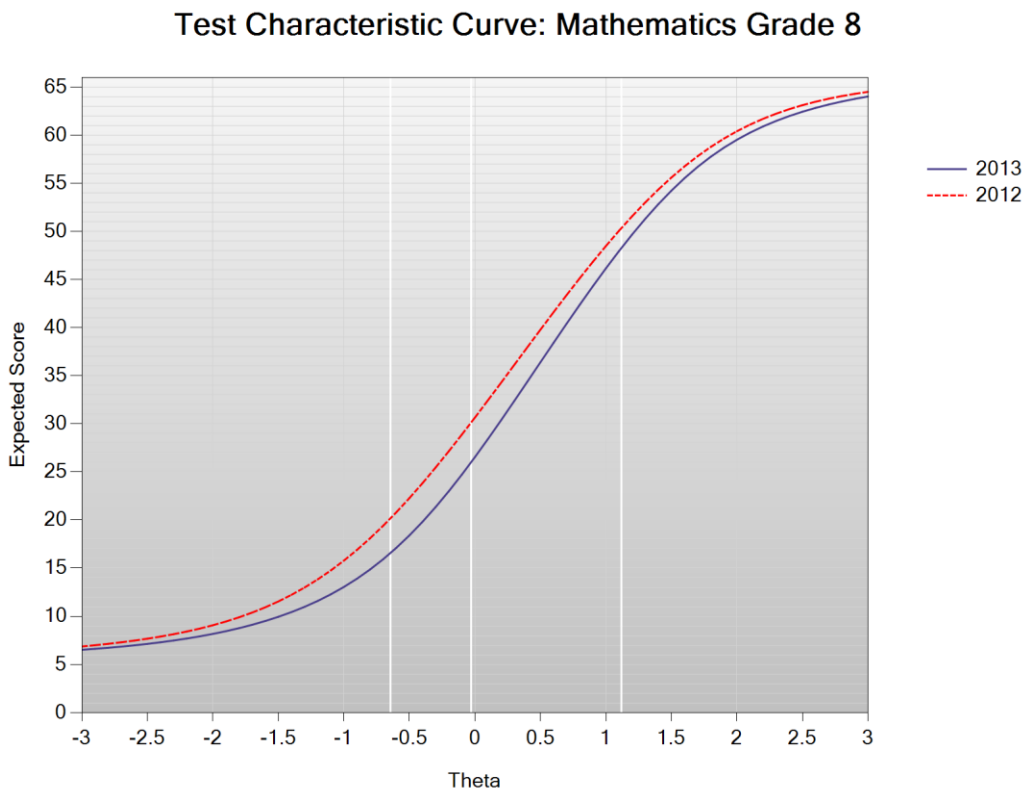


Figure I-6. 2013–14 NECAP: Mathematics Grade 8 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



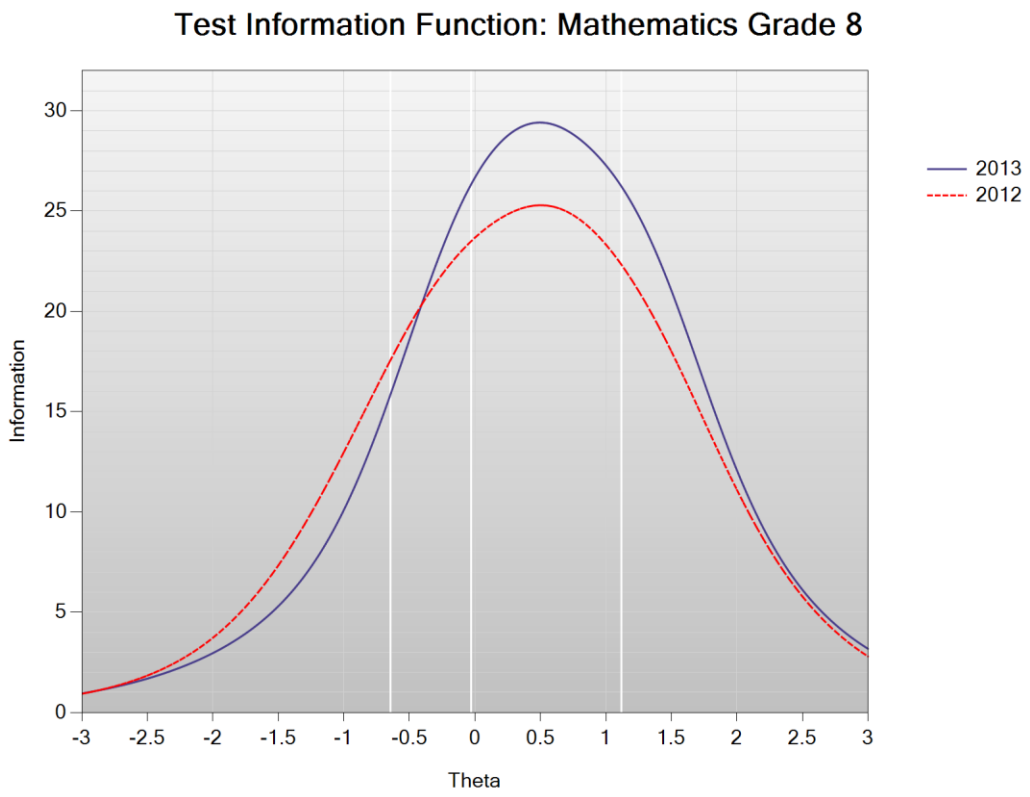
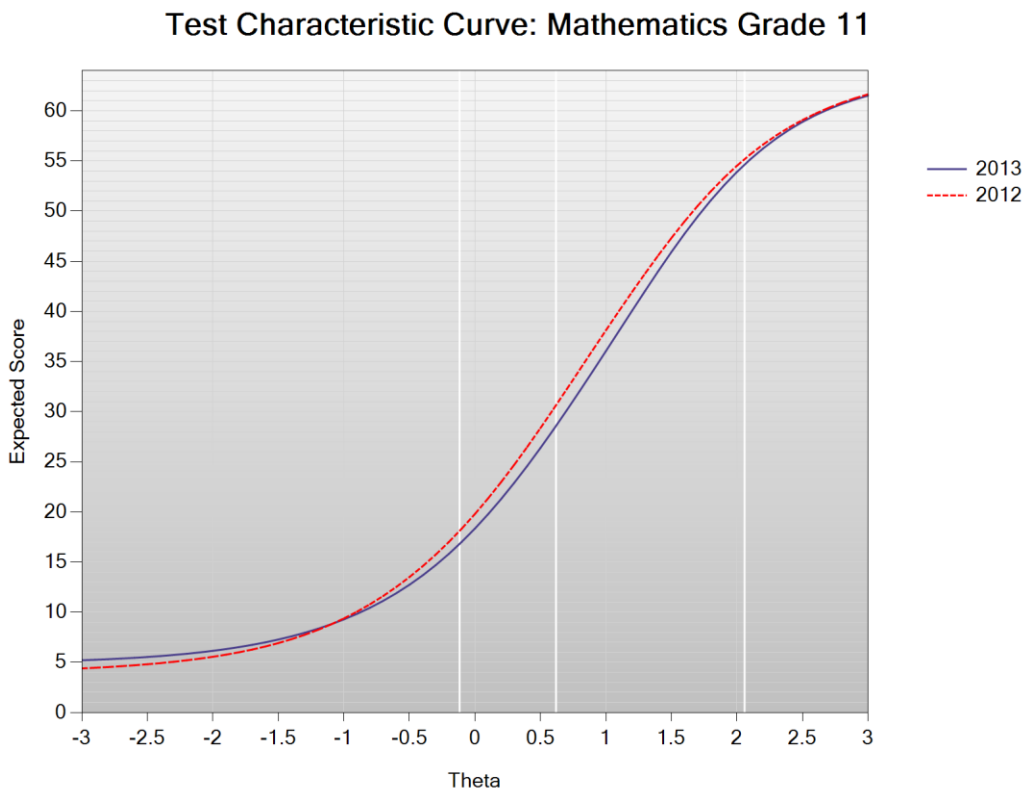


Figure I-7. 2013–14 NECAP: Mathematics Grade 11 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



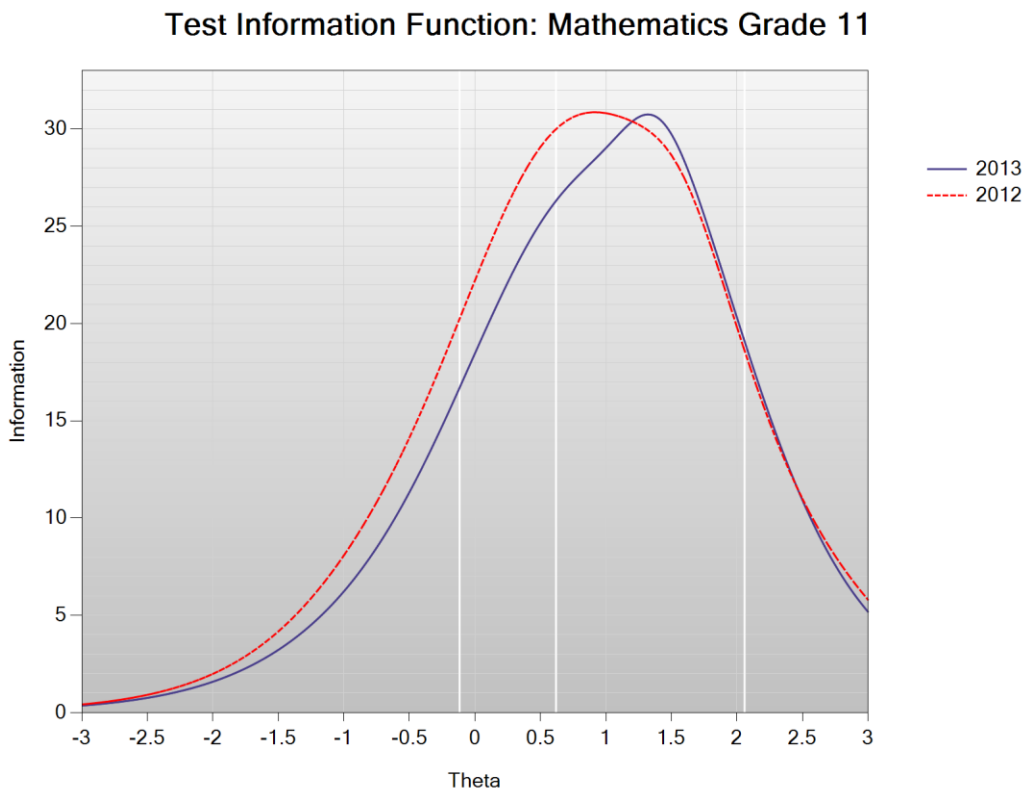
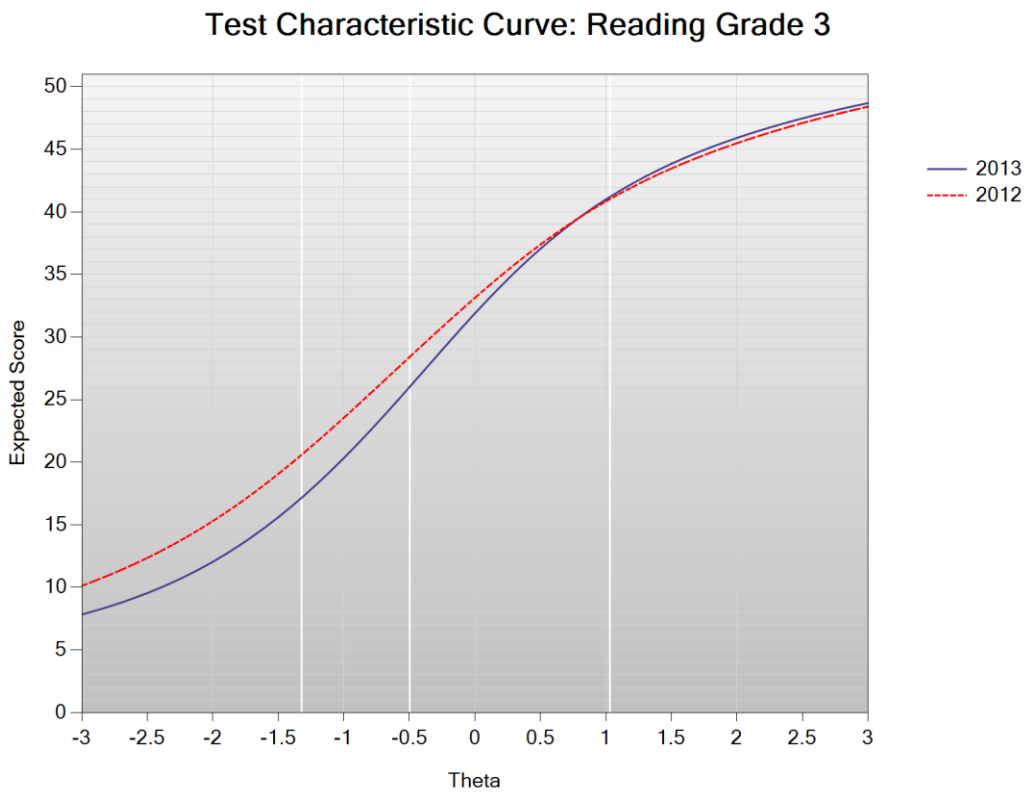


Figure I-8. 2013–14 NECAP: Reading Grade 3 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



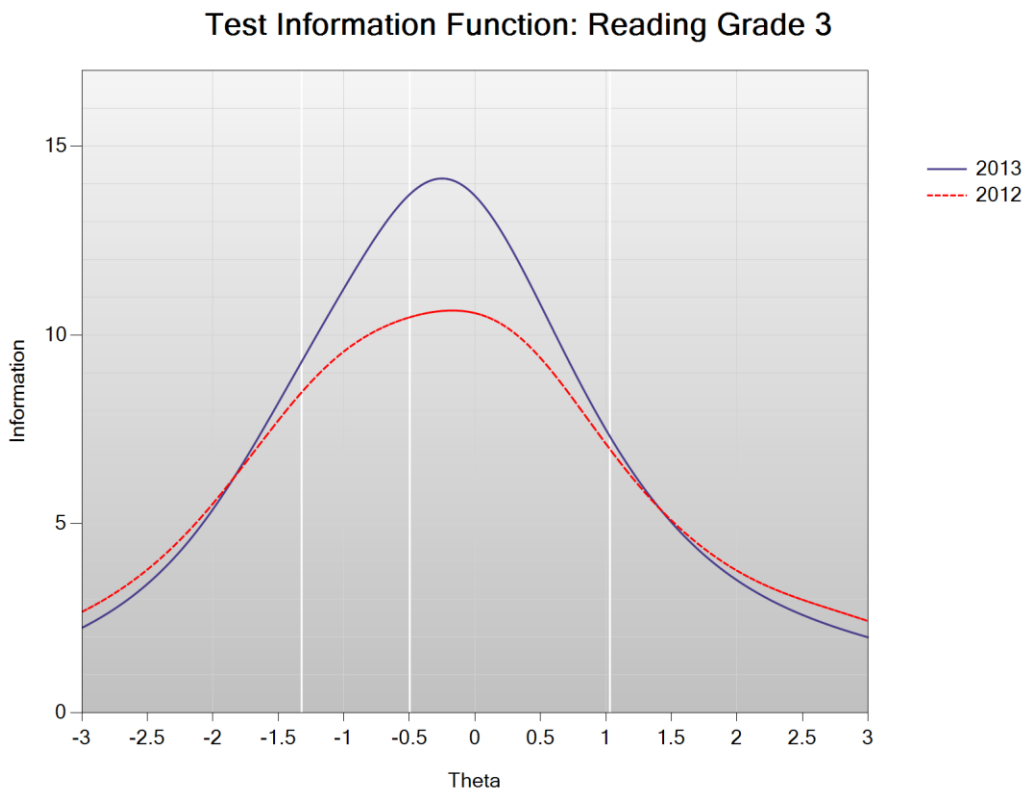
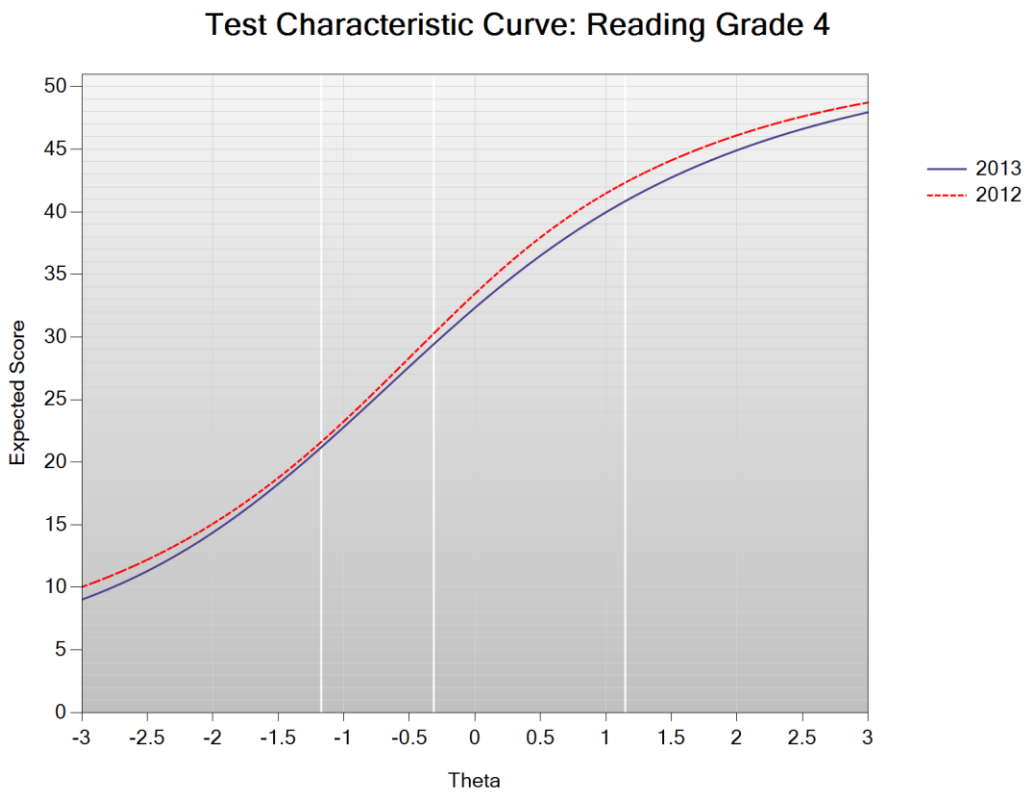


Figure I-9. 2013–14 NECAP: Reading Grade 4 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



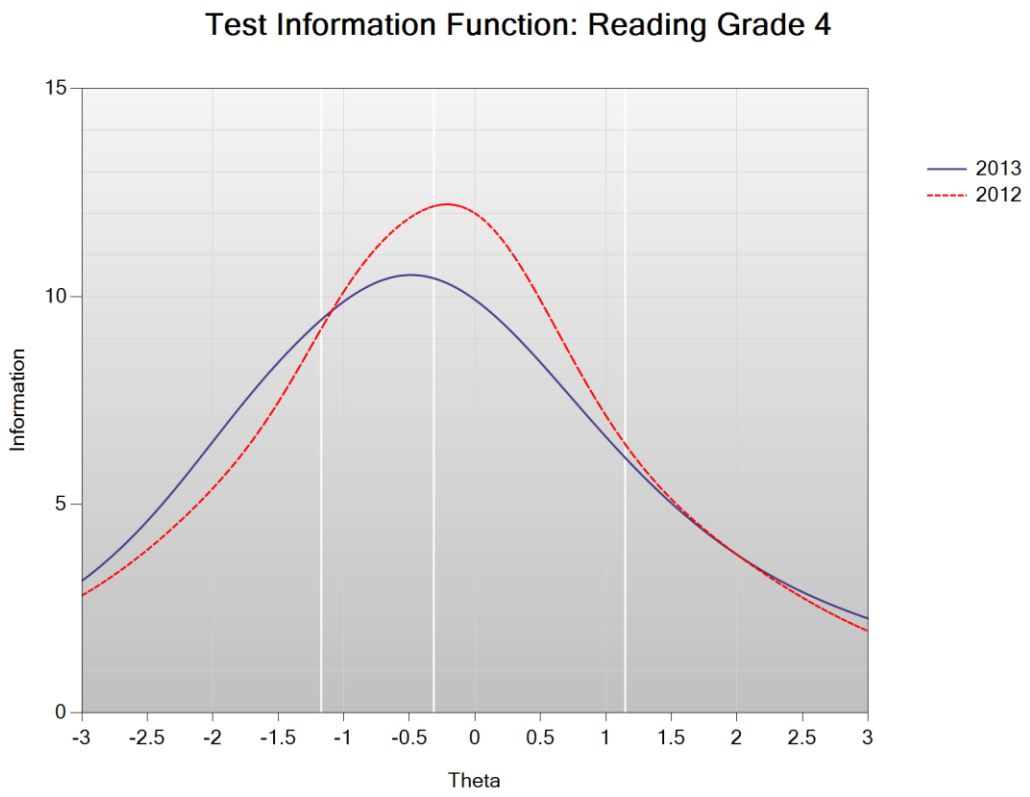
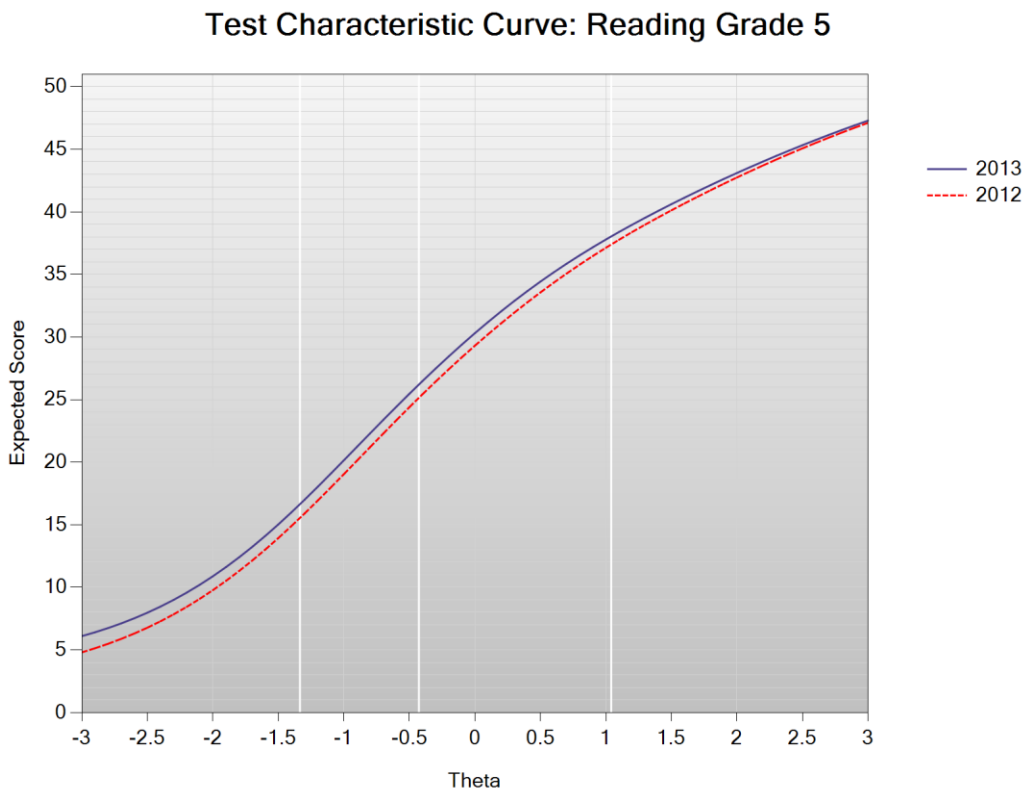


Figure I-10. 2013–14 NECAP: Reading Grade 5 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



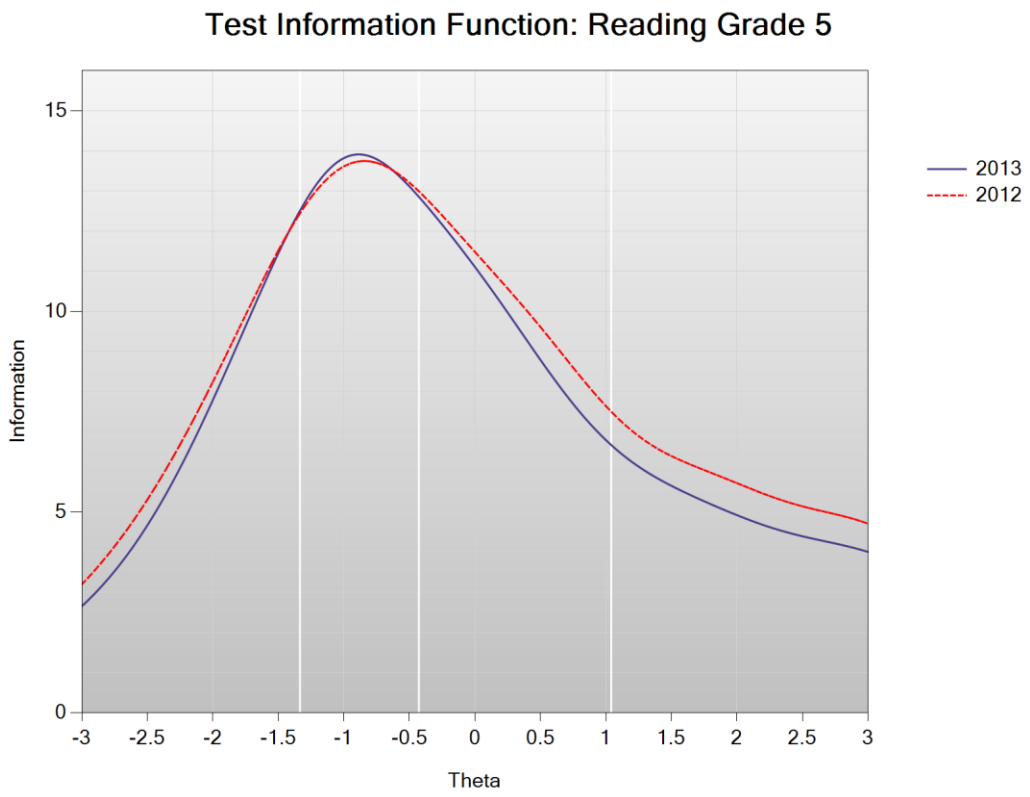
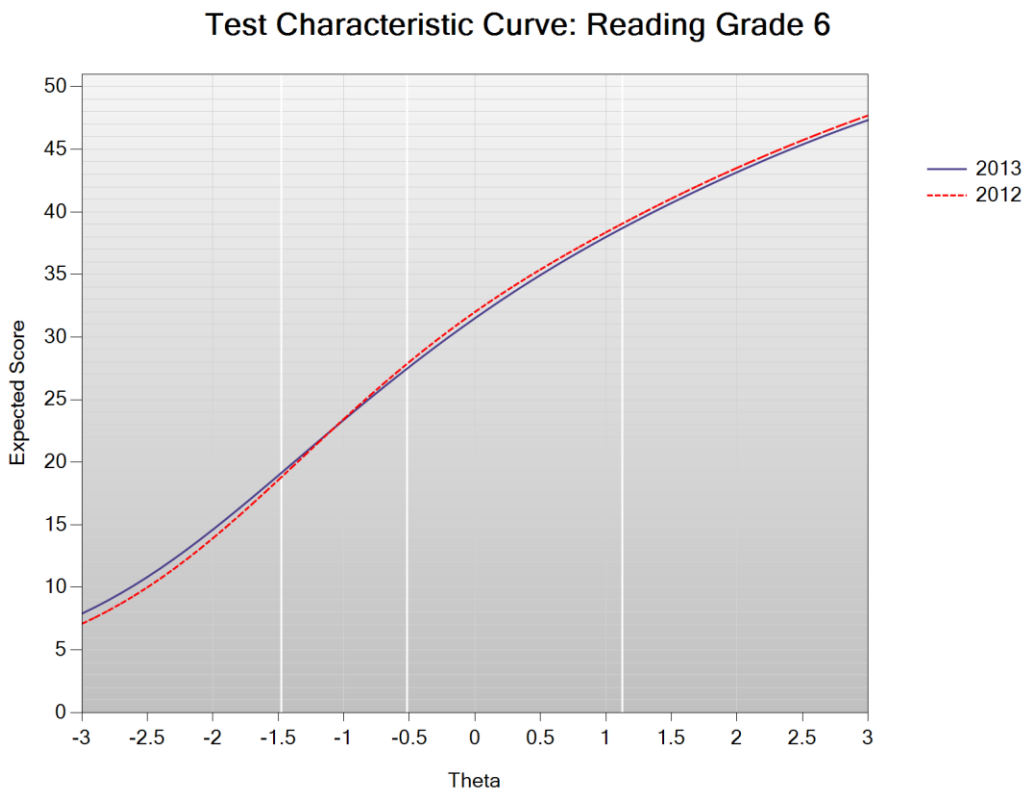


Figure I-11. 2013–14 NECAP: Reading Grade 6 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



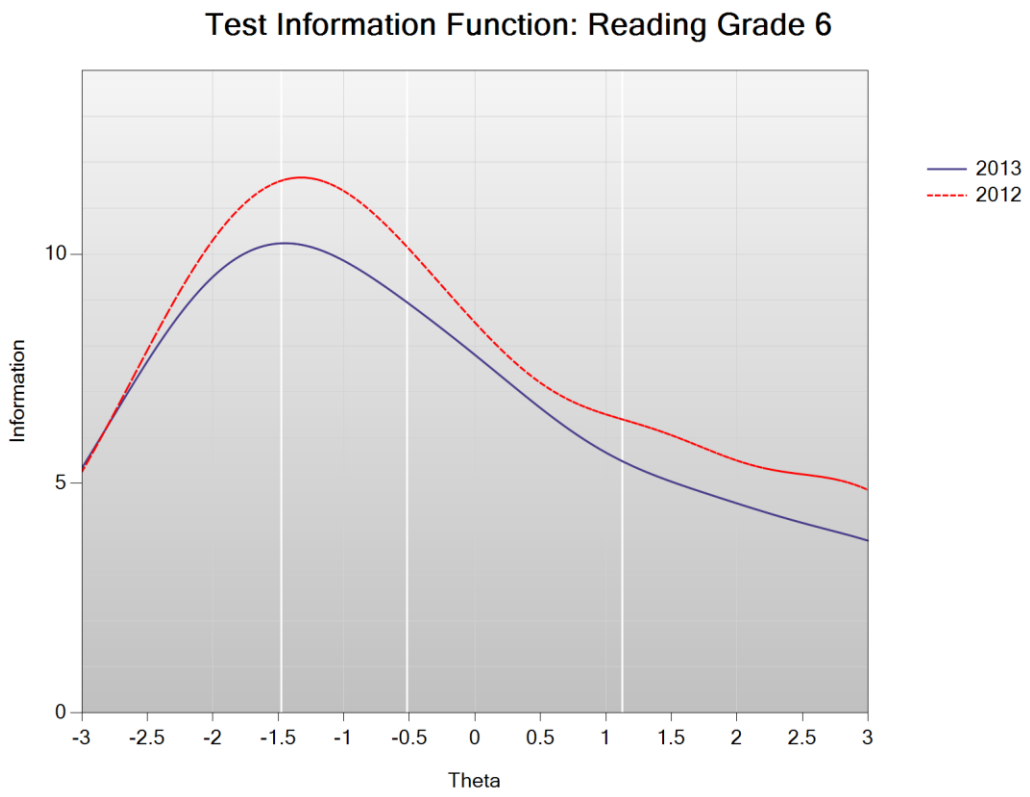
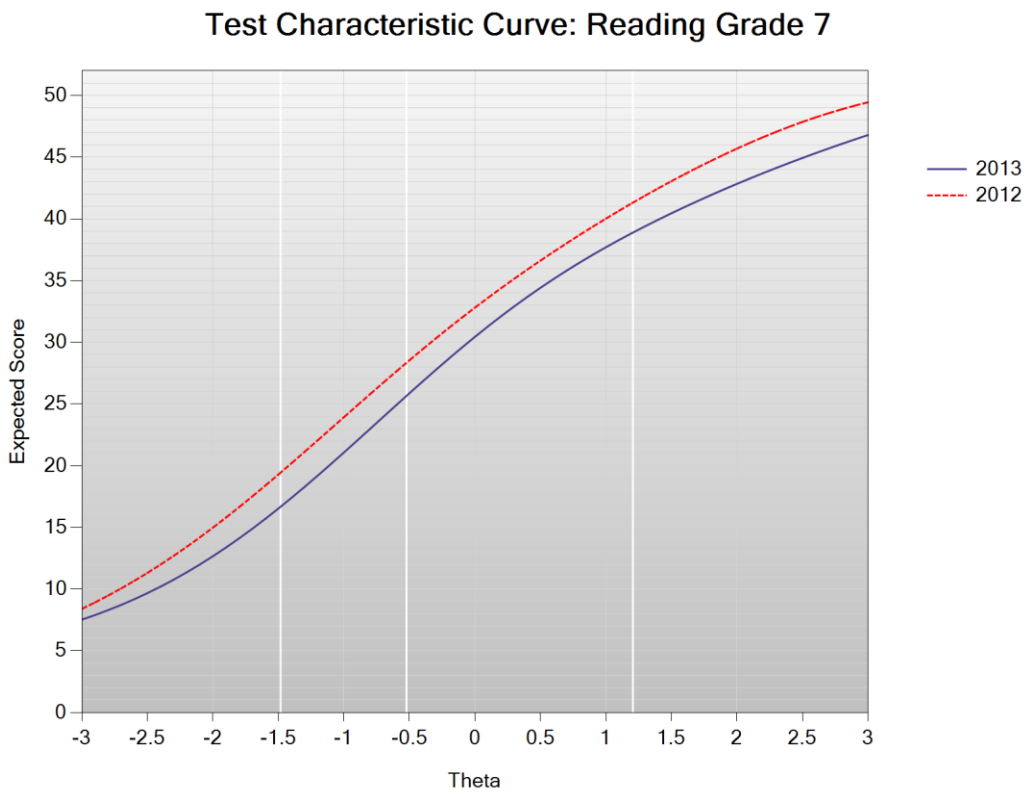


Figure I-12. 2013–14 NECAP: Reading Grade 7 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



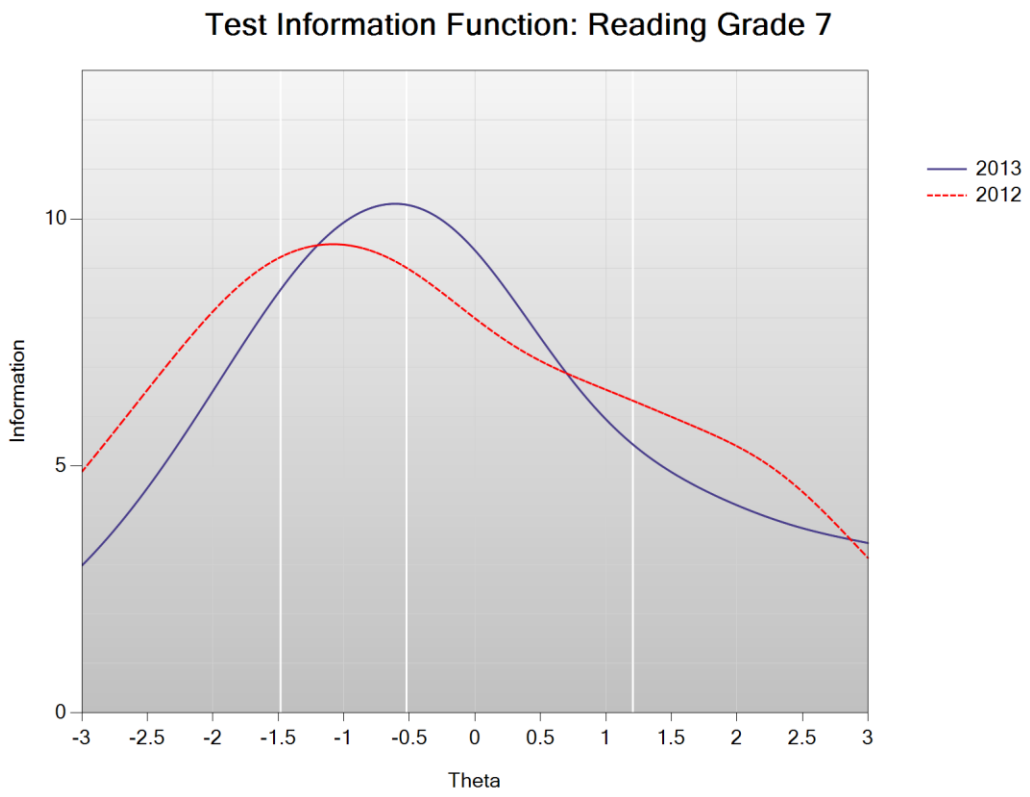
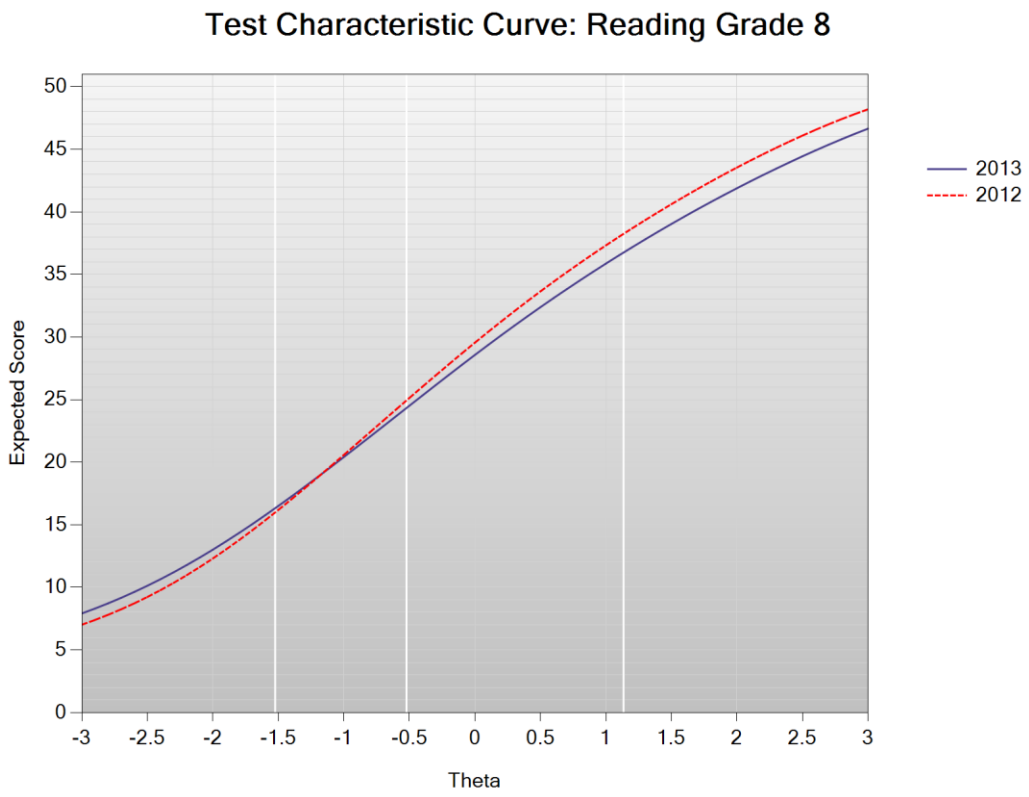


Figure I-13. 2013–14 NECAP: Reading Grade 8 Plots
Top: Test Characteristic Curve Bottom: Test Information Function



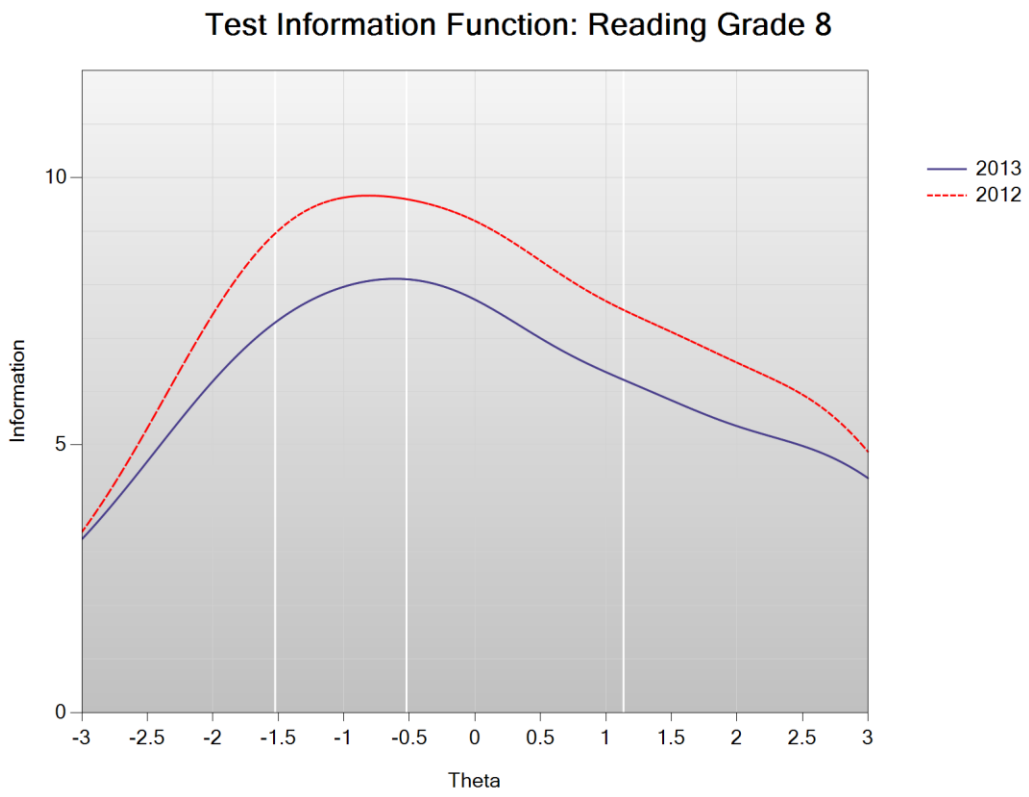
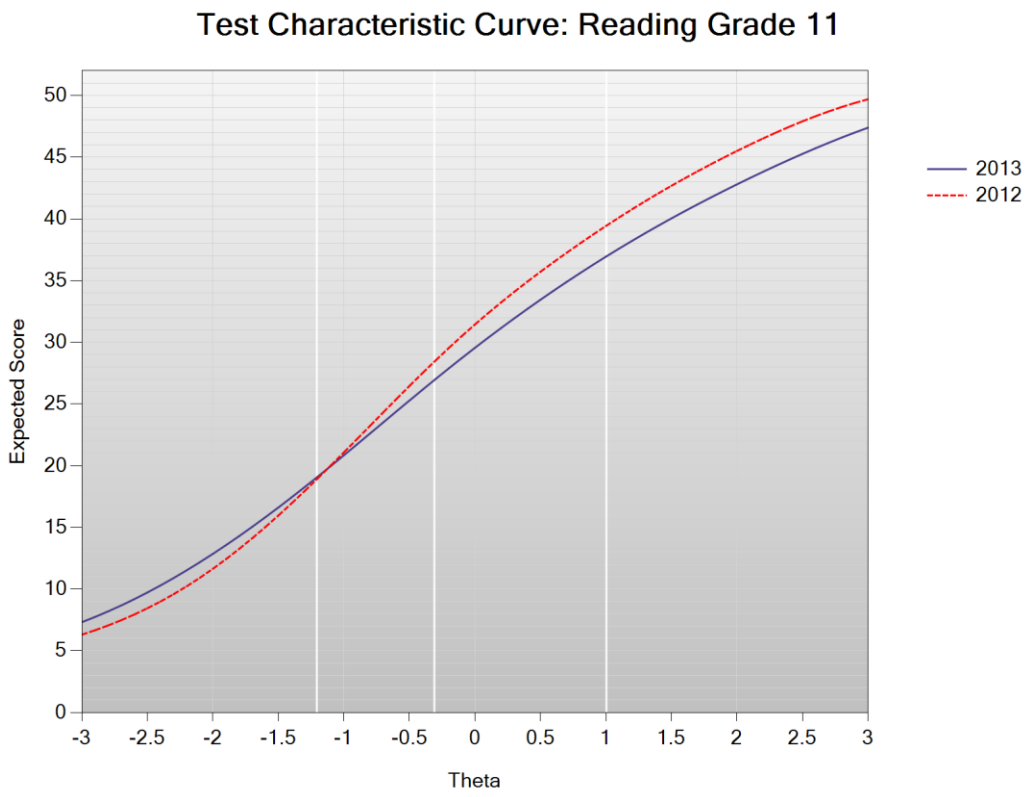
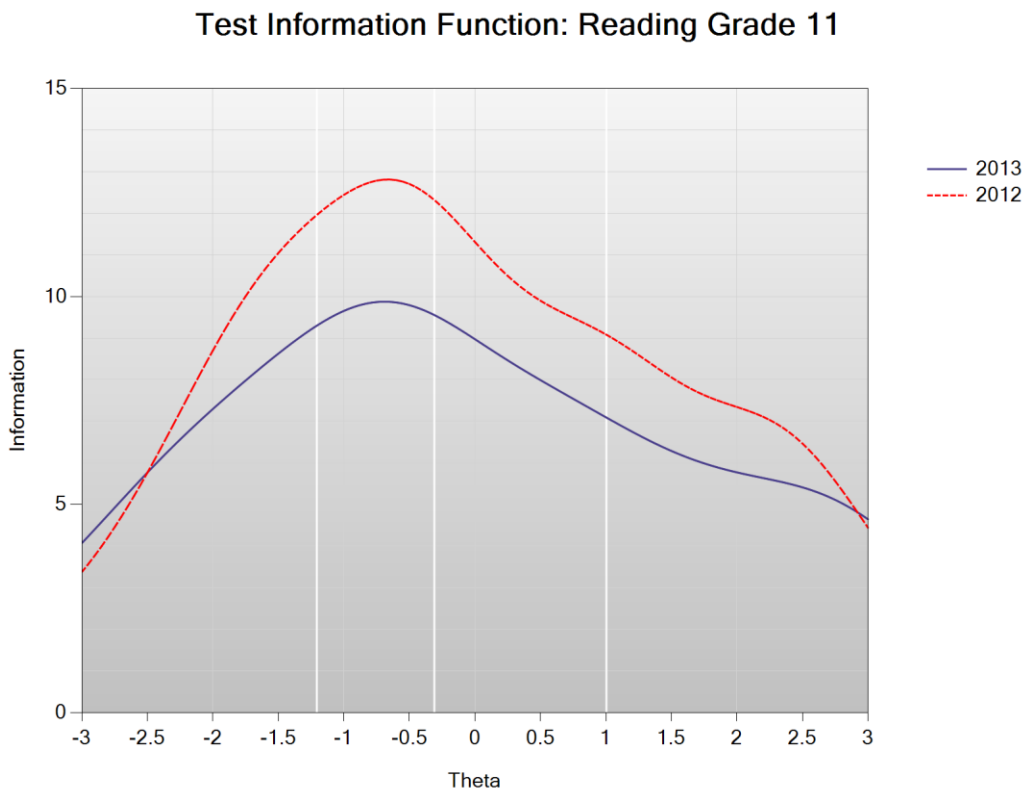


Figure I-14. 2013–14 NECAP: Reading Grade 11 Plots
Top: Test Characteristic Curve Bottom: Test Information Function





APPENDIX J—DELTA ANALYSES AND RESCORE ANALYSES

Figure J-1. 2013–14 NECAP: Delta Plot
Mathematics Grade 3

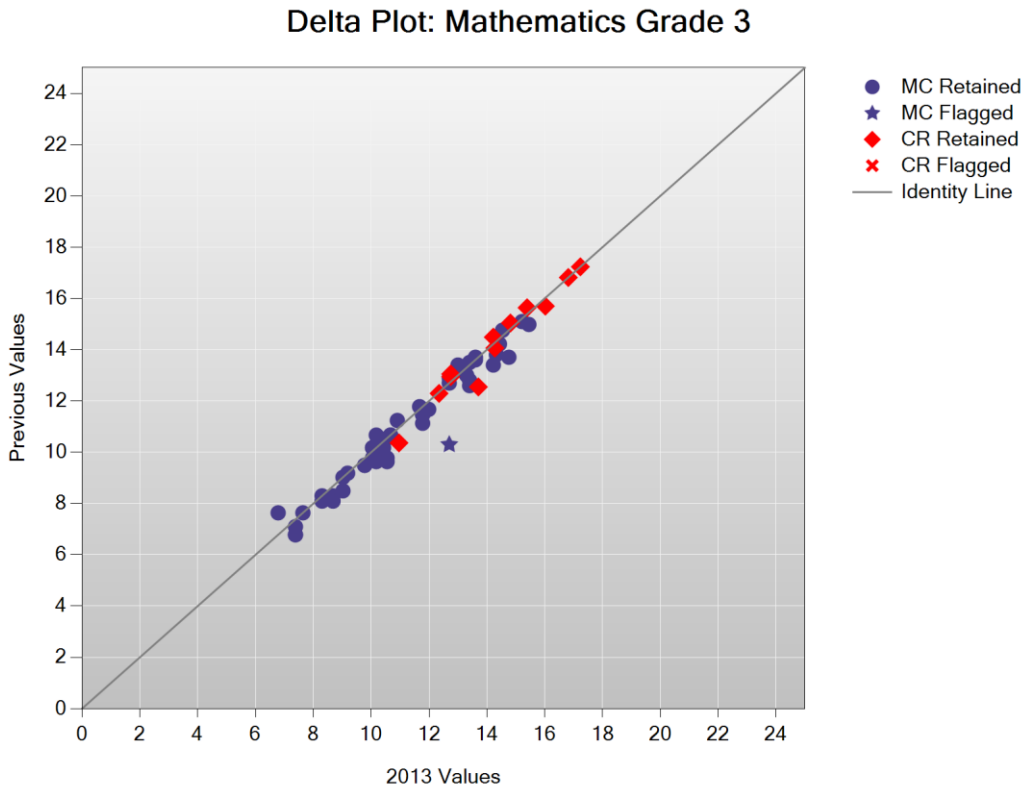


Table J-1. 2013–14 NECAP Delta Analysis
Mathematics Grade 3

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
119679	0.91000	0.91000	7.63698	7.63698	False	-0.20037
119720	0.72000	0.72000	10.66863	10.66863	False	-0.32747
119729	0.76000	0.77000	10.17479	10.04461	False	0.10146
119729	0.76000	0.77000	10.17479	10.04461	False	0.10146
119776	0.51000	0.53000	12.89972	12.69892	False	0.20870
119832	0.67000	0.70000	11.24035	10.90240	False	0.70836
119877	0.88000	0.86000	8.30005	8.67872	False	-0.67994
119891	0.46000	0.38000	13.40173	14.22192	False	0.91854
119901	0.53000	0.53000	12.69892	12.69892	False	-0.41259
119909	0.30500	0.32500	15.04029	14.81505	False	0.19561
119916	0.52000	0.46000	12.79939	13.40173	False	0.21015
119916	0.54000	0.46000	12.59827	13.40173	False	0.83242
122862	0.62000	0.63000	11.77808	11.67259	False	-0.04317
122872	0.91000	0.94000	7.63698	6.78091	False	2.48425
123045	0.94000	0.92000	6.78091	7.37971	False	-0.05328
124292	0.81000	0.79000	9.48841	9.77432	False	-0.92104
124292	0.81000	0.79000	9.48841	9.77432	False	-0.92104
124436	0.79000	0.75000	9.77432	10.30204	False	-0.15069

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
124490	0.50500	0.52500	12.94987	12.74917	False	0.20626
124490	0.49500	0.52500	13.05013	12.74917	False	0.51649
139548	0.72000	0.72000	10.66863	10.66863	False	-0.32747
139552	0.83000	0.83000	9.18334	9.18334	False	-0.26520
139560	0.88000	0.88000	8.30005	8.30005	False	-0.22817
139569	0.89000	0.86000	8.09389	8.67872	False	-0.04205
139572	0.45000	0.46000	13.50265	13.40173	False	-0.12984
139677	0.73000	0.73000	10.54875	10.54875	False	-0.32244
139689	0.48000	0.50000	13.20061	13.00000	False	0.19550
139689	0.46000	0.50000	13.40173	13.00000	False	0.81777
144609	0.65000	0.62000	11.45872	11.77808	False	-0.73351
144609	0.63000	0.62000	11.67259	11.77808	False	-0.70038
144612	0.25000	0.22500	15.69796	16.02166	False	-0.54216
145245	0.75000	0.53000	10.30204	12.69892	True	5.73303
145505	0.25500	0.27500	15.63535	15.39104	False	0.23045
145507	0.89000	0.88000	8.09389	8.30005	False	-0.86605
145526	0.74000	0.74000	10.42662	10.42662	False	-0.31732
145526	0.76000	0.74000	10.17479	10.42662	False	-0.99911
145672	0.93000	0.92000	7.09684	7.37971	False	-1.03078
145672	0.94000	0.92000	6.78091	7.37971	False	-0.05328
145674	0.87000	0.84000	8.49444	9.02217	False	-0.20433
168393	0.65000	0.62000	11.45872	11.77808	False	-0.73351
168409	0.68000	0.62000	11.12920	11.77808	False	0.28602
168416	0.54500	0.43000	12.54785	13.70550	False	1.94101
168521	0.79000	0.75000	9.77432	10.30204	False	-0.15069
168521	0.78000	0.75000	9.91123	10.30204	False	-0.57430
168625	0.72000	0.76000	10.66863	10.17479	False	1.22121
168720	0.31000	0.27000	14.98340	15.45125	False	-0.12007
168763	0.14500	0.14500	17.23249	17.23249	False	-0.60266
198551	0.84000	0.84000	9.02217	9.02217	False	-0.25844
201811	0.75000	0.76000	10.30204	10.17479	False	0.08695
203044	0.80000	0.76000	9.63352	10.17479	False	-0.11411
203044	0.78000	0.76000	9.91123	10.17479	False	-0.97336
203056	0.57000	0.56500	12.29450	12.34537	False	-0.55514
203063	0.33000	0.35000	14.75965	14.54128	False	0.18582
203065	0.30000	0.29000	15.09760	15.21354	False	-0.87673
203129	0.63000	0.60000	11.67259	11.98661	False	-0.74127
203198	0.39500	0.37500	14.06524	14.27456	False	-0.96932
203205	0.17000	0.17000	16.81666	16.81666	False	-0.58523
203212	0.79000	0.77000	9.77432	10.04461	False	-0.95798
209937	0.38000	0.36000	14.22192	14.43384	False	-0.95461
223883	0.79000	0.73000	9.77432	10.54875	False	0.62297
223883	0.80000	0.73000	9.63352	10.54875	False	1.05861
231019	0.74500	0.69500	10.36465	10.95971	False	0.08520
252000	0.42000	0.37000	13.80757	14.32741	False	-0.00633
252015	0.50000	0.47000	13.00000	13.30108	False	-0.72621
252056	0.35500	0.38000	14.48742	14.22192	False	0.34503
252123	0.43000	0.33000	13.70550	14.75965	False	1.66499
255932	0.43000	0.44000	13.70550	13.60388	False	-0.13612

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
255932	0.44000	0.44000	13.60388	13.60388	False	-0.45053

Figure J-2. 2013–14 NECAP: Delta Plot
Mathematics Grade 4

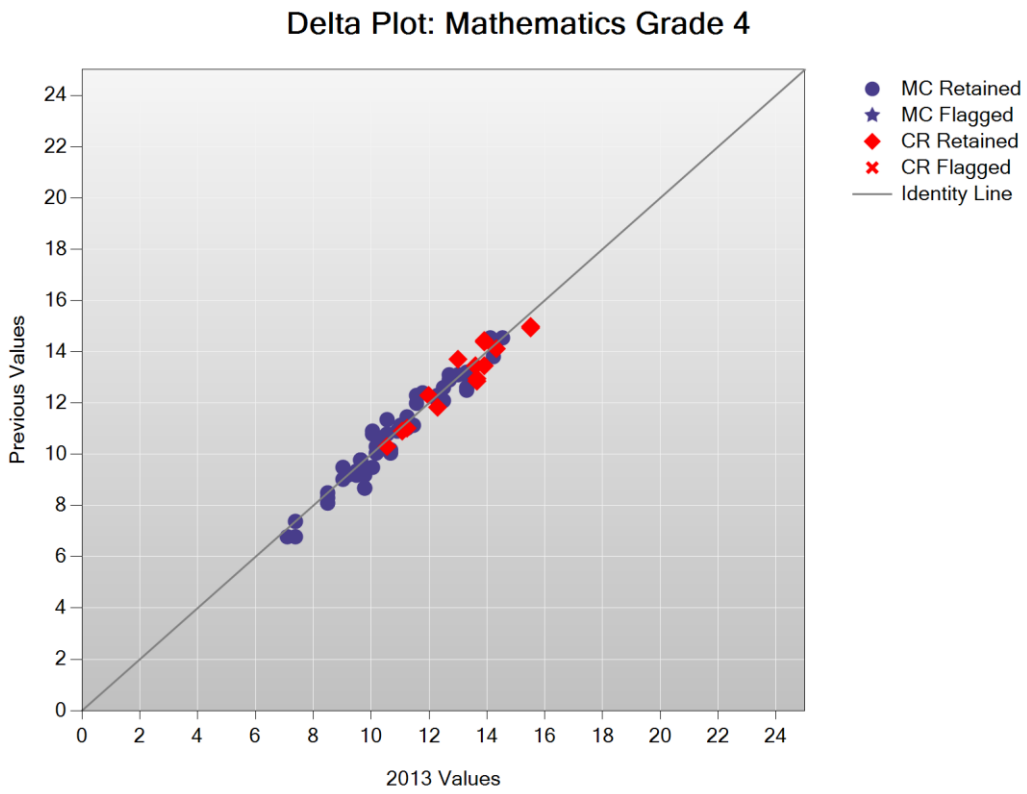


Table J-2. 2013–14 NECAP Delta Analysis
Mathematics Grade 4

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
120028	0.82000	0.80000	9.33854	9.63352	False	-0.78961
120028	0.82000	0.80000	9.33854	9.63352	False	-0.78961
120045	0.54000	0.55000	12.59827	12.49735	False	-0.66745
120071	0.59000	0.55000	12.08982	12.49735	False	-0.12107
120083	0.69000	0.67000	11.01660	11.24035	False	-0.92133
120126	0.87000	0.87000	8.49444	8.49444	False	-0.70696
120131	0.77000	0.76000	10.04461	10.17479	False	-1.34110
120175	0.51000	0.53000	12.89972	12.69892	False	-0.30788
120175	0.49000	0.53000	13.10028	12.69892	False	0.44850
120178	0.94000	0.93000	6.78091	7.09684	False	-0.92672
120203	0.61500	0.57000	11.83050	12.29450	False	0.07461
120220	0.84000	0.84000	9.02217	9.02217	False	-0.75193
120224	0.83000	0.79000	9.18334	9.77432	False	0.33876

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
120251	0.89000	0.87000	8.09389	8.49444	False	-0.48850
120267	0.71000	0.77000	10.78646	10.04461	False	1.95883
120267	0.70000	0.77000	10.90240	10.04461	False	2.39609
120290	0.70000	0.68500	10.90240	11.07309	False	-1.13567
124620	0.92000	0.92000	7.37971	7.37971	False	-0.61198
124661	0.45500	0.41000	13.45215	13.91018	False	0.18974
139450	0.39000	0.37000	14.11728	14.32741	False	-0.70962
139455	0.60000	0.64000	11.98661	11.56616	False	0.61702
139455	0.57000	0.64000	12.29450	11.56616	False	1.77823
139466	0.68000	0.66000	11.12920	11.35015	False	-0.92255
139477	0.79000	0.80000	9.77432	9.63352	False	-0.27299
139477	0.79000	0.80000	9.77432	9.63352	False	-0.27299
139497	0.51000	0.46000	12.89972	13.40173	False	0.31230
139511	0.94000	0.92000	6.78091	7.37971	False	0.16426
144635	0.75000	0.73000	10.30204	10.54875	False	-0.89367
144637	0.36500	0.41000	14.38050	13.91018	False	0.60540
144637	0.36000	0.41000	14.43384	13.91018	False	0.80655
144641	0.86000	0.79000	8.67872	9.77432	False	2.24192
144641	0.86000	0.79000	8.67872	9.77432	False	2.24192
145081	0.69000	0.67000	11.01660	11.24035	False	-0.92133
145087	0.88000	0.87000	8.30005	8.49444	False	-1.26605
145268	0.81000	0.84000	9.48841	9.02217	False	1.00652
145281	0.76000	0.72000	10.17479	10.66863	False	0.04863
145281	0.77000	0.72000	10.04461	10.66863	False	0.53959
145290	0.51500	0.43500	12.84957	13.65463	False	1.47683
145290	0.50500	0.43500	12.94987	13.65463	False	1.09855
145564	0.68000	0.65000	11.12920	11.45872	False	-0.50383
145788	0.81000	0.77000	9.48841	10.04461	False	0.23062
145799	0.83000	0.81000	9.18334	9.48841	False	-0.76388
145805	0.75000	0.76000	10.30204	10.17479	False	-0.37021
145815	0.55000	0.47000	12.49735	13.30108	False	1.44164
145815	0.54000	0.47000	12.59827	13.30108	False	1.06106
145851	0.35000	0.35000	14.54128	14.54128	False	-1.22219
168428	0.68000	0.69000	11.12920	11.01660	False	-0.49717
168431	0.48000	0.47000	13.20061	13.30108	False	-1.21070
168457	0.56000	0.62000	12.39612	11.77808	False	1.34421
168481	0.31500	0.26500	14.92691	15.51202	False	0.80555
168481	0.31000	0.26500	14.98340	15.51202	False	0.59248
169080	0.82000	0.81000	9.33854	9.48841	False	-1.34922
169095	0.81000	0.79000	9.48841	9.77432	False	-0.81184
169095	0.81000	0.79000	9.48841	9.77432	False	-0.81184
169109	0.49000	0.50000	13.10028	13.00000	False	-0.71268
201329	0.76000	0.73000	10.17479	10.54875	False	-0.41374
201335	0.66000	0.73000	11.35015	10.54875	False	2.14047
201339	0.65000	0.67000	11.45872	11.24035	False	-0.11735
201342	0.71000	0.73000	10.78646	10.54875	False	0.01453
201364	0.57000	0.60000	12.29450	11.98661	False	0.15669
201383	0.42000	0.38000	13.80757	14.22192	False	0.05157
201425	0.43000	0.50000	13.70550	13.00000	False	1.56991

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
232535	0.59000	0.57000	12.08982	12.29450	False	-0.90341
232535	0.57000	0.57000	12.29450	12.29450	False	-1.03075
252025	0.35000	0.39000	14.54128	14.11728	False	0.41307
252030	0.72000	0.74000	10.66863	10.42662	False	0.04116
252089	0.45500	0.44000	13.45215	13.60388	False	-0.99158
252102	0.70000	0.70000	10.90240	10.90240	False	-0.91214
255685	0.83000	0.83000	9.18334	9.18334	False	-0.76566

Figure J-3. 2013–14 NECAP: Delta Plot
Mathematics Grade 5

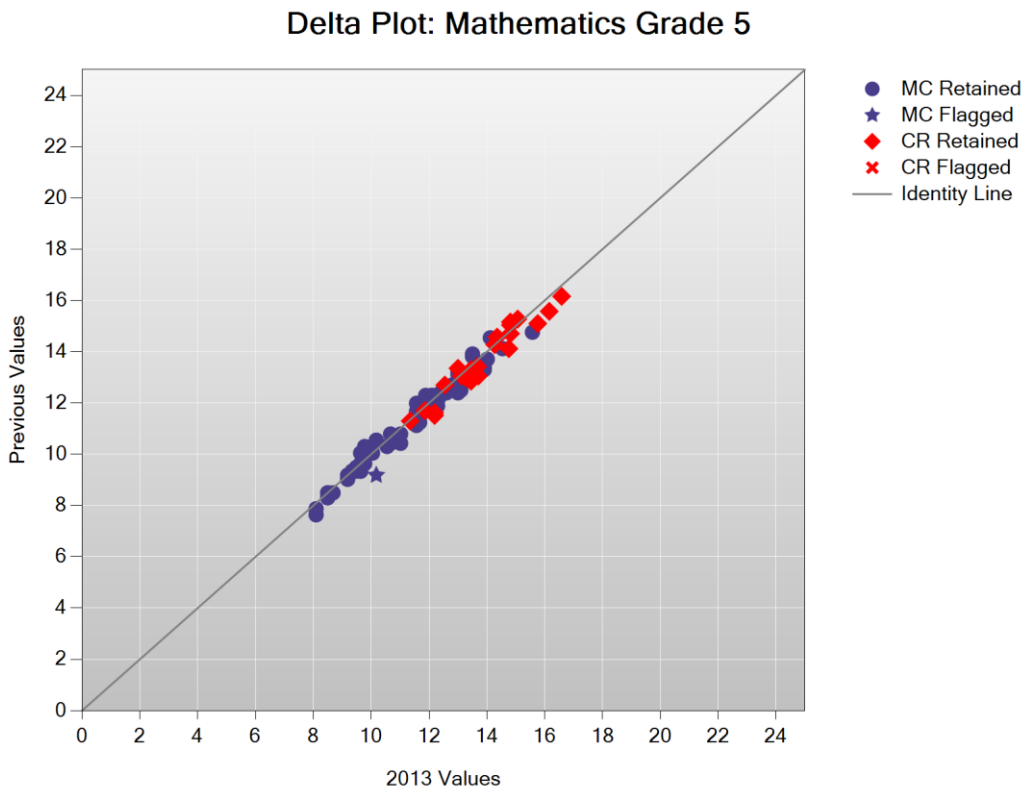


Table J-3. 2013–14 NECAP Delta Analysis
Mathematics Grade 5

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
120645	0.87000	0.87000	8.49444	8.49444	False	-0.90284
120645	0.88000	0.87000	8.30005	8.49444	False	-0.95536
120658	0.82000	0.81000	9.33854	9.48841	False	-1.25962
120658	0.81000	0.81000	9.48841	9.48841	False	-0.83355
120667	0.42000	0.45000	13.80757	13.50265	False	1.05614
120667	0.41000	0.45000	13.91018	13.50265	False	1.59785

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
120670	0.61000	0.62000	11.88272	11.77808	False	-0.12146
120670	0.62000	0.62000	11.77808	11.77808	False	-0.67394
120678	0.57000	0.61000	12.29450	11.88272	False	1.50734
120682	0.68000	0.64000	11.12920	11.56616	False	0.11121
120704	0.64500	0.58000	11.51258	12.19243	False	1.34989
120704	0.63500	0.58000	11.61950	12.19243	False	0.78539
120724	0.63000	0.64000	11.67259	11.56616	False	-0.12686
120728	0.67000	0.64000	11.24035	11.56616	False	-0.47557
120751	0.50250	0.47250	12.97493	13.27595	False	-0.72570
120757	0.80000	0.79000	9.63352	9.77432	False	-1.32746
120791	0.53000	0.54500	12.69892	12.54785	False	0.17731
120799	0.87000	0.86000	8.49444	8.67872	False	-1.02150
120804	0.90000	0.89000	7.87379	8.09389	False	-0.79169
120810	0.39000	0.35000	14.11728	14.54128	False	-0.16457
120814	0.66500	0.66000	11.29541	11.35015	False	-0.99277
120850	0.60000	0.64000	11.98661	11.56616	False	1.53103
121805	0.56000	0.56000	12.39612	12.39612	False	-0.63086
121805	0.57000	0.56000	12.29450	12.39612	False	-1.16736
124084	0.77000	0.77000	10.04461	10.04461	False	-0.79478
124768	0.65000	0.63000	11.45872	11.67259	False	-1.07402
124768	0.67000	0.63000	11.24035	11.67259	False	0.07887
124925	0.26000	0.21500	15.57338	16.15677	False	0.56426
139210	0.30500	0.32500	15.04029	14.81505	False	0.72693
139210	0.29500	0.32500	15.15534	14.81505	False	1.33434
139267	0.45750	0.43250	13.42694	13.68005	False	-1.00675
139334	0.75000	0.73000	10.30204	10.54875	False	-0.82231
144684	0.80000	0.80000	9.63352	9.63352	False	-0.82344
145114	0.53000	0.49000	12.69892	13.10028	False	-0.18371
145116	0.28500	0.30250	15.27221	15.06889	False	0.62883
145294	0.71000	0.72000	10.78646	10.66863	False	-0.12921
145573	0.83000	0.83000	9.18334	9.18334	False	-0.85482
145573	0.84000	0.83000	9.02217	9.18334	False	-1.17872
145574	0.53000	0.52000	12.69892	12.79939	False	-1.13316
145578	0.82000	0.80000	9.33854	9.63352	False	-0.50368
145584	0.56000	0.54000	12.39612	12.59827	False	-1.20046
145880	0.59000	0.57000	12.08982	12.29450	False	-1.16587
145890	0.87000	0.87000	8.49444	8.49444	False	-0.90284
145893	0.78000	0.79000	9.91123	9.77432	False	-0.09079
145893	0.75000	0.79000	10.30204	9.77432	False	1.97250
145896	0.62000	0.60000	11.77808	11.98661	False	-1.12407
145901	0.21500	0.18500	16.15677	16.58589	False	-0.28006
145951	0.49000	0.50000	13.10028	13.00000	False	-0.05936
145951	0.48000	0.50000	13.20061	13.00000	False	0.47037
145953	0.33000	0.26000	14.75965	15.57338	False	1.82102
145955	0.82000	0.82000	9.33854	9.33854	False	-0.84400
150808	0.77000	0.80000	10.04461	9.63352	False	1.34695
150816	0.49500	0.43000	13.05013	13.70550	False	1.11514
167664	0.57000	0.59000	12.29450	12.08982	False	0.42841
167664	0.57000	0.59000	12.29450	12.08982	False	0.42841

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
167675	0.74000	0.72000	10.42662	10.66863	False	-0.85544
167740	0.61000	0.57000	11.88272	12.29450	False	-0.07250
167743	0.47000	0.45500	13.30108	13.45215	False	-1.35485
167762	0.49500	0.48750	13.05013	13.12535	False	-0.97714
167762	0.48000	0.48750	13.20061	13.12535	False	-0.18268
167807	0.91000	0.89000	7.63698	8.09389	False	0.45856
198567	0.30000	0.24500	15.09760	15.76124	False	1.01550
203949	0.37500	0.37500	14.27456	14.27456	False	-0.49992
203977	0.55000	0.49000	12.49735	13.10028	False	0.88046
204291	0.74000	0.69000	10.42662	11.01660	False	0.95738
204291	0.71000	0.69000	10.78646	11.01660	False	-0.94240
204310	0.46500	0.50000	13.35138	13.00000	False	1.26634
204372	0.34750	0.36750	14.56832	14.35393	False	0.63747
204719	0.83000	0.76000	9.18334	10.17479	True	3.13562
204904	0.68000	0.64000	11.12920	11.56616	False	0.11121
204958	0.33500	0.32500	14.70459	14.81505	False	-1.04540
225408	0.35000	0.39000	14.54128	14.11728	False	1.72765
252042	0.39000	0.33000	14.11728	14.75965	False	0.97309
252046	0.73000	0.76000	10.54875	10.17479	False	1.18860
252615	0.82000	0.80000	9.33854	9.63352	False	-0.50368
252638	0.56000	0.50000	12.39612	13.00000	False	0.89249
255145	0.47000	0.41000	13.30108	13.91018	False	0.85663
255145	0.46000	0.41000	13.40173	13.91018	False	0.32522
255766	0.51500	0.45500	12.84957	13.45215	False	0.85417
255766	0.51000	0.45500	12.89972	13.45215	False	0.58936
255818	0.43000	0.40000	13.70550	14.01339	False	-0.74080
269311	0.62750	0.61250	11.69904	11.85664	False	-1.38395

Figure J-4. 2013–14 NECAP: Delta Plot
Mathematics Grade 6

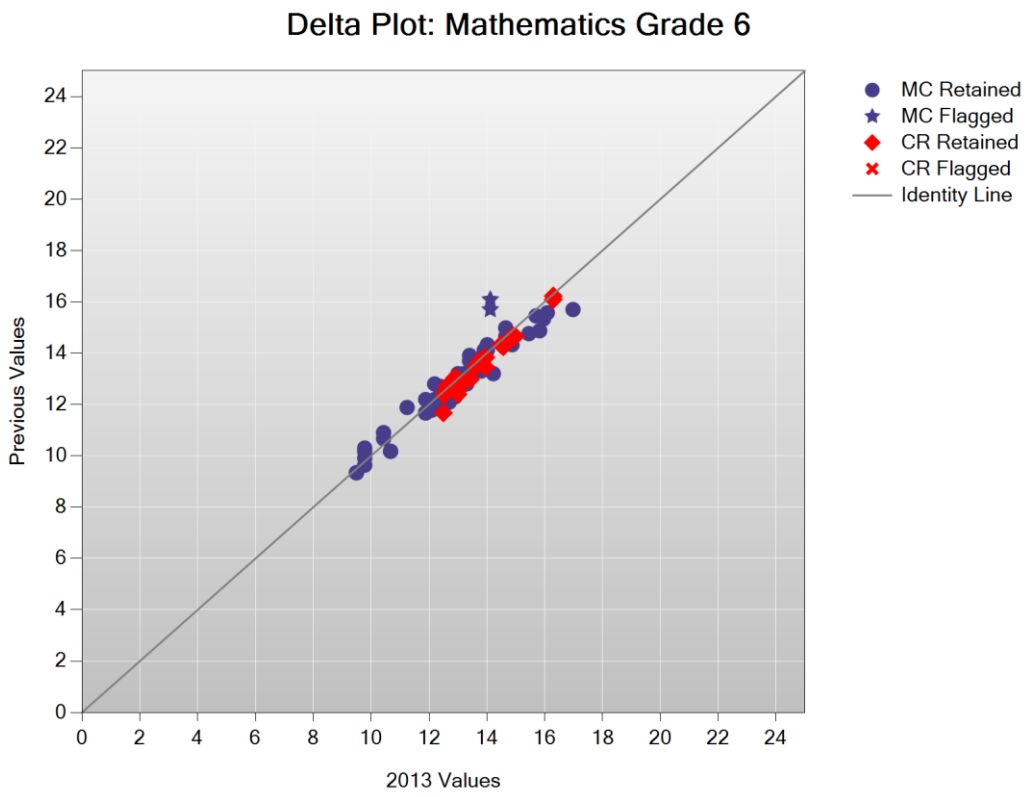


Table J-4. 2013–14 NECAP Delta Analysis
Mathematics Grade 6

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
119176	0.76000	0.79000	10.17479	9.77432	False	0.37014
119176	0.78000	0.79000	9.91123	9.77432	False	-0.43553
119184	0.75000	0.79000	10.30204	9.77432	False	0.75913
119184	0.80000	0.79000	9.63352	9.77432	False	-0.51859
119205	0.37000	0.35500	14.32741	14.48742	False	-0.87489
119215	0.53000	0.52000	12.69892	12.79939	False	-0.86059
119215	0.53000	0.52000	12.69892	12.79939	False	-0.86059
119220	0.37000	0.40000	14.32741	14.01339	False	0.52706
119220	0.39000	0.40000	14.11728	14.01339	False	-0.11529
119229	0.54000	0.53500	12.59827	12.64862	False	-0.72239
119231	0.61000	0.67000	11.88272	11.24035	False	1.25526
119288	0.56000	0.56000	12.39612	12.39612	False	-0.59355
119288	0.53000	0.56000	12.69892	12.39612	False	0.33205
119295	0.82000	0.81000	9.33854	9.48841	False	-0.46244
119295	0.82000	0.81000	9.33854	9.48841	False	-0.46244
119296	0.52000	0.50000	12.79939	13.00000	False	-0.65624
119313	0.49000	0.47000	13.10028	13.30108	False	-0.68558
119315	0.54000	0.51000	12.59827	12.89972	False	-0.33801

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
119315	0.52000	0.51000	12.79939	12.89972	False	-0.85023
119328	0.27000	0.25000	15.45125	15.69796	False	-0.78341
119337	0.76000	0.72000	10.17479	10.66863	False	0.47176
119337	0.76000	0.72000	10.17479	10.66863	False	0.47176
119341	0.45500	0.40500	13.45215	13.96170	False	0.19257
119349	0.46000	0.42000	13.40173	13.80757	False	-0.10914
119349	0.47000	0.42000	13.30108	13.80757	False	0.19854
119356	0.28000	0.23000	15.33137	15.95539	False	0.34440
119365	0.59000	0.53000	12.08982	12.69892	False	0.62235
119369	0.52500	0.53500	12.74917	12.64862	False	-0.26109
119369	0.53000	0.53500	12.69892	12.64862	False	-0.41470
119370	0.45500	0.44000	13.45215	13.60388	False	-0.86570
119381	0.63000	0.55000	11.67259	12.49735	False	1.30164
123513	0.22000	0.39000	16.08877	14.11728	True	5.60402
123513	0.25000	0.39000	15.69796	14.11728	True	4.40936
125022	0.53000	0.51000	12.69892	12.89972	False	-0.64570
125065	0.41750	0.40500	13.83317	13.96170	False	-0.83090
125128	0.51000	0.51000	12.89972	12.89972	False	-0.54351
139312	0.40000	0.41000	14.01339	13.91018	False	-0.12762
139312	0.39000	0.41000	14.11728	13.91018	False	0.18995
139333	0.41000	0.46000	13.91018	13.40173	False	1.06060
139364	0.43000	0.46000	13.70550	13.40173	False	0.43492
139391	0.51000	0.48250	12.89972	13.17552	False	-0.44386
144698	0.60000	0.55000	11.98661	12.49735	False	0.34171
144698	0.56000	0.55000	12.39612	12.49735	False	-0.89294
145135	0.33750	0.31750	14.67718	14.89880	False	-0.78069
145135	0.34250	0.31750	14.62260	14.89880	False	-0.61384
145333	0.58000	0.58000	12.19243	12.19243	False	-0.61379
145333	0.52000	0.58000	12.79939	12.19243	False	1.24159
145352	0.63000	0.61000	11.67259	11.88272	False	-0.51612
145359	0.49500	0.51000	13.05013	12.89972	False	-0.08373
145969	0.57000	0.51000	12.29450	12.89972	False	0.59054
145988	0.57000	0.52000	12.29450	12.79939	False	0.29379
145988	0.57000	0.52000	12.29450	12.79939	False	0.29379
145999	0.31000	0.34000	14.98340	14.64985	False	0.64998
146022	0.52000	0.52000	12.79939	12.79939	False	-0.55348
146045	0.37750	0.34750	14.24821	14.56832	False	-0.44681
146045	0.37500	0.34750	14.27456	14.56832	False	-0.52734
167684	0.56000	0.55000	12.39612	12.49735	False	-0.89294
167817	0.56000	0.50000	12.39612	13.00000	False	0.57647
167817	0.54500	0.50000	12.54785	13.00000	False	0.11267
167918	0.25000	0.16000	15.69796	16.97783	False	2.24765
167923	0.58000	0.61000	12.19243	11.88272	False	0.30215
167923	0.63000	0.61000	11.67259	11.88272	False	-0.51612
167950	0.72000	0.74000	10.66863	10.42662	False	-0.04943
167950	0.70000	0.74000	10.90240	10.42662	False	0.66515
167962	0.43000	0.42500	13.70550	13.75647	False	-0.61422
167962	0.43500	0.42500	13.65463	13.75647	False	-0.76970
167982	0.50250	0.45750	12.97493	13.42694	False	0.06979

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
198706	0.34000	0.31000	14.64985	14.98340	False	-0.44695
198715	0.37000	0.32000	14.32741	14.87080	False	0.20566
202495	0.52000	0.47000	12.79939	13.30108	False	0.23419
202512	0.63000	0.61000	11.67259	11.88272	False	-0.51612
202530	0.57000	0.54000	12.29450	12.59827	False	-0.30102
202546	0.48000	0.50000	13.20061	13.00000	False	0.07970
202581	0.54500	0.54000	12.54785	12.59827	False	-0.72759
202604	0.44000	0.43000	13.60388	13.70550	False	-0.77409
202604	0.45000	0.43000	13.50265	13.70550	False	-0.71950
202625	0.22000	0.20500	16.08877	16.29557	False	-0.83827
202625	0.21000	0.20500	16.22568	16.29557	False	-0.41975
202660	0.48000	0.48000	13.20061	13.20061	False	-0.51362
202817	0.33000	0.27000	14.75965	15.45125	False	0.60107
225287	0.44500	0.43000	13.55322	13.70550	False	-0.87409
225313	0.62000	0.59000	11.77808	12.08982	False	-0.22611
225376	0.49000	0.46000	13.10028	13.40173	False	-0.38789
225376	0.49000	0.46000	13.10028	13.40173	False	-0.38789
252253	0.34000	0.34000	14.64985	14.64985	False	-0.36962
252266	0.56250	0.54750	12.37076	12.52261	False	-0.75787
252354	0.48000	0.38000	13.20061	14.22192	False	1.73108
252388	0.32000	0.24000	14.87080	15.82521	False	1.36730
255376	0.50000	0.51000	13.00000	12.89972	False	-0.23699
255376	0.50000	0.51000	13.00000	12.89972	False	-0.23699
256905	0.50000	0.46000	13.00000	13.40173	False	-0.08137
270584	0.26000	0.22000	15.57338	16.08877	False	-0.00092

Figure J-5. 2013–14 NECAP: Delta Plot
Mathematics Grade 7

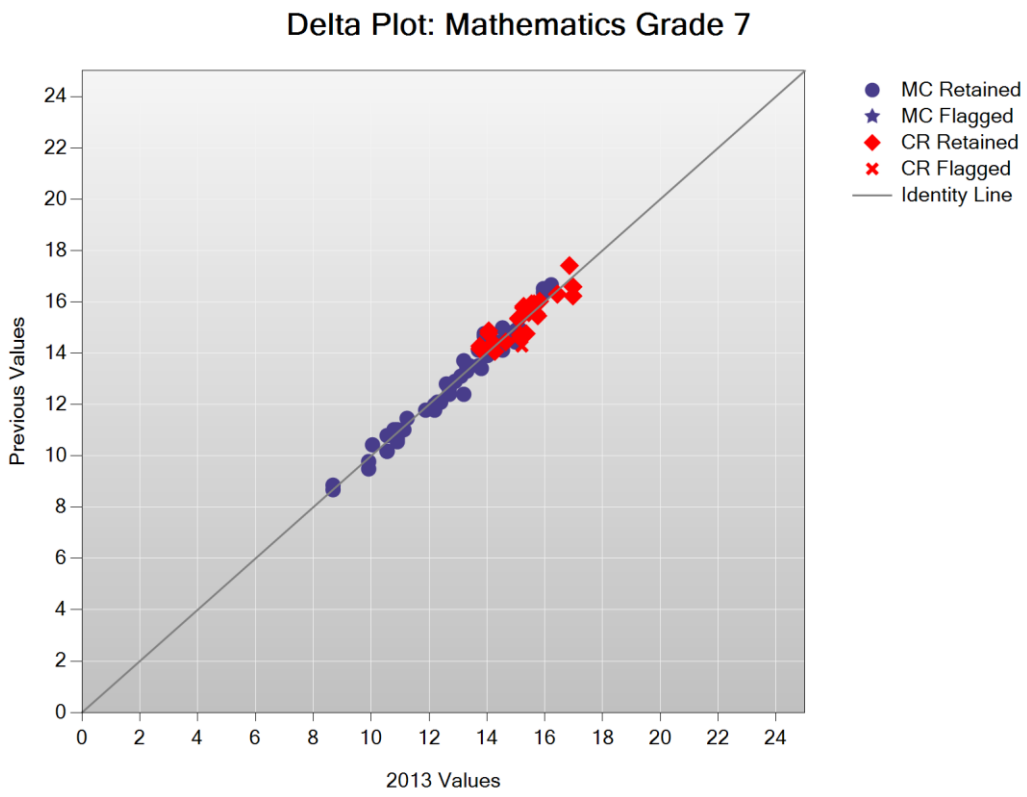


Table J-5. 2013–14 NECAP Delta Analysis
Mathematics Grade 7

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
120326	0.81000	0.78000	9.48841	9.91123	False	0.05294
120326	0.79000	0.78000	9.77432	9.91123	False	-1.25062
120328	0.62000	0.61000	11.77808	11.88272	False	-1.14017
120361	0.74000	0.77000	10.42662	10.04461	False	0.83092
120363	0.59000	0.56000	12.08982	12.39612	False	-0.15365
120363	0.59000	0.56000	12.08982	12.39612	False	-0.15365
120434	0.56000	0.53000	12.39612	12.69892	False	-0.13008
120464	0.69000	0.71000	11.01660	10.78646	False	0.04156
120484	0.41000	0.40000	13.91018	14.01339	False	-0.86837
120484	0.40000	0.40000	14.01339	14.01339	False	-1.33895
120486	0.43000	0.48000	13.70550	13.20061	False	0.97887
120492	0.36500	0.38000	14.38050	14.22192	False	-0.73352
120492	0.36500	0.38000	14.38050	14.22192	False	-0.73352
120503	0.20500	0.19500	16.29557	16.43847	False	-0.37061
120503	0.20500	0.19500	16.29557	16.43847	False	-0.37061
120513	0.45000	0.46000	13.50265	13.40173	False	-0.88931
120517	0.35000	0.31000	14.54128	14.98340	False	0.80360
120517	0.36000	0.31000	14.43384	14.98340	False	1.29350

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
120523	0.34500	0.29500	14.59542	15.15534	False	1.36319
120523	0.33500	0.29500	14.70459	15.15534	False	0.86543
120525	0.36000	0.34000	14.43384	14.64985	False	-0.27088
120529	0.13500	0.16750	17.41225	16.85637	False	0.73381
121799	0.32000	0.39500	14.87080	14.06524	False	2.23681
121799	0.33000	0.39500	14.75965	14.06524	False	1.73006
139917	0.41000	0.40000	13.91018	14.01339	False	-0.86837
139924	0.45000	0.47000	13.50265	13.30108	False	-0.41722
139924	0.47000	0.47000	13.30108	13.30108	False	-1.33625
139971	0.34000	0.30000	14.64985	15.09760	False	0.84419
139989	0.26250	0.25000	15.54263	15.69796	False	-0.41065
139994	0.56000	0.48000	12.39612	13.20061	False	2.22292
140014	0.33000	0.41000	14.75965	13.91018	False	2.45732
140014	0.34000	0.41000	14.64985	13.91018	False	1.95669
140261	0.54000	0.53000	12.59827	12.69892	False	-1.05174
140261	0.53000	0.53000	12.69892	12.69892	False	-1.25759
140291	0.23250	0.25500	15.92255	15.63535	False	-0.33171
144735	0.18500	0.16000	16.58589	16.97783	False	0.83536
144735	0.21000	0.16000	16.22568	16.97783	False	2.47772
144742	0.86000	0.86000	8.67872	8.67872	False	-0.73238
144742	0.85000	0.86000	8.85427	8.67872	False	0.06800
144743	0.73000	0.70000	10.54875	10.90240	False	-0.13292
145159	0.28000	0.30000	15.33137	15.09760	False	-0.50512
145159	0.27750	0.30000	15.36114	15.09760	False	-0.36937
145174	0.76000	0.73000	10.17479	10.54875	False	-0.08652
145174	0.76000	0.73000	10.17479	10.54875	False	-0.08652
145367	0.37500	0.42500	14.27456	13.75647	False	0.96644
145367	0.38500	0.42500	14.16950	13.75647	False	0.48743
145370	0.69000	0.68000	11.01660	11.12920	False	-1.20232
146006	0.51000	0.51000	12.89972	12.89972	False	-1.28382
146195	0.25000	0.27000	15.69796	15.45125	False	-0.49230
146208	0.39000	0.43000	14.11728	13.70550	False	0.48841
146220	0.31000	0.35000	14.98340	14.54128	False	0.51755
146266	0.60000	0.58000	11.98661	12.19243	False	-0.63844
154775	0.62000	0.58000	11.77808	12.19243	False	0.31237
169205	0.72000	0.70000	10.66863	10.90240	False	-0.67953
169229	0.46000	0.42000	13.40173	13.80757	False	0.48457
169235	0.69000	0.70000	11.01660	10.90240	False	-0.50219
169517	0.32000	0.31000	14.87080	14.98340	False	-0.69880
169537	0.49000	0.49000	13.10028	13.10028	False	-1.31002
169538	0.39000	0.35000	14.11728	14.54128	False	0.66326
181101	0.18000	0.21000	16.66146	16.22568	False	0.26857
181196	0.52000	0.54000	12.79939	12.59827	False	-0.32743
204630	0.33000	0.27750	14.75965	15.36114	False	1.57957
204670	0.27000	0.24500	15.45125	15.76124	False	0.30275
204868	0.70000	0.71000	10.90240	10.78646	False	-0.47913
204888	0.45000	0.43000	13.50265	13.70550	False	-0.45428
204892	0.31000	0.30000	14.98340	15.09760	False	-0.67661
204902	0.39000	0.40000	14.11728	14.01339	False	-0.95564

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
204932	0.65000	0.67000	11.45872	11.24035	False	-0.07138
205002	0.47000	0.47000	13.30108	13.30108	False	-1.33625
205039	0.59000	0.57000	12.08982	12.29450	False	-0.63026
206112	0.37000	0.35000	14.32741	14.54128	False	-0.29486
206112	0.37000	0.35000	14.32741	14.54128	False	-0.29486
206190	0.26000	0.27000	15.57338	15.45125	False	-1.06031
206190	0.25000	0.27000	15.69796	15.45125	False	-0.49230
224838	0.20000	0.23000	16.36648	15.95539	False	0.19137
224838	0.19000	0.23000	16.51159	15.95539	False	0.85295
224856	0.37500	0.29000	14.27456	15.21354	True	3.09910
225135	0.24500	0.28500	15.76124	15.27221	False	0.63595
225135	0.24000	0.28500	15.82521	15.27221	False	0.92764
252157	0.71000	0.73000	10.78646	10.54875	False	0.10716
252179	0.36000	0.36000	14.43384	14.43384	False	-1.28402
252271	0.38000	0.38000	14.22192	14.22192	False	-1.31171
252279	0.39500	0.37500	14.06524	14.27456	False	-0.35047
252395	0.22500	0.24000	16.02166	15.82521	False	-0.77030
256015	0.23750	0.26250	15.85747	15.54263	False	-0.19358
256015	0.23250	0.26250	15.92255	15.54263	False	0.10317

Figure J-6. 2013–14 NECAP: Delta Plot
Mathematics Grade 8

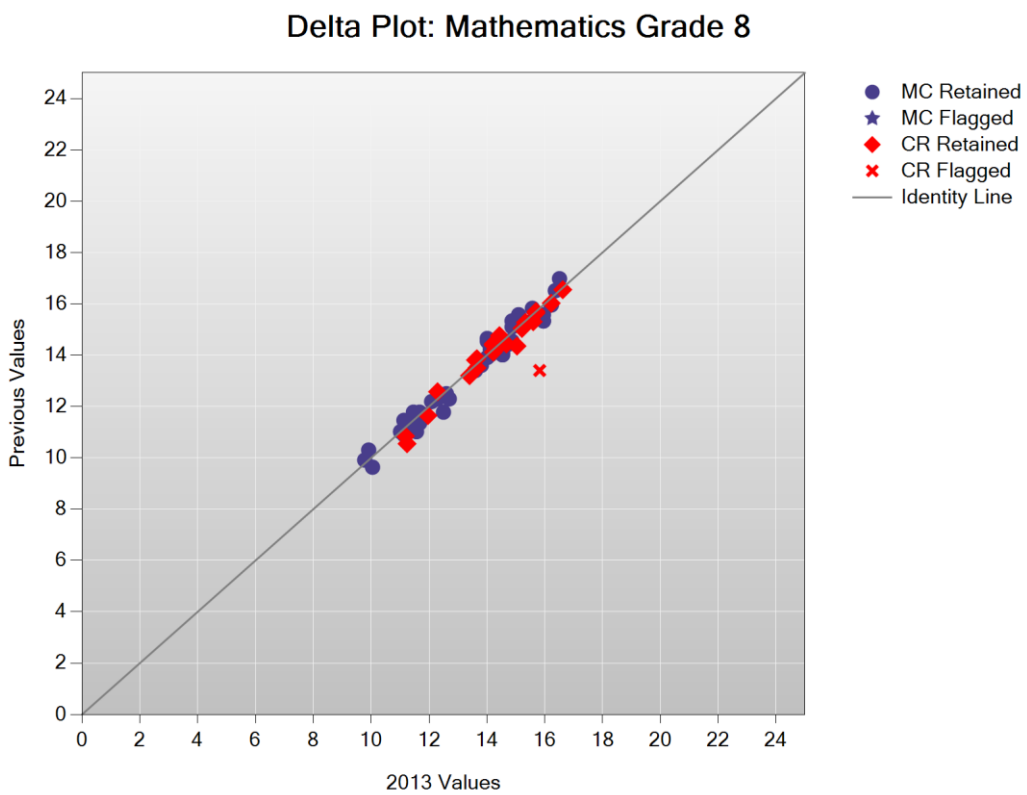


Table J-6. 2013–14 NECAP Delta Analysis
Mathematics Grade 8

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
120894	0.57000	0.53000	12.29450	12.69892	False	0.09188
120895	0.69000	0.69000	11.01660	11.01660	False	-0.58616
120895	0.69000	0.69000	11.01660	11.01660	False	-0.58616
120898	0.43000	0.43000	13.70550	13.70550	False	-0.66210
120958	0.25000	0.25000	15.69796	15.69796	False	-0.71836
120958	0.25500	0.25000	15.63535	15.69796	False	-0.93441
120961	0.58000	0.59000	12.19243	12.08982	False	-0.26240
120974	0.56000	0.57000	12.39612	12.29450	False	-0.27158
120985	0.46000	0.24000	13.40173	15.82521	True	7.14749
120993	0.45000	0.43500	13.50265	13.65463	False	-0.75221
120993	0.41500	0.43500	13.85881	13.65463	False	0.04389
121048	0.26000	0.30000	15.57338	15.09760	False	0.94040
121048	0.28000	0.30000	15.33137	15.09760	False	0.10526
121059	0.39000	0.38000	14.11728	14.22192	False	-0.89955
121059	0.36000	0.38000	14.43384	14.22192	False	0.05458
121061	0.23000	0.21000	15.95539	16.22568	False	-0.27134
121073	0.35000	0.37000	14.54128	14.32741	False	0.05835
121082	0.65000	0.68000	11.45872	11.12920	False	0.54773
121084	0.42000	0.44000	13.80757	13.60388	False	0.04369
121087	0.40000	0.39000	14.01339	14.11728	False	-0.90513
121087	0.38000	0.39000	14.22192	14.11728	False	-0.31261
121091	0.66000	0.67000	11.35015	11.24035	False	-0.21359
121091	0.69000	0.67000	11.01660	11.24035	False	-0.57276
122656	0.28250	0.25750	15.30172	15.60429	False	-0.17754
123821	0.57000	0.57000	12.29450	12.29450	False	-0.62225
125528	0.63250	0.60250	11.64607	11.96071	False	-0.23879
139760	0.28000	0.23000	15.33137	15.95539	False	0.94165
139760	0.28000	0.23000	15.33137	15.95539	False	0.94165
139774	0.28000	0.31000	15.33137	14.98340	False	0.50256
139774	0.28000	0.31000	15.33137	14.98340	False	0.50256
139777	0.28500	0.28000	15.27221	15.33137	False	-0.91216
139832	0.28000	0.32000	15.33137	14.87080	False	0.89432
139832	0.30000	0.32000	15.09760	14.87080	False	0.08765
139853	0.62000	0.63000	11.77808	11.67259	False	-0.24066
139853	0.63000	0.63000	11.67259	11.67259	False	-0.60469
139877	0.63000	0.61000	11.67259	11.88272	False	-0.60159
145197	0.70000	0.68000	10.90240	11.12920	False	-0.56534
145403	0.66000	0.63000	11.35015	11.67259	False	-0.21999
145405	0.16000	0.19000	16.97783	16.51159	False	0.86757
145641	0.78000	0.79000	9.91123	9.77432	False	-0.07863
145648	0.35000	0.36000	14.54128	14.43384	False	-0.31189
145651	0.36000	0.33000	14.43384	14.75965	False	-0.12115
145651	0.35000	0.33000	14.54128	14.75965	False	-0.49193
146401	0.19000	0.20000	16.51159	16.36648	False	-0.23654
146468	0.69000	0.64000	11.01660	11.56616	False	0.56077
146468	0.66000	0.64000	11.35015	11.56616	False	-0.59023
169262	0.73000	0.67000	10.54875	11.24035	False	1.04169

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
169271	0.22500	0.21000	16.02166	16.22568	False	-0.50003
169428	0.36750	0.30500	14.35393	15.04029	False	1.13094
177636	0.24000	0.26000	15.82521	15.57338	False	0.15416
199768	0.44000	0.42000	13.60388	13.80757	False	-0.56945
199783	0.36500	0.36000	14.38050	14.43384	False	-0.86671
204599	0.36000	0.33750	14.43384	14.67718	False	-0.40807
204983	0.37000	0.39000	14.32741	14.11728	False	0.05141
205021	0.62000	0.55000	11.77808	12.49735	False	1.17270
205038	0.62000	0.65000	11.77808	11.45872	False	0.50339
205064	0.55000	0.54000	12.49735	12.59827	False	-0.95830
205118	0.28000	0.26000	15.33137	15.57338	False	-0.38736
205782	0.48000	0.46000	13.20061	13.40173	False	-0.58980
206335	0.54250	0.57000	12.57306	12.29450	False	0.33900
224853	0.39000	0.35000	14.11728	14.54128	False	0.21150
224853	0.40000	0.35000	14.01339	14.54128	False	0.57000
224855	0.36000	0.38000	14.43384	14.22192	False	0.05458
224855	0.36000	0.38000	14.43384	14.22192	False	0.05458
224873	0.36000	0.36000	14.43384	14.43384	False	-0.68267
224936	0.40000	0.35000	14.01339	14.54128	False	0.57000
224936	0.39000	0.35000	14.11728	14.54128	False	0.21150
225001	0.18750	0.18250	16.54859	16.62352	False	-0.93428
233719	0.70500	0.67500	10.84466	11.18495	False	-0.17214
242392	0.41000	0.40000	13.91018	14.01339	False	-0.91040
252269	0.38000	0.37000	14.22192	14.32741	False	-0.89366
252427	0.80000	0.77000	9.63352	10.04461	False	0.03997
252526	0.46000	0.44000	13.40173	13.60388	False	-0.58057
252547	0.23000	0.21000	15.95539	16.22568	False	-0.27134
252549	0.30500	0.29000	15.04029	15.21354	False	-0.63483
256119	0.35000	0.32000	14.54128	14.87080	False	-0.10526
256329	0.39000	0.38000	14.11728	14.22192	False	-0.89955
256329	0.36500	0.38000	14.38050	14.22192	False	-0.12946
256438	0.34000	0.40000	14.64985	14.01339	False	1.52550
256438	0.35000	0.40000	14.54128	14.01339	False	1.15085
256495	0.33000	0.36000	14.75965	14.43384	False	0.44166
269046	0.26000	0.23000	15.57338	15.95539	False	0.10651
269362	0.75000	0.78000	10.30204	9.91123	False	0.79367

Figure J-7. 2013–14 NECAP: Delta Plot
Mathematics Grade 11

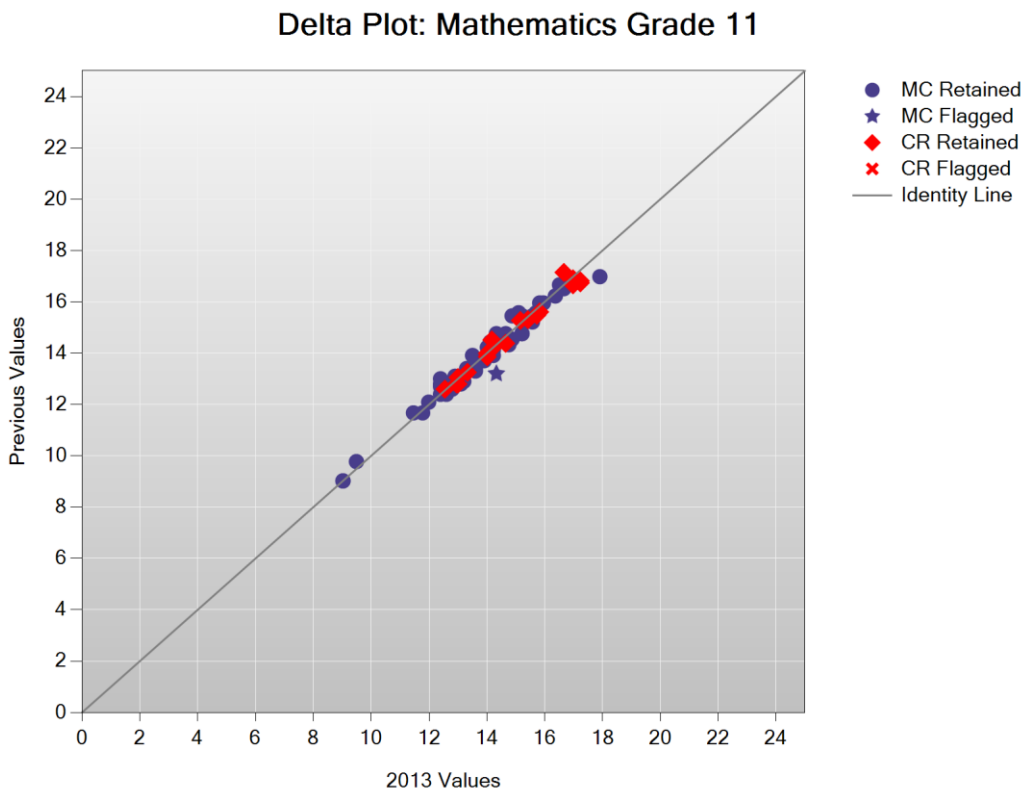


Table J-7. 2013–14 NECAP Delta Analysis
Mathematics Grade 11

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
119424	0.46000	0.47000	13.40173	13.30108	False	-0.50160
119434	0.52000	0.51000	12.79939	12.89972	False	-0.63767
119434	0.52000	0.51000	12.79939	12.89972	False	-0.63767
119442	0.33000	0.34000	14.75965	14.64985	False	-0.20688
119472	0.36500	0.34000	14.38050	14.64985	False	-0.06814
119481	0.15000	0.18000	17.14573	16.66146	False	2.13174
119484	0.56000	0.54000	12.39612	12.59827	False	-0.04677
119492	0.79000	0.81000	9.77432	9.48841	False	-0.22372
119516	0.51000	0.49000	12.89972	13.10028	False	-0.14692
119516	0.52000	0.49000	12.79939	13.10028	False	0.38116
119520	0.54000	0.52000	12.59827	12.79939	False	-0.08892
119542	0.43000	0.41000	13.70550	13.91018	False	-0.27325
119543	0.38000	0.38000	14.22192	14.22192	False	-0.86299
119552	0.27000	0.26000	15.45125	15.57338	False	-1.01180
119552	0.29000	0.26000	15.21354	15.57338	False	0.23927
119563	0.16000	0.11000	16.97783	17.90611	False	2.80445
119566	0.17500	0.14500	16.73836	17.23249	False	0.64269
119566	0.17000	0.14500	16.81666	17.23249	False	0.23058

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
119616	0.48000	0.37000	13.20061	14.32741	True	4.50353
119630	0.63000	0.62000	11.67259	11.77808	False	-0.40549
130035	0.27000	0.29000	15.45125	15.21354	False	0.56938
130037	0.27000	0.32000	15.45125	14.87080	False	2.31057
130099	0.35000	0.32000	14.54128	14.87080	False	0.20810
140154	0.38000	0.40000	14.22192	14.01339	False	0.19640
141246	0.51000	0.48000	12.89972	13.20061	False	0.36281
145211	0.18000	0.19000	16.66146	16.51159	False	0.34441
145213	0.16500	0.16000	16.89646	16.97783	False	-0.78741
145213	0.18000	0.16000	16.66146	16.97783	False	-0.24629
145232	0.23000	0.24000	15.95539	15.82521	False	0.11526
145459	0.54000	0.53000	12.59827	12.69892	False	-0.59929
145459	0.53000	0.53000	12.69892	12.69892	False	-1.12904
145492	0.56000	0.56000	12.39612	12.39612	False	-1.07368
145492	0.50000	0.56000	13.00000	12.39612	False	1.98139
145498	0.54000	0.54500	12.59827	12.54785	False	-0.90370
169505	0.46000	0.44000	13.40173	13.60388	False	-0.23062
169505	0.47000	0.44000	13.30108	13.60388	False	0.29912
169507	0.84000	0.84000	9.02217	9.02217	False	-0.45683
169507	0.84000	0.84000	9.02217	9.02217	False	-0.45683
169512	0.37000	0.33000	14.32741	14.75965	False	0.76906
169516	0.50000	0.49000	13.00000	13.10028	False	-0.67467
169578	0.63000	0.65000	11.67259	11.45872	False	-0.24259
169584	0.19000	0.18000	16.51159	16.66146	False	-1.06471
169590	0.26000	0.25000	15.57338	15.69796	False	-1.02170
169595	0.52000	0.50500	12.79939	12.94987	False	-0.38295
169595	0.52000	0.50000	12.79939	13.00000	False	-0.12826
169657	0.28250	0.27250	15.30172	15.42108	False	-0.99856
169659	0.49500	0.50000	13.05013	13.00000	False	-0.82253
169701	0.27000	0.29000	15.45125	15.21354	False	0.56938
169703	0.43000	0.44000	13.70550	13.60388	False	-0.44116
169781	0.33000	0.29000	14.75965	15.21354	False	0.80001
178080	0.21000	0.20000	16.22568	16.36648	False	-1.05854
198612	0.41500	0.40000	13.85881	14.01339	False	-0.55580
198612	0.40250	0.40000	13.98753	14.01339	False	-1.03723
205802	0.49000	0.51000	13.10028	12.89972	False	-0.04923
205822	0.47500	0.46750	13.25083	13.32622	False	-0.84692
205836	0.23000	0.23000	15.95539	15.95539	False	-0.54606
205859	0.28500	0.29500	15.27221	15.15534	False	-0.07729
206004	0.25750	0.24000	15.60429	15.82521	False	-0.53790
206085	0.33000	0.29000	14.75965	15.21354	False	0.80001
206092	0.33000	0.37000	14.75965	14.32741	False	1.43116
206315	0.59000	0.60000	12.08982	11.98661	False	-0.72848
206346	0.52000	0.56000	12.79939	12.39612	False	0.92556
206346	0.53000	0.56000	12.69892	12.39612	False	0.39682
206381	0.35250	0.38500	14.51432	14.16950	False	0.94220
259784	0.41000	0.38000	13.91018	14.22192	False	0.23321
259784	0.39000	0.38000	14.11728	14.22192	False	-0.85673
259827	0.26000	0.30000	15.57338	15.09760	False	1.80112

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
259828	0.50000	0.51000	13.00000	12.89972	False	-0.57697
259849	0.26750	0.24750	15.48157	15.72951	False	-0.37819
259849	0.26750	0.24750	15.48157	15.72951	False	-0.37819
259873	0.36000	0.39000	14.43384	14.11728	False	0.78392
259873	0.38000	0.39000	14.22192	14.11728	False	-0.33137
259944	0.34000	0.34000	14.64985	14.64985	False	-0.78475
270853	0.41000	0.45000	13.91018	13.50265	False	1.15035
270854	0.44000	0.44000	13.60388	13.60388	False	-0.97598
270854	0.43000	0.44000	13.70550	13.60388	False	-0.44116
270856	0.29000	0.28000	15.21354	15.33137	False	-0.99020

Figure J-8. 2013–14 NECAP: Delta Plot
Reading Grade 3

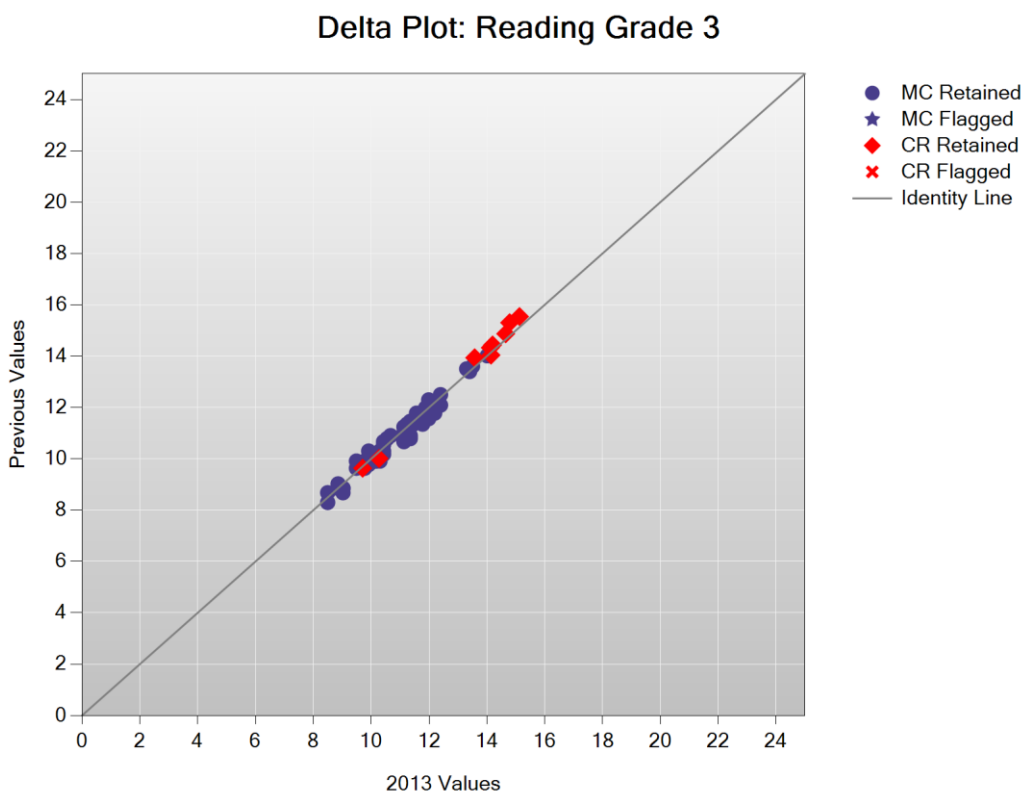


Table J-8. 2013–14 NECAP Delta Analysis
Reading Grade 3

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
171437	0.66000	0.66000	11.35015	11.35015	False	-1.21162
171448	0.78000	0.79000	9.91123	9.77432	False	0.27464
171450	0.80000	0.81000	9.63352	9.48841	False	0.42370
171452	0.62000	0.64000	11.77808	11.56616	False	0.25523

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
171458	0.75000	0.75000	10.30204	10.30204	False	-0.88256
171461	0.71000	0.73000	10.78646	10.54875	False	0.76151
171470	0.67000	0.68000	11.24035	11.12920	False	-0.33736
171472	0.57000	0.60000	12.29450	11.98661	False	0.81832
207603	0.66000	0.62000	11.35015	11.77808	False	1.55660
207605	0.79000	0.78000	9.77432	9.91123	False	-1.13706
207615	0.70000	0.68000	10.90240	11.12920	False	-0.10365
207620	0.45000	0.47000	13.50265	13.30108	False	-0.36438
207623	0.40750	0.44250	13.93592	13.57854	False	0.67697
207737	0.85000	0.85000	8.85427	8.85427	False	-0.42803
207740	0.65000	0.65000	11.45872	11.45872	False	-1.24571
207758	0.68000	0.67000	11.12920	11.24035	False	-0.90640
207788	0.72000	0.74000	10.66863	10.42662	False	0.83101
207795	0.32000	0.34000	14.87080	14.64985	False	-0.64751
207968	0.86000	0.87000	8.67872	8.49444	False	1.01956
207984	0.70000	0.66000	10.90240	11.35015	False	1.56579
208110	0.63000	0.62000	11.67259	11.77808	False	-0.77851
208126	0.69000	0.68000	11.01660	11.12920	False	-0.93070
208132	0.61000	0.58000	11.88272	12.19243	False	0.83048
208140	0.86000	0.84000	8.67872	9.02217	False	0.07954
208145	0.64000	0.62000	11.56616	11.77808	False	-0.00780
208148	0.65000	0.66000	11.45872	11.35015	False	-0.42535
208151	0.73000	0.74000	10.54875	10.42662	False	-0.03721
208163	0.66000	0.67000	11.35015	11.24035	False	-0.38197
208184	0.80000	0.79500	9.63352	9.70443	False	-1.20847
208196	0.26250	0.29750	15.54263	15.12642	False	0.61701
252059	0.58000	0.57000	12.19243	12.29450	False	-0.64110
252125	0.62000	0.58000	11.77808	12.19243	False	1.58834
252126	0.78000	0.75000	9.91123	10.30204	False	0.82440
252133	0.59000	0.59000	12.08982	12.08982	False	-1.44385
252135	0.72000	0.68000	10.66863	11.12920	False	1.58927
252150	0.80000	0.79000	9.63352	9.77432	False	-1.15189
252150	0.79000	0.79000	9.77432	9.77432	False	-0.71688
252154	0.85000	0.84000	8.85427	9.02217	False	-1.19176
252154	0.85000	0.84000	8.85427	9.02217	False	-1.19176
252155	0.70000	0.68000	10.90240	11.12920	False	-0.10365
252158	0.39750	0.38750	14.03929	14.14336	False	-0.04621
252160	0.75000	0.74000	10.30204	10.42662	False	-1.06458
252176	0.55000	0.56000	12.49735	12.39612	False	-0.80689
252177	0.71000	0.66000	10.78646	11.35015	False	2.40541
252229	0.65000	0.62000	11.45872	11.77808	False	0.77033
252250	0.84000	0.85000	9.02217	8.85427	False	0.78793
252251	0.46000	0.46000	13.40173	13.40173	False	-1.03272
252259	0.64000	0.60000	11.56616	11.98661	False	1.56788
252264	0.60000	0.61000	11.98661	11.88272	False	-0.62647
252265	0.66000	0.65000	11.35015	11.45872	False	-0.85647
252267	0.63000	0.63000	11.67259	11.67259	False	-1.31285
252270	0.28250	0.32750	15.30172	14.78731	False	1.43468
252275	0.88000	0.87000	8.30005	8.49444	False	-1.16567

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
252290	0.78000	0.81000	9.91123	9.48841	False	2.43490
252298	0.40000	0.40000	14.01339	14.01339	False	-0.84069
252301	0.77250	0.75250	10.01158	10.27049	False	-0.14076
252304	0.64000	0.61000	11.56616	11.88272	False	0.78291
252351	0.78000	0.76000	9.91123	10.17479	False	-0.13711
252353	0.36000	0.38250	14.43384	14.19569	False	-0.38031
252358	0.79000	0.80000	9.77432	9.63352	False	0.34700
252360	0.78000	0.76000	9.91123	10.17479	False	-0.13711
252455	0.76000	0.74000	10.17479	10.42662	False	-0.14302
252462	0.37000	0.39000	14.32741	14.11728	False	-0.55856
252469	0.59000	0.56000	12.08982	12.39612	False	0.86982
252472	0.44000	0.45000	13.60388	13.50265	False	-1.15429
252482	0.70000	0.72000	10.90240	10.66863	False	0.69527
252495	0.75000	0.78000	10.30204	9.91123	False	2.07042

Figure J-9. 2013–14 NECAP: Delta Plot
Reading Grade 4

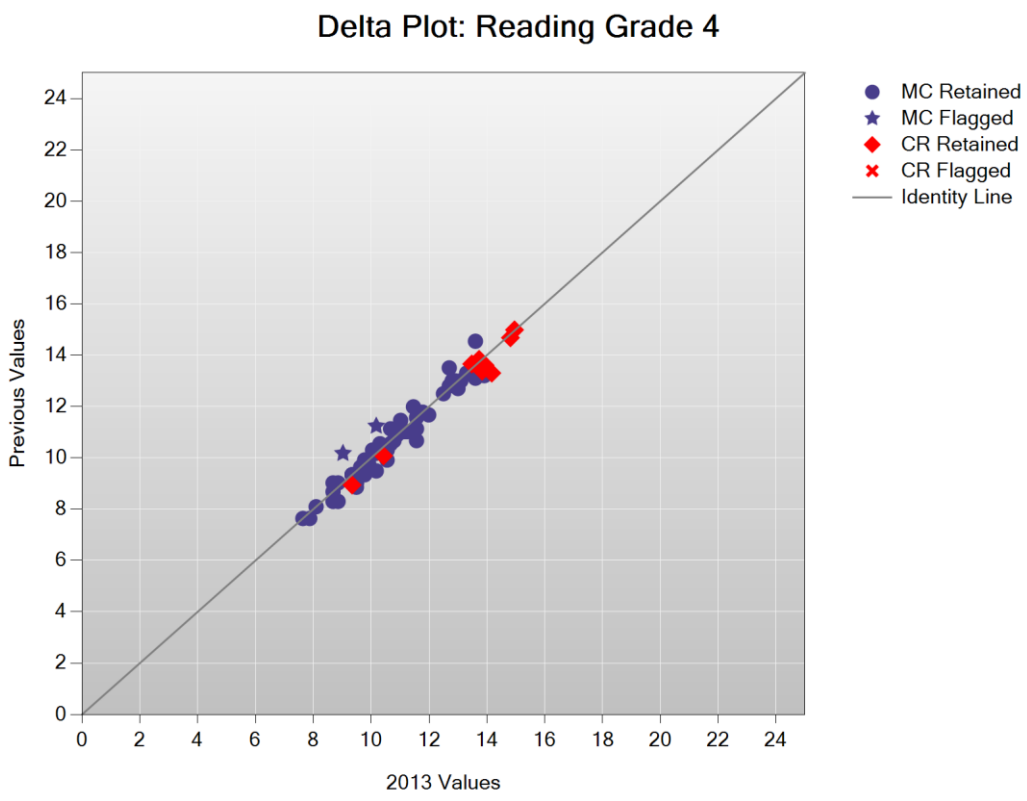


Table J-9. 2013–14 NECAP Delta Analysis
Reading Grade 4

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
117857	0.47000	0.47000	13.30108	13.30108	False	-0.95826
117858	0.52000	0.53000	12.79939	12.69892	False	-0.56664
117859	0.68000	0.64000	11.12920	11.56616	False	0.27962
117860	0.73000	0.72000	10.54875	10.66863	False	-0.90571
117861	0.53000	0.50000	12.69892	13.00000	False	-0.13651
117862	0.43500	0.45250	13.65463	13.47739	False	-0.32991
117880	0.76750	0.74000	10.07745	10.42662	False	-0.09356
117891	0.86000	0.86000	8.67872	8.67872	False	-0.72482
117892	0.73000	0.75000	10.54875	10.30204	False	0.08020
117893	0.73000	0.72000	10.54875	10.66863	False	-0.90571
117973	0.60000	0.65000	11.98661	11.45872	False	1.03276
208113	0.82000	0.82000	9.33854	9.33854	False	-0.75815
208127	0.75000	0.73000	10.30204	10.54875	False	-0.45579
208144	0.50000	0.52000	13.00000	12.79939	False	-0.21164
208147	0.78000	0.79000	9.91123	9.77432	False	-0.28790
208157	0.31000	0.31250	14.98340	14.95511	False	-0.94006
208833	0.85000	0.81000	8.85427	9.48841	False	0.88366
208847	0.69000	0.68000	11.01660	11.12920	False	-0.90862
252172	0.82000	0.82000	9.33854	9.33854	False	-0.75815
252172	0.82000	0.82000	9.33854	9.33854	False	-0.75815
252182	0.44000	0.40750	13.60388	13.93592	False	0.02209
252260	0.45000	0.53000	13.50265	12.69892	False	1.96185
252286	0.64000	0.64000	11.56616	11.56616	False	-0.87064
252291	0.83000	0.81000	9.18334	9.48841	False	-0.29948
252295	0.79000	0.79000	9.77432	9.77432	False	-0.78015
252309	0.84000	0.81000	9.02217	9.48841	False	0.27999
252313	0.76000	0.76000	10.17479	10.17479	False	-0.80038
252316	0.50000	0.49000	13.00000	13.10028	False	-0.85341
252320	0.75000	0.73000	10.30204	10.54875	False	-0.45579
252328	0.63000	0.60000	11.67259	11.98661	False	-0.14115
252331	0.89000	0.89000	8.09389	8.09389	False	-0.69529
252337	0.82000	0.79000	9.33854	9.77432	False	0.18487
252341	0.67000	0.76000	11.24035	10.17479	True	3.03071
252346	0.41750	0.42750	13.83317	13.73097	False	-0.61251
252366	0.74000	0.74000	10.42662	10.42662	False	-0.81310
252367	0.84000	0.81000	9.02217	9.48841	False	0.27999
252368	0.50000	0.51000	13.00000	12.89972	False	-0.57746
252379	0.48000	0.41000	13.20061	13.91018	False	1.37812
252381	0.78000	0.79000	9.91123	9.77432	False	-0.28790
252384	0.91000	0.91000	7.63698	7.63698	False	-0.67221
252386	0.55000	0.55000	12.49735	12.49735	False	-0.91767
252390	0.81000	0.76000	9.48841	10.17479	False	1.10610
252394	0.68000	0.72000	11.12920	10.66863	False	0.83061
252410	0.84500	0.82000	8.93911	9.33854	False	0.03218
252415	0.75000	0.77000	10.30204	10.04461	False	0.13175
252416	0.84000	0.86000	9.02217	8.67872	False	0.51000
252417	0.79000	0.78000	9.77432	9.91123	False	-0.88274

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
252420	0.76000	0.84000	10.17479	9.02217	True	3.40195
252463	0.84000	0.85000	9.02217	8.85427	False	-0.13002
252468	0.75000	0.76000	10.30204	10.17479	False	-0.34286
252502	0.78000	0.73000	9.91123	10.54875	False	0.94933
252509	0.70000	0.70000	10.90240	10.90240	False	-0.83712
252516	0.72000	0.64000	10.66863	11.56616	False	1.93555
252519	0.49000	0.44000	13.10028	13.60388	False	0.62213
252519	0.35000	0.44000	14.54128	13.60388	False	2.39678
252523	0.46250	0.41750	13.37655	13.83317	False	0.46481
252531	0.69000	0.67000	11.01660	11.24035	False	-0.50341
252534	0.80000	0.80000	9.63352	9.63352	False	-0.77304
252538	0.88000	0.85000	8.30005	8.85427	False	0.56424
252543	0.88000	0.86000	8.30005	8.67872	False	-0.07578
252550	0.47000	0.38500	13.30108	14.16950	False	1.96236
252553	0.72000	0.71000	10.66863	10.78646	False	-0.90716
252554	0.65000	0.69000	11.45872	11.01660	False	0.74670
252555	0.62000	0.62000	11.77808	11.77808	False	-0.88135
252556	0.91000	0.90000	7.63698	7.87379	False	-0.62645
252559	0.33750	0.32500	14.67718	14.81505	False	-0.63166

Figure J-10. 2013–14 NECAP: Delta Plot
Reading Grade 5

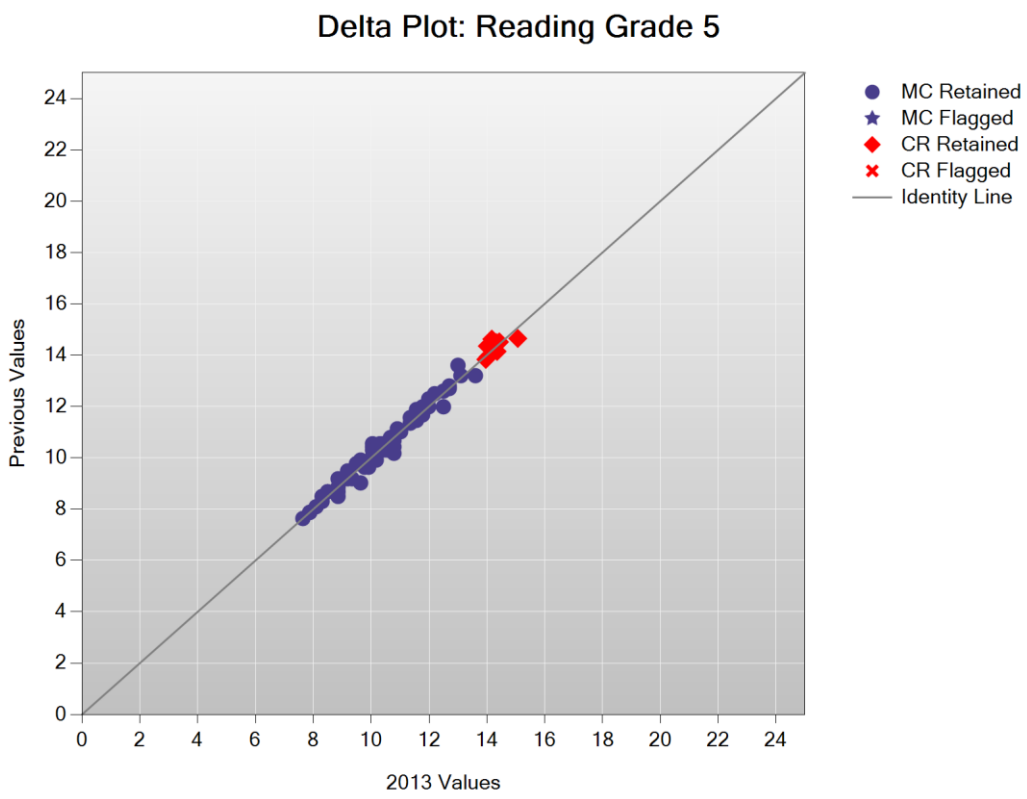


Table J-10. 2013–14 NECAP Delta Analysis
Reading Grade 5

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
171306	0.81000	0.83000	9.48841	9.18334	False	0.71088
171308	0.55000	0.58000	12.49735	12.19243	False	0.54539
171313	0.74000	0.77000	10.42662	10.04461	False	1.13916
171317	0.79000	0.81000	9.77432	9.48841	False	0.57570
171320	0.40750	0.39750	13.93592	14.03929	False	-0.22694
171674	0.83000	0.83000	9.18334	9.18334	False	-1.13131
171677	0.86000	0.85000	8.67872	8.85427	False	-0.06453
171677	0.85000	0.85000	8.85427	8.85427	False	-1.14930
171678	0.60000	0.55000	11.98661	12.49735	False	2.20609
171678	0.54000	0.55000	12.59827	12.49735	False	-0.73202
171681	0.74000	0.73000	10.42662	10.54875	False	-0.30193
171682	0.72000	0.72000	10.66863	10.66863	False	-1.05007
171685	0.83000	0.85000	9.18334	8.85427	False	0.87716
171689	0.75000	0.76000	10.30204	10.17479	False	-0.44222
171690	0.75000	0.74000	10.30204	10.42662	False	-0.29348
172065	0.76000	0.71000	10.17479	10.78646	False	2.73620
209017	0.83000	0.82000	9.18334	9.33854	False	-0.16375
209025	0.73000	0.75000	10.54875	10.30204	False	0.28900
209026	0.69000	0.69000	11.01660	11.01660	False	-1.03104
209039	0.61000	0.64000	11.88272	11.56616	False	0.65151
209043	0.52000	0.53000	12.79939	12.69892	False	-0.74579
209047	0.64000	0.66000	11.56616	11.35015	False	0.04203
209050	0.60000	0.62000	11.98661	11.77808	False	-0.02761
209051	0.73000	0.73000	10.54875	10.54875	False	-1.05663
209057	0.35500	0.37000	14.48742	14.32741	False	-0.46690
209060	0.38750	0.36750	14.14336	14.35393	False	0.45267
209697	0.71000	0.72000	10.78646	10.66863	False	-0.52746
209702	0.68000	0.70000	11.12920	10.90240	False	0.13319
209715	0.88000	0.88000	8.30005	8.30005	False	-1.12603
252307	0.90000	0.90000	7.87379	7.87379	False	-1.10272
252307	0.90000	0.90000	7.87379	7.87379	False	-1.10272
252308	0.63000	0.62000	11.67259	11.77808	False	-0.33751
252317	0.77000	0.77000	10.04461	10.04461	False	-1.08420
252317	0.77000	0.77000	10.04461	10.04461	False	-1.08420
252319	0.71000	0.72000	10.78646	10.66863	False	-0.52746
252327	0.74000	0.71000	10.42662	10.78646	False	1.18002
252343	0.34250	0.38500	14.62260	14.16950	False	1.35288
252344	0.65000	0.64000	11.45872	11.56616	False	-0.33701
252345	0.91000	0.91000	7.63698	7.63698	False	-1.08977
252349	0.48000	0.49000	13.20061	13.10028	False	-0.76853
252359	0.36750	0.40000	14.35393	14.01339	False	0.66586
252361	0.73000	0.77000	10.54875	10.04461	False	1.89386
252362	0.48000	0.44000	13.20061	13.60388	False	1.60243
252380	0.78000	0.80000	9.91123	9.63352	False	0.51716
252572	0.80000	0.79000	9.63352	9.77432	False	-0.22891
252573	0.87000	0.88000	8.49444	8.30005	False	0.07516
252575	0.41750	0.40500	13.83317	13.96170	False	-0.07571

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
252578	0.86000	0.87000	8.67872	8.49444	False	0.00214
252585	0.89000	0.89000	8.09389	8.09389	False	-1.11476
252590	0.75000	0.73000	10.30204	10.54875	False	0.46790
252593	0.86000	0.87000	8.67872	8.49444	False	0.00214
252594	0.75000	0.77000	10.30204	10.04461	False	0.36933
252597	0.72000	0.71000	10.66863	10.78646	False	-0.31551
252603	0.73000	0.72000	10.54875	10.66863	False	-0.30923
252612	0.57000	0.60000	12.29450	11.98661	False	0.57496
252612	0.60000	0.60000	11.98661	11.98661	False	-0.97799
252620	0.87000	0.85000	8.49444	8.85427	False	1.07428
252622	0.77000	0.77000	10.04461	10.04461	False	-1.08420
252622	0.78000	0.77000	9.91123	10.04461	False	-0.25994
252626	0.73000	0.74000	10.54875	10.42662	False	-0.48764
252630	0.84000	0.80000	9.02217	9.63352	False	2.67114
252632	0.34000	0.30250	14.64985	15.06889	False	1.78007
252634	0.73000	0.72000	10.54875	10.66863	False	-0.30923
252640	0.80000	0.78000	9.63352	9.91123	False	0.62463
252642	0.78000	0.76000	9.91123	10.17479	False	0.55161
252646	0.35500	0.36250	14.48742	14.40714	False	-0.96391
252653	0.79000	0.79000	9.77432	9.77432	False	-1.09898
252654	0.53000	0.53000	12.69892	12.69892	False	-0.93903
252657	0.66000	0.66000	11.35015	11.35015	False	-1.01280
252662	0.35250	0.36000	14.51432	14.43384	False	-0.96416
252671	0.44000	0.50000	13.60388	13.00000	False	2.34858

Figure J-11. 2013–14 NECAP: Delta Plot
Reading Grade 6

Table J-11. 2013–14 NECAP Delta Analysis
Reading Grade 6

IREF	*P*		*Delta*		*Discard*	*Std*
	Old	*New*	*Old*	*New*		
148549	0.84000	0.85000	9.02217	8.85427	False	0.35059
148563	0.92000	0.92000	7.37971	7.37971	False	-0.70426
148566	0.62000	0.62000	11.77808	11.77808	False	-0.52897
148573	0.80000	0.78000	9.63352	9.91123	False	-0.26254
148579	0.44750	0.44000	13.52792	13.60388	False	-0.90682
148673	0.88000	0.89000	8.30005	8.09389	False	0.54728
148684	0.87000	0.89000	8.49444	8.09389	False	1.70046
148692	0.84000	0.84000	9.02217	9.02217	False	-0.63881
148695	0.83000	0.82000	9.18334	9.33854	False	-0.96652
148699	0.76000	0.75000	10.17479	10.30204	False	-1.17073
148703	0.91000	0.90000	7.63698	7.87379	False	-0.42397
148709	0.85000	0.85000	8.85427	8.85427	False	-0.64550
148711	0.92000	0.91000	7.37971	7.63698	False	-0.29320
172206	0.50000	0.50000	13.00000	13.00000	False	-0.48028
172238	0.52000	0.53000	12.79939	12.69892	False	0.10374
208949	0.68000	0.63000	11.12920	11.67259	False	1.24336
209310	0.76000	0.76000	10.17479	10.17479	False	-0.59287
209312	0.71000	0.71000	10.78646	10.78646	False	-0.56849

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
209316	0.80000	0.79000	9.63352	9.77432	False	-1.06932
209355	0.65000	0.66000	11.45872	11.35015	False	0.09807
209365	0.48000	0.45750	13.20061	13.42694	False	-0.70752
209416	0.74000	0.76000	10.42662	10.17479	False	0.90111
209425	0.87000	0.87000	8.49444	8.49444	False	-0.65984
209428	0.87000	0.88000	8.49444	8.30005	False	0.48559
209432	0.49000	0.53000	13.10028	12.69892	False	1.88877
252598	0.88000	0.89000	8.30005	8.09389	False	0.54728
252621	0.80000	0.82000	9.63352	9.33854	False	1.12375
252623	0.89000	0.90000	8.09389	7.87379	False	0.62114
252629	0.75000	0.75000	10.30204	10.30204	False	-0.58780
252631	0.40000	0.41000	14.01339	13.91018	False	0.16828
252635	0.44000	0.43000	13.60388	13.70550	False	-1.05502
252643	0.86000	0.84000	8.67872	9.02217	False	0.16286
252645	0.34250	0.31750	14.62260	14.89880	False	-0.47025
252672	0.90000	0.89000	7.87379	8.09389	False	-0.53193
252672	0.89000	0.89000	8.09389	8.09389	False	-0.67580
252674	0.68000	0.65000	11.12920	11.45872	False	-0.01690
252675	0.84000	0.83000	9.02217	9.18334	False	-0.92491
252979	0.36000	0.37750	14.43384	14.24821	False	0.67067
252989	0.92000	0.90000	7.37971	7.87379	False	1.10227
252989	0.90000	0.90000	7.87379	7.87379	False	-0.68457
252994	0.93000	0.93000	7.09684	7.09684	False	-0.71554
253003	0.80000	0.79000	9.63352	9.77432	False	-1.06932
253008	0.90000	0.90000	7.87379	7.87379	False	-0.68457
253014	0.80000	0.79000	9.63352	9.77432	False	-1.06932
253015	0.92000	0.90000	7.37971	7.87379	False	1.10227
253032	0.84000	0.83000	9.02217	9.18334	False	-0.92491
253032	0.85000	0.83000	8.85427	9.18334	False	0.07117
253033	0.45000	0.43500	13.50265	13.65463	False	-1.15758
253043	0.85000	0.82000	8.85427	9.33854	False	0.98571
253044	0.73000	0.69000	10.54875	11.01660	False	0.82141
253049	0.85000	0.84000	8.85427	9.02217	False	-0.87856
253051	0.60000	0.53000	11.98661	12.69892	False	2.20462
253052	0.64000	0.61000	11.56616	11.88272	False	-0.11065
253052	0.63000	0.61000	11.67259	11.88272	False	-0.74200
253060	0.80000	0.78000	9.63352	9.91123	False	-0.26254
253060	0.80000	0.78000	9.63352	9.91123	False	-0.26254
253071	0.34000	0.34250	14.64985	14.62260	False	-0.25393
253075	0.91000	0.93000	7.63698	7.09684	False	2.48888
253078	0.67000	0.65000	11.24035	11.45872	False	-0.67625
253086	0.70000	0.64000	10.90240	11.56616	False	1.96179
253089	0.45000	0.42000	13.50265	13.80757	False	-0.25636
253091	0.87000	0.86000	8.49444	8.67872	False	-0.76766
253092	0.41000	0.42000	13.91018	13.80757	False	0.16062
253097	0.44250	0.46500	13.57854	13.35138	False	0.88133
253098	0.77000	0.70000	10.04461	10.90240	True	3.13926
253099	0.65000	0.58000	11.45872	12.19243	False	2.35175
253114	0.84000	0.84000	9.02217	9.02217	False	-0.63881

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
253117	0.87000	0.87000	8.49444	8.49444	False	-0.65984
253121	0.93000	0.92000	7.09684	7.37971	False	-0.13100
253125	0.44500	0.43500	13.55322	13.65463	False	-1.05585

Figure J-12. 2013–14 NECAP: Delta Plot
Reading Grade 7

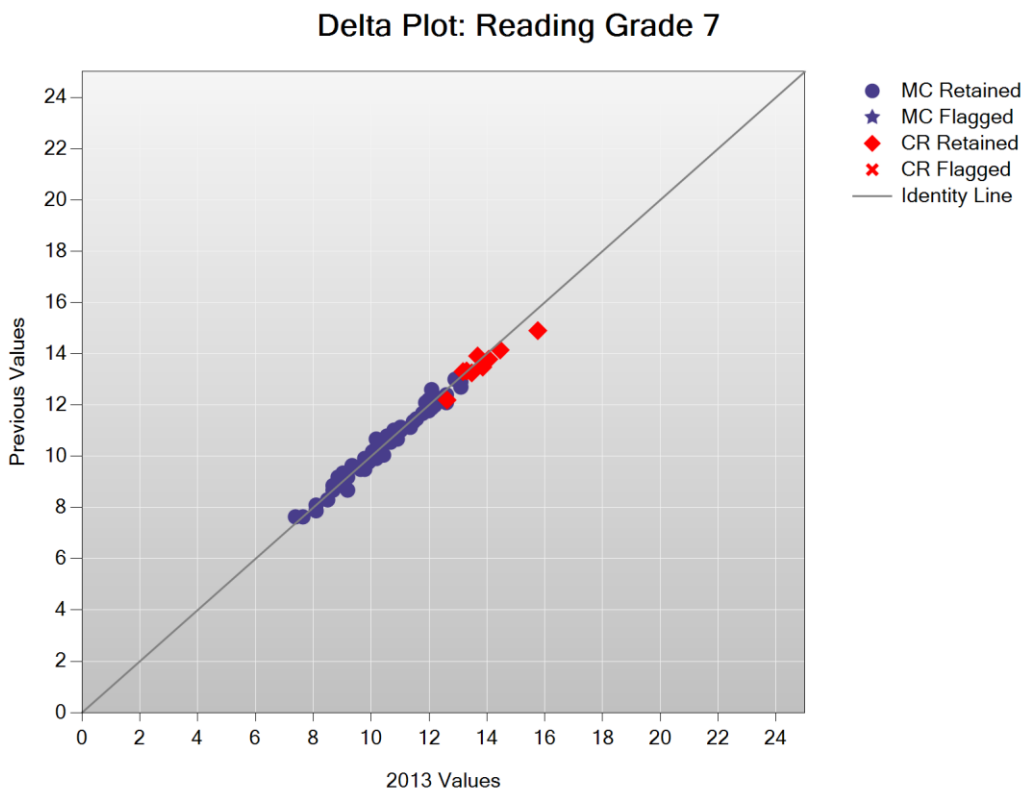


Table J-12. 2013–14 NECAP Delta Analysis
Reading Grade 7

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
147526	0.91000	0.91000	7.63698	7.63698	False	-0.57920
147539	0.91000	0.92000	7.63698	7.37971	False	-0.44307
147546	0.62000	0.60000	11.77808	11.98661	False	-0.51507
147549	0.89000	0.89000	8.09389	8.09389	False	-0.73265
147555	0.58000	0.53750	12.19243	12.62345	False	0.89802
147641	0.79000	0.78000	9.77432	9.91123	False	-0.34181
147643	0.69000	0.69000	11.01660	11.01660	False	-1.10292
147646	0.68000	0.69000	11.12920	11.01660	False	-0.27948
147647	0.73000	0.75000	10.54875	10.30204	False	0.46116
147677	0.76000	0.77000	10.17479	10.04461	False	-0.47743
147690	0.77000	0.74000	10.04461	10.42662	False	1.27735

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
173057	0.68000	0.66000	11.12920	11.35015	False	-0.21059
173062	0.75000	0.76000	10.30204	10.17479	False	-0.45510
173066	0.77000	0.75000	10.04461	10.30204	False	0.40822
173078	0.88000	0.87000	8.30005	8.49444	False	0.55426
173082	0.65000	0.64000	11.45872	11.56616	False	-1.11308
173091	0.53000	0.49000	12.69892	13.10028	False	0.52092
173094	0.78000	0.79000	9.91123	9.77432	False	-0.51895
173096	0.73000	0.72000	10.54875	10.66863	False	-0.72069
173294	0.69000	0.69000	11.01660	11.01660	False	-1.10292
173304	0.71000	0.72000	10.78646	10.66863	False	-0.35816
173309	0.51000	0.49000	12.89972	13.10028	False	-0.94747
173310	0.78000	0.76000	9.91123	10.17479	False	0.49581
173312	0.72000	0.70000	10.66863	10.90240	False	0.03354
173315	0.58000	0.60000	12.19243	11.98661	False	0.72788
173316	0.62000	0.60000	11.77808	11.98661	False	-0.51507
173319	0.66000	0.65000	11.35015	11.45872	False	-1.06877
173320	0.47500	0.45250	13.25083	13.47739	False	-0.88390
173323	0.46750	0.47000	13.32622	13.30108	False	-0.15183
207506	0.83000	0.83000	9.18334	9.18334	False	-1.09853
207558	0.50000	0.51000	13.00000	12.89972	False	0.26279
207565	0.83000	0.85000	9.18334	8.85427	False	0.57724
207566	0.82000	0.84000	9.33854	9.02217	False	0.54075
207583	0.71000	0.73000	10.78646	10.54875	False	0.47824
207585	0.73000	0.74000	10.54875	10.42662	False	-0.40798
207588	0.58000	0.60000	12.19243	11.98661	False	0.72788
207591	0.69000	0.71000	11.01660	10.78646	False	0.50268
207598	0.82000	0.84000	9.33854	9.02217	False	0.54075
207604	0.71000	0.71000	10.78646	10.78646	False	-1.18021
207608	0.42250	0.39500	13.78201	14.06524	False	-0.66692
207622	0.47000	0.48250	13.30108	13.17552	False	0.54030
207669	0.59000	0.61000	12.08982	11.88272	False	0.70236
207671	0.81000	0.80000	9.48841	9.63352	False	-0.18867
207675	0.85000	0.86000	8.85427	8.67872	False	-0.60440
207678	0.86000	0.86000	8.67872	8.67872	False	-0.92906
207702	0.45250	0.41500	13.47739	13.85881	False	0.12037
252450	0.57000	0.55000	12.29450	12.49735	False	-0.72816
252451	0.58000	0.58000	12.19243	12.19243	False	-0.70802
252454	0.60000	0.58000	11.98661	12.19243	False	-0.60408
252541	0.59000	0.58000	12.08982	12.19243	False	-1.35880
252591	0.72000	0.72000	10.66863	10.66863	False	-1.21978
252680	0.86000	0.83000	8.67872	9.18334	False	2.59150
252681	0.41000	0.43250	13.91018	13.68005	False	1.47441
252716	0.90000	0.89000	7.87379	8.09389	False	0.87680
252726	0.80000	0.82000	9.63352	9.33854	False	0.49054
252727	0.72000	0.76000	10.66863	10.17479	False	2.22562
252729	0.54000	0.59000	12.59827	12.08982	False	2.97554
252735	0.61000	0.59000	11.88272	12.08982	False	-0.56025
252735	0.58000	0.59000	12.19243	12.08982	False	0.00783
252736	0.31750	0.24500	14.89880	15.76124	False	2.99889

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
252738	0.59000	0.54000	12.08982	12.59827	False	1.47262
252746	0.81000	0.79000	9.48841	9.77432	False	0.79365
252747	0.85000	0.85000	8.85427	8.85427	False	-0.98801
252750	0.38750	0.35750	14.14336	14.46060	False	-0.55108
252752	0.56000	0.54000	12.39612	12.59827	False	-0.76724
252754	0.63000	0.62000	11.67259	11.77808	False	-1.19855

Figure J-13. 2013–14 NECAP: Delta Plot
Reading Grade 8

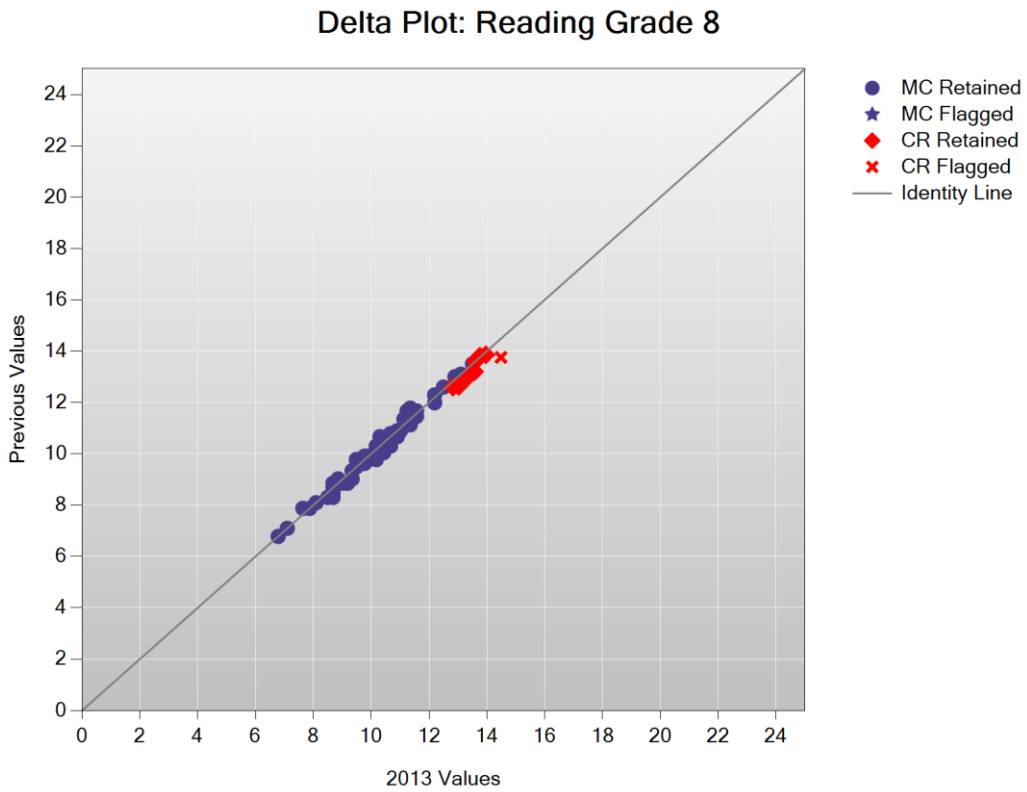


Table J-13. 2013–14 NECAP Delta Analysis
Reading Grade 8

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
147318	0.77000	0.74000	10.04461	10.42662	False	1.18781
147319	0.60000	0.58000	11.98661	12.19243	False	-0.34577
147322	0.70000	0.69000	10.90240	11.01660	False	-0.88584
147324	0.80000	0.79000	9.63352	9.77432	False	-0.53441
147332	0.79000	0.76000	9.77432	10.17479	False	1.35677
147333	0.85000	0.84000	8.85427	9.02217	False	-0.23945
147334	0.84000	0.82000	9.02217	9.33854	False	0.83108
147340	0.49000	0.49000	13.10028	13.10028	False	-0.56412

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
147346	0.53750	0.49750	12.62345	13.02507	False	1.01501
147351	0.42500	0.35500	13.75647	14.48742	True	3.29620
147516	0.66000	0.68000	11.35015	11.12920	False	0.84461
147521	0.90000	0.91000	7.87379	7.63698	False	0.53403
147523	0.50000	0.51000	13.00000	12.89972	False	0.16053
147531	0.72000	0.75000	10.66863	10.30204	False	1.83131
147537	0.82000	0.82000	9.33854	9.33854	False	-1.02642
147540	0.80000	0.79000	9.63352	9.77432	False	-0.53441
147545	0.76000	0.76000	10.17479	10.17479	False	-0.92365
147547	0.89000	0.89000	8.09389	8.09389	False	-1.17939
147557	0.54000	0.51750	12.59827	12.82448	False	-0.27101
147562	0.47500	0.44750	13.25083	13.52792	False	0.02272
147600	0.78000	0.79000	9.91123	9.77432	False	0.05019
172442	0.90000	0.90000	7.87379	7.87379	False	-1.20643
172446	0.63000	0.64000	11.67259	11.56616	False	0.04257
172450	0.85000	0.86000	8.85427	8.67872	False	0.20422
172451	0.94000	0.94000	6.78091	6.78091	False	-1.21864
172468	0.44000	0.44000	13.60388	13.60388	False	-0.50223
172653	0.68000	0.66000	11.12920	11.35015	False	-0.12921
172658	0.73000	0.72000	10.54875	10.66863	False	-0.80059
172666	0.75000	0.76000	10.30204	10.17479	False	0.02722
172675	0.57000	0.58000	12.29450	12.19243	False	0.08707
172678	0.79000	0.81000	9.77432	9.48841	False	1.12835
172697	0.64000	0.65000	11.56616	11.45872	False	0.03702
172699	0.50000	0.51000	13.00000	12.89972	False	0.16053
172700	0.54000	0.55000	12.59827	12.49735	False	0.11583
172704	0.50000	0.46500	13.00000	13.35138	False	0.59951
172709	0.48000	0.44250	13.20061	13.57854	False	0.76993
172719	0.65000	0.64000	11.45872	11.56616	False	-1.00385
172734	0.75000	0.72000	10.30204	10.66863	False	1.04290
207859	0.81000	0.81000	9.48841	9.48841	False	-1.00800
207860	0.65000	0.65000	11.45872	11.45872	False	-0.76586
207862	0.77000	0.76000	10.04461	10.17479	False	-0.66300
207867	0.45000	0.45000	13.50265	13.50265	False	-0.51467
207875	0.67000	0.67000	11.24035	11.24035	False	-0.79270
207897	0.86000	0.86000	8.67872	8.67872	False	-1.10751
207903	0.63000	0.67000	11.67259	11.24035	False	2.43716
207912	0.77000	0.76000	10.04461	10.17479	False	-0.66300
207956	0.88000	0.87000	8.30005	8.49444	False	0.02328
207959	0.74000	0.74000	10.42662	10.42662	False	-0.89270
207964	0.78000	0.78000	9.91123	9.91123	False	-0.95604
207969	0.71000	0.72000	10.78646	10.66863	False	0.01749
208284	0.79000	0.81000	9.77432	9.48841	False	1.12835
208289	0.70000	0.70000	10.90240	10.90240	False	-0.83423
252760	0.80000	0.80000	9.63352	9.63352	False	-0.99017
252764	0.78000	0.77000	9.91123	10.04461	False	-0.62303
252831	0.84000	0.85000	9.02217	8.85427	False	0.16869
252898	0.88000	0.86000	8.30005	8.67872	False	1.37769
252904	0.77000	0.74000	10.04461	10.42662	False	1.18781

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
252906	0.85000	0.83000	8.85427	9.18334	False	0.94507
252919	0.72000	0.70000	10.66863	10.90240	False	0.02162
252922	0.42000	0.42500	13.80757	13.75647	False	-0.10163
252998	0.62000	0.66000	11.77808	11.35015	False	2.41845
253001	0.87000	0.86000	8.49444	8.67872	False	-0.07481
253005	0.51000	0.50000	12.89972	13.00000	False	-1.23365
253013	0.41500	0.40500	13.85881	13.96170	False	-1.22714
253063	0.93000	0.93000	7.09684	7.09684	False	-1.25747

Figure J-14. 2013–14 NECAP: Delta Plot
Reading Grade 11

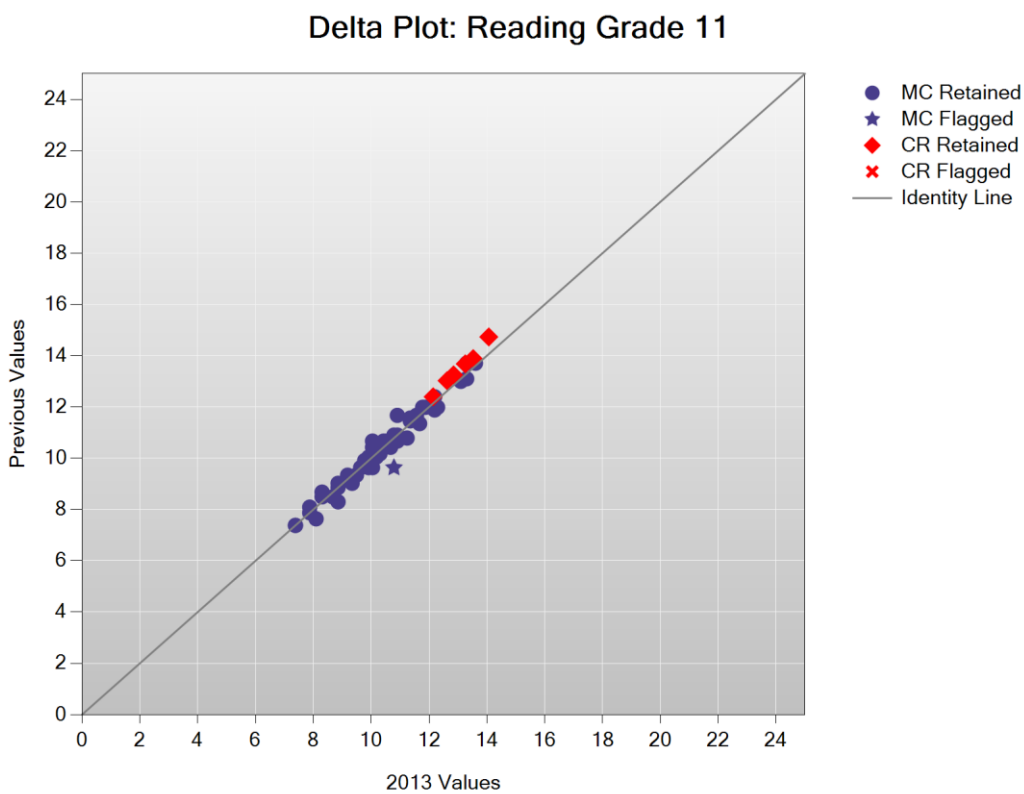


Table J-14. 2013–14 NECAP Delta Analysis
Reading Grade 11

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
118848	0.84000	0.85000	9.02217	8.85427	False	0.00279
118849	0.66000	0.63000	11.35015	11.67259	False	0.84289
118851	0.87000	0.86000	8.49444	8.67872	False	-0.68949
118852	0.50000	0.49000	13.00000	13.10028	False	0.19594
147550	0.71000	0.67000	10.78646	11.24035	False	1.34575
147551	0.91000	0.89000	7.63698	8.09389	False	0.44417

continued

IREF	P		Delta		Discard	Std
	Old	New	Old	New		
147556	0.80000	0.71000	9.63352	10.78646	True	4.55717
147563	0.63000	0.70000	11.67259	10.90240	False	2.28721
147735	0.92000	0.92000	7.37971	7.37971	False	-0.37099
147736	0.92000	0.92000	7.37971	7.37971	False	-0.37099
147747	0.73000	0.74000	10.54875	10.42662	False	-0.67390
147749	0.60000	0.61000	11.98661	11.88272	False	-1.13503
147753	0.80000	0.80000	9.63352	9.63352	False	-1.02714
147764	0.65000	0.66000	11.45872	11.35015	False	-1.00763
147766	0.78000	0.79000	9.91123	9.77432	False	-0.41329
147767	0.77000	0.77000	10.04461	10.04461	False	-1.14683
147774	0.56000	0.58500	12.39612	12.14119	False	-0.53790
147775	0.47500	0.51500	13.25083	12.84957	False	-0.04424
208339	0.63000	0.64000	11.67259	11.56616	False	-1.08079
208350	0.74000	0.74000	10.42662	10.42662	False	-1.06206
208358	0.56000	0.58000	12.39612	12.19243	False	-0.79786
208380	0.70000	0.71000	10.90240	10.78646	False	-0.80829
208381	0.72000	0.73000	10.66863	10.54875	False	-0.72019
208391	0.49750	0.53750	13.02507	12.62345	False	0.02329
252803	0.85000	0.85000	8.85427	8.85427	False	-0.80028
252824	0.86000	0.88000	8.67872	8.30005	False	1.17222
252832	0.76000	0.75000	10.17479	10.30204	False	-0.48969
252843	0.74000	0.72000	10.42662	10.66863	False	0.16595
252850	0.73000	0.74000	10.54875	10.42662	False	-0.67390
252853	0.64000	0.66000	11.56616	11.35015	False	-0.49371
252879	0.77000	0.78000	10.04461	9.91123	False	-0.47002
252881	0.87000	0.88000	8.49444	8.30005	False	0.29079
252882	0.90000	0.90000	7.87379	7.87379	False	-0.51483
252882	0.89000	0.90000	8.09389	7.87379	False	0.53786
252894	0.82000	0.83000	9.33854	9.18334	False	-0.15377
252897	0.49000	0.47000	13.10028	13.30108	False	0.73522
252897	0.43000	0.47000	13.70550	13.30108	False	-0.16059
252903	0.33250	0.39500	14.73208	14.06524	False	0.87208
252905	0.72000	0.70000	10.66863	10.90240	False	0.19453
252909	0.74000	0.77000	10.42662	10.04461	False	0.68028
252912	0.80000	0.77000	9.63352	10.04461	False	0.79298
252921	0.43250	0.47500	13.68005	13.25083	False	-0.02731
252974	0.77000	0.76000	10.04461	10.17479	False	-0.51274
252980	0.88000	0.85000	8.30005	8.85427	False	1.13095
252996	0.87000	0.86000	8.49444	8.67872	False	-0.68949
253002	0.72000	0.74000	10.66863	10.42662	False	-0.10050
253045	0.43000	0.44000	13.70550	13.60388	False	-0.62310
253050	0.60000	0.57000	11.98661	12.29450	False	0.95437
253057	0.41250	0.44750	13.88447	13.52792	False	-0.45556
253062	0.80000	0.78000	9.63352	9.91123	False	0.11617
253065	0.61000	0.58000	11.88272	12.19243	False	0.93331
253067	0.82000	0.81000	9.33854	9.48841	False	-0.61836
253069	0.72000	0.77000	10.66863	10.04461	False	1.83783
258751	0.60000	0.62000	11.98661	11.77808	False	-0.65409
258759	0.70000	0.70000	10.90240	10.90240	False	-0.92354
259530	0.84000	0.82000	9.02217	9.33854	False	0.13435

Rescore Analysis

Presented in this appendix is a description of the rescore analysis. The usual process would be to select 200 random papers from the previous year for each of the constructed-response (CR) equating items used in each grade for assessing mathematics and reading (two-point CR items in grades 3 and 4 for the mathematics assessment and four-point CR items for all other assessments). Then, the 200 random papers for each item would be interspersed with this year's papers to evaluate scorer consistency from one year to the next. For 2013, scoring was inadvertently completed without a random selection and insertion of 200 papers for each equating item, so an alternate method for implementing a rescore analysis was improvised by using data available from our standard scoring procedures.

As part of our standard scoring procedures a large number (typically 100 to 400) of previously scored four-point CR responses that represent prototype responses for each of the five score categories (0 to 4) are interspersed with this year's papers as one of our checks on the quality of the scoring process. For example, for grade 3 reading, the sample size of 180 for item 207623 corresponds to how 18 scorers from the current year each scored the same set of 10 papers that were selected by our senior readers as being prototypical representatives of their respective scores, resulting in 180 scores from the current year being compared with the 10 scores from previous years. Each of the previous scores is from one of our senior readers so that any observed difference can be more confidently interpreted as a discrepancy. Because these were prototype responses, they represented the best examples of the scores associated with those responses. Thus, this "prototype effect" would be expected to result in better than usual agreement between this year's scores in comparison to the senior reader scores from past years. However, the current scores also all occurred during the first few hours on the first day of scoring when scorers were still honing their scoring skills, rather than randomly throughout all the days. If a scorer was flagged for retraining during this time because of discrepant scores, those scores would be included in our analysis. In contrast to the prototype effect, this "early scorer retraining" effect likely results in a reduction in agreement as compared to the usual analysis. Note that because these results are limited to four-point CR responses, the special rescore analysis conducted with this administration did not include the two-point CR items used in the grades 3 and 4 mathematics assessments.

Furthermore, the results presented naturally focused on the equating items, even though this checking procedure was applied to other items as well. As mentioned above, the number of responses analyzed per item varied. While the sample size for past analyses was fixed at 200, the analyses presented here had samples sizes that ranged from 70 to 527. About 95% of the sample sizes were between 100 and 400; to the nearest integer, the mean was 246 and the standard deviation was 80. All effect sizes were well below the criterion value for excluding an item as an equating item, 0.50 in absolute value.

Table J-15. 2013–14 NECAP Rescore Analysis
Reading Grade 3

IREF	Max	N	Mean		St Dev		Effect Size	Discard
			Old	New	Old	New		
207623	4	180	1.70000	1.70000	1.18133	1.27240	0.00000	False
207795	4	196	1.93367	2.02551	1.37027	1.41579	0.06588	False
208184	4	190	2.42105	2.40000	1.36144	1.36005	-0.01547	False
208196	4	170	2.37647	2.40000	1.14071	1.11684	0.02084	False
252158	4	350	2.20571	2.20000	1.25672	1.25079	-0.00456	False
252270	4	204	2.09314	2.20588	1.16862	1.25033	0.09306	False
252301	4	191	1.92147	2.19895	1.15125	1.24486	0.22990	False
252353	4	176	1.68750	1.91477	1.08447	1.13571	0.20362	False
252462	4	180	2.20000	2.20000	1.14531	1.25248	0.00000	False

Table J-16. 2013–14 NECAP Rescore Analysis
Reading Grade 4

IREF	Max	N	Mean		St Dev		Effect Size	Discard
			Old	New	Old	New		
117862	4	170	1.77647	1.90000	1.20528	1.13914	0.10519	False
117880	4	160	2.25625	2.20000	1.19878	1.25292	-0.04586	False
208157	4	170	2.24118	2.10000	1.28051	1.30384	-0.10909	False
252182	4	150	2.08667	2.20000	1.20367	1.25318	0.09214	False
252346	4	80	1.53750	1.50000	1.07849	1.03116	-0.03554	False
252410	4	100	1.97000	2.00000	1.42457	1.42134	0.02108	False
252523	4	70	2.02857	2.00000	1.42413	1.42442	-0.02006	False
252550	4	170	1.68235	1.70000	1.25186	1.27261	0.01398	False
252559	4	120	1.65000	1.60000	1.20677	1.11822	-0.04297	False

Table J-17. 2013–14 NECAP Rescore Analysis
Reading Grade 5

IREF	Max	N	Mean		St Dev		Effect Size	Discard
			Old	New	Old	New		
171320	4	188	2.03191	1.99468	1.18775	1.18139	-0.03143	False
209057	4	283	1.82332	1.79859	0.99139	0.97762	-0.02512	False
209060	4	275	1.90876	1.91241	1.13344	1.13534	0.00322	False
252343	4	229	1.87773	1.79913	1.27489	1.25440	-0.06212	False
252359	4	260	1.82308	1.80000	1.24563	1.25141	-0.01848	False
252575	4	180	1.56667	1.60000	1.14872	1.20335	0.02833	False
252632	4	110	1.67273	1.80000	1.17395	1.25472	0.10461	False
252646	4	170	1.75294	1.90000	1.09226	1.13914	0.13149	False
252662	4	180	1.57778	1.60000	1.18631	1.20335	0.01860	False

Table J-18. 2013–14 NECAP Rescore Analysis
Reading Grade 6

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
148579	4	300	1.80405	1.92568	1.09023	1.12350	0.10970	False
209365	4	250	1.86000	1.80000	1.23226	1.25151	-0.04830	False
252645	4	427	1.60890	1.59485	1.14417	1.20144	-0.01198	False
252979	4	303	1.63696	1.59736	1.18499	1.19723	-0.03324	False
253033	4	290	1.59310	1.60000	1.12841	1.20207	0.00592	False
253071	4	244	1.55328	1.58607	1.18688	1.20218	0.02744	False
253089	4	282	1.59220	1.58511	1.18126	1.19378	-0.00597	False
253097	4	281	1.62278	1.60142	1.22477	1.20024	-0.01761	False
253125	4	292	1.59932	1.59247	1.17260	1.20209	-0.00577	False

Table J-19. 2013–14 NECAP Rescore Analysis
Reading Grade 7

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
147555	4	290	1.98966	1.90000	1.06691	1.13774	-0.08122	False
173320	4	304	1.97697	1.88816	1.14730	1.14350	-0.07748	False
173323	4	305	2.13115	2.11803	1.35330	1.30756	-0.00986	False
207608	4	268	2.18657	2.18657	1.28470	1.25222	0.00000	False
207622	4	260	2.23077	2.10000	1.34445	1.30251	-0.09867	False
207702	4	302	2.02649	2.09603	1.04036	1.13274	0.06391	False
252681	4	280	1.74643	1.61071	1.05238	1.21012	-0.11946	False
252736	4	527	1.30930	1.60721	1.01377	1.20020	0.26579	False
252750	4	230	1.68261	1.60000	1.25700	1.20262	-0.06712	False

Table J-20. 2013–14 NECAP Rescore Analysis
Reading Grade 8

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
147346	4	273	2.06593	2.09524	1.28168	1.29695	0.02273	False
147351	4	196	1.66327	1.90306	1.15420	1.13037	0.20877	False
147557	4	226	2.15487	2.18584	1.22489	1.24757	0.02505	False
147562	4	274	2.00000	2.19343	1.22549	1.25027	0.15578	False
172468	4	221	1.90950	1.80995	1.38201	1.40780	-0.07132	False
172704	4	212	2.26415	2.28774	1.15444	1.10460	0.02087	False
172709	4	200	2.01000	2.10000	1.19878	1.30326	0.07183	False
252922	4	259	1.66023	1.59846	1.23593	1.20438	-0.05061	False
253013	4	230	1.53913	1.60000	1.19158	1.20262	0.05083	False

Table J-21. 2013–14 NECAP Rescore Analysis
Reading Grade 11

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
147774	4	210	2.09048	2.20000	1.31840	1.25198	0.08511	False
147775	4	183	2.10929	2.18579	1.18557	1.25287	0.06269	False
208391	4	190	2.01579	1.90000	1.20175	1.13878	-0.09879	False
252903	4	186	2.04301	2.10753	1.17095	1.14337	0.05573	False
252921	4	199	2.08040	2.00503	1.34974	1.41955	-0.05440	False
253057	4	181	2.30387	2.30939	1.26992	1.27513	0.00434	False

Table J-22. 2013–14 NECAP Rescore Analysis
Mathematics Grade 5

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
269311	4	396	2.00000	2.00000	1.39982	1.41600	0.00000	False
139267	4	331	1.82779	1.81571	1.50674	1.54504	-0.00792	False
145116	4	305	2.00984	1.99672	1.41534	1.42001	-0.00925	False
167762	4	408	1.95098	1.99510	1.44091	1.41594	0.03088	False
204372	4	219	2.08676	2.01370	1.44526	1.40927	-0.05117	False
204958	4	321	2.04361	2.00000	1.45708	1.41421	-0.03037	False

Table J-23. 2013–14 NECAP Rescore Analysis
Mathematics Grade 6

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
139391	4	276	2.00362	1.99638	1.40259	1.42062	-0.00513	False
145135	4	263	2.00760	2.00000	1.39791	1.41691	-0.00540	False
146045	4	199	2.22111	2.21608	1.40754	1.41012	-0.00357	False
167982	4	193	2.13472	2.01036	1.43704	1.41785	-0.08703	False
202581	4	219	2.09132	2.09589	1.29249	1.30452	0.00352	False
252266	4	176	1.97159	2.00568	1.20204	1.15386	0.02893	False

Table J-24. 2013–14 NECAP Rescore Analysis
Mathematics Grade 7

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
120529	4	357	2.08708	2.10955	1.43232	1.45033	0.01559	False
139989	4	315	1.96825	1.99683	1.39800	1.40857	0.02036	False
140291	4	301	1.98007	2.00332	1.39747	1.41539	0.01653	False
145159	4	392	2.00000	2.01020	1.41783	1.41959	0.00719	False
204630	4	428	1.92757	1.99299	1.45724	1.41502	0.04554	False
252279	4	267	2.08271	2.00752	1.48728	1.49210	-0.05046	False
252395	4	330	2.00606	2.00000	1.42277	1.41636	-0.00427	False

Table J-25. 2013–14 NECAP Rescore Analysis
Mathematics Grade 8

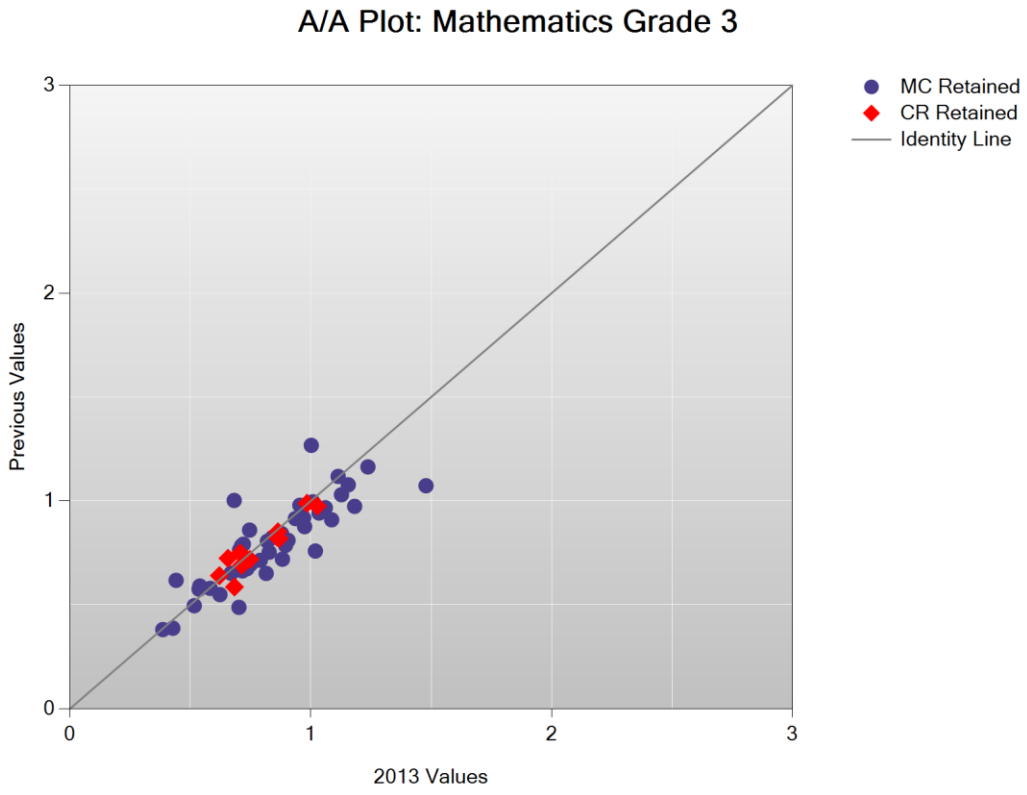
IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
225001	4	270	1.80741	1.80000	1.55684	1.53908	-0.00479	False
122656	4	255	1.63922	1.69412	1.28714	1.34595	0.04168	False
169428	4	151	2.32450	2.33113	1.12871	1.10587	0.00593	False
204599	4	175	2.73714	2.71429	1.08254	1.03311	-0.02160	False

Table J-26. 2013–14 NECAP Rescore Analysis
Mathematics Grade 11

IREF	*Max*	*N*	*Mean*		*St Dev*		*Effect Size*	*Discard*
			Old	*New*	*Old*	*New*		
169657	4	191	1.70681	1.69110	1.68520	1.71184	-0.00925	False
169659	4	250	2.52400	2.50800	1.12360	1.11666	-0.01428	False
198612	4	294	2.29693	2.29693	1.34109	1.34619	0.00000	False
205822	4	331	1.87613	1.90634	1.47496	1.45028	0.02065	False
205859	4	269	1.92937	1.88104	1.42166	1.44836	-0.03367	False
206004	4	317	1.98107	1.99369	1.45816	1.42090	0.00876	False
206381	4	325	2.30462	2.29846	1.27517	1.26448	-0.00485	False

APPENDIX K—*α*-PLOTS AND *b*-PLOTS

Figure K-1. 2013–14 NECAP: Mathematics Grade 3 Plots
Top: *α*-Plot Bottom: *b*-Plot



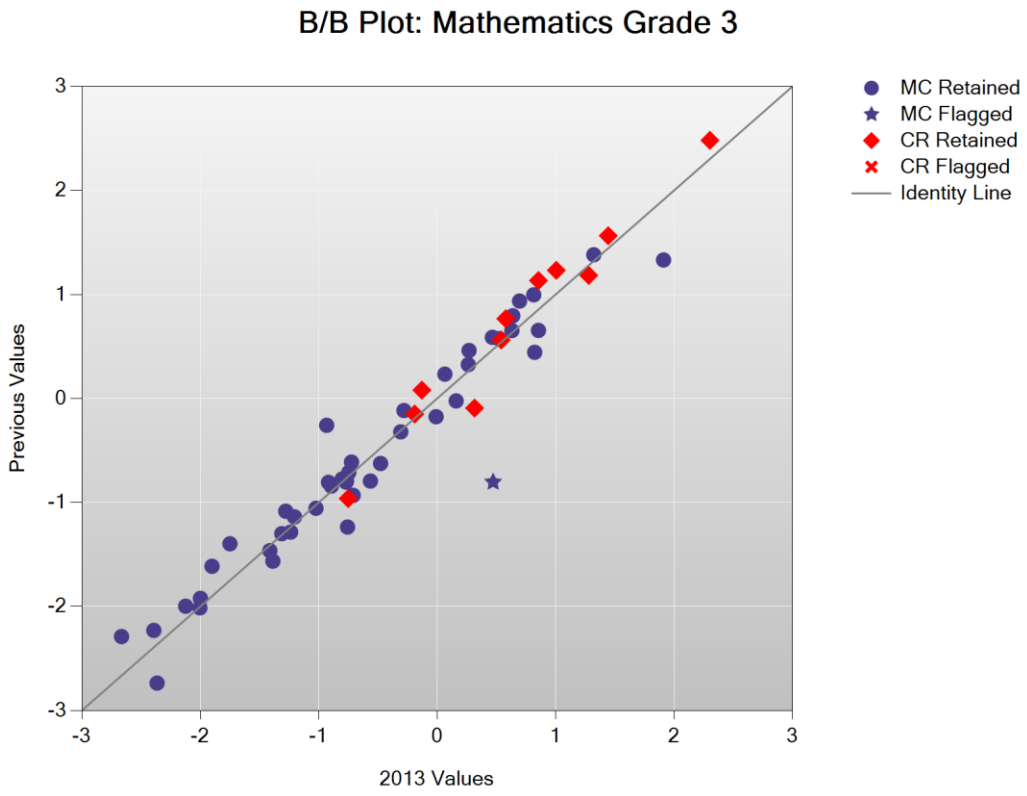
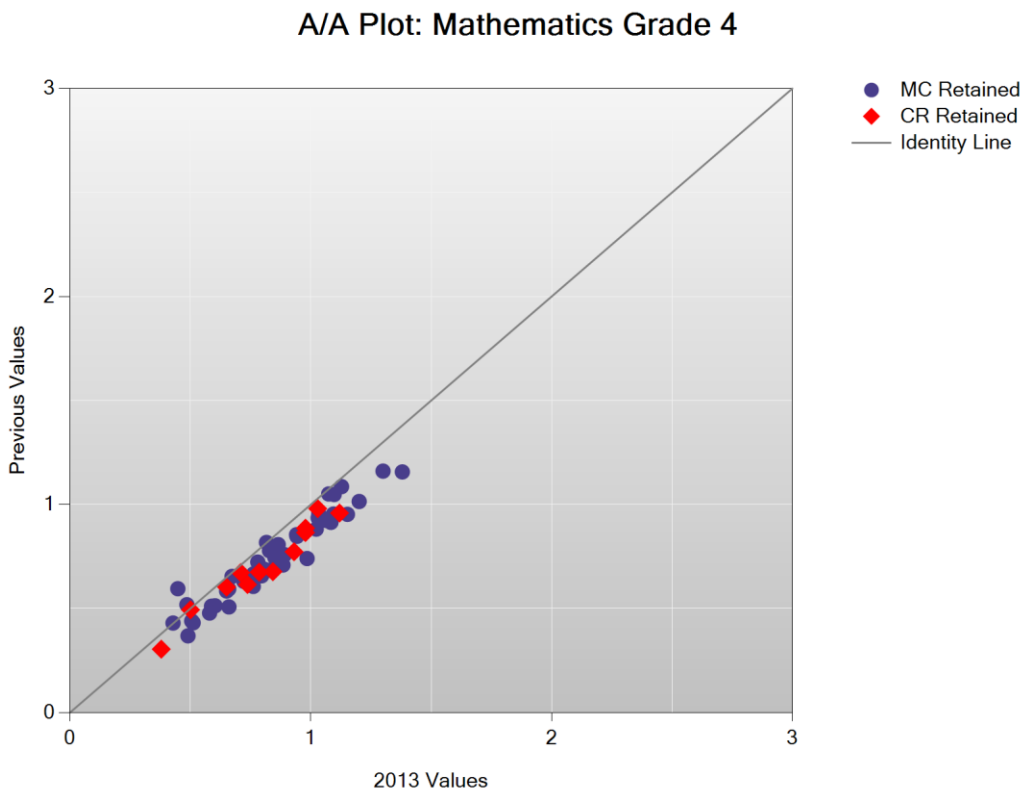


Figure K-2. 2013–14 NECAP: Mathematics Grade 4 Plots
Top: *α*-Plot Bottom: *b*-Plot



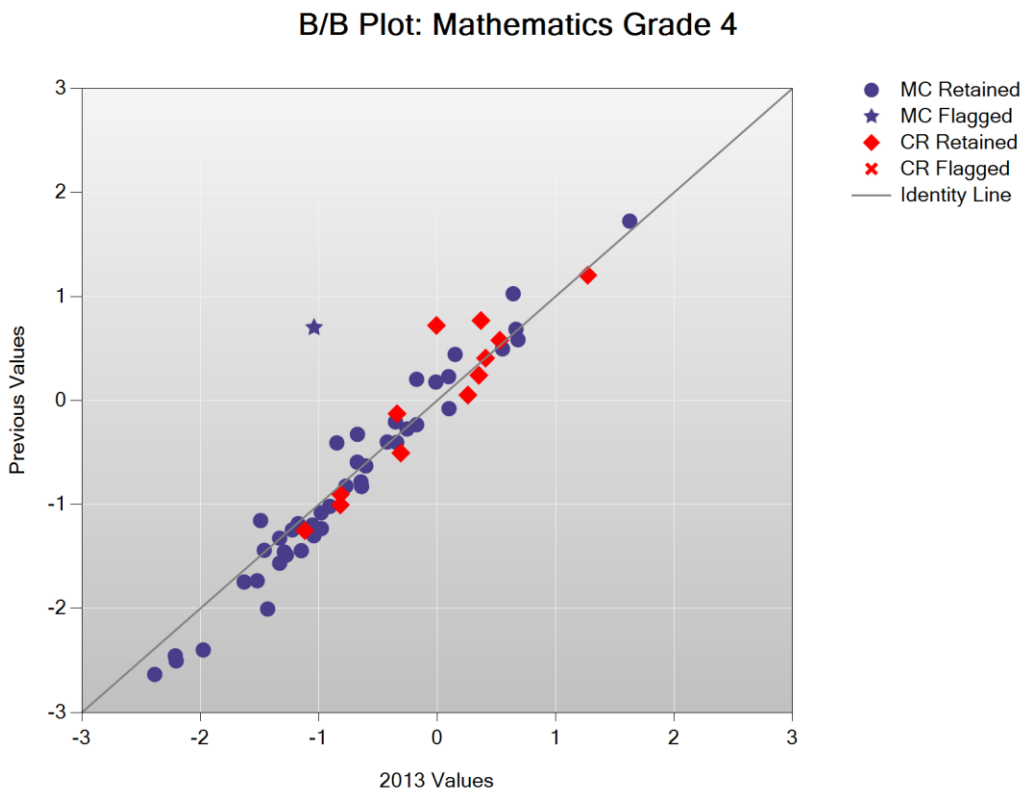
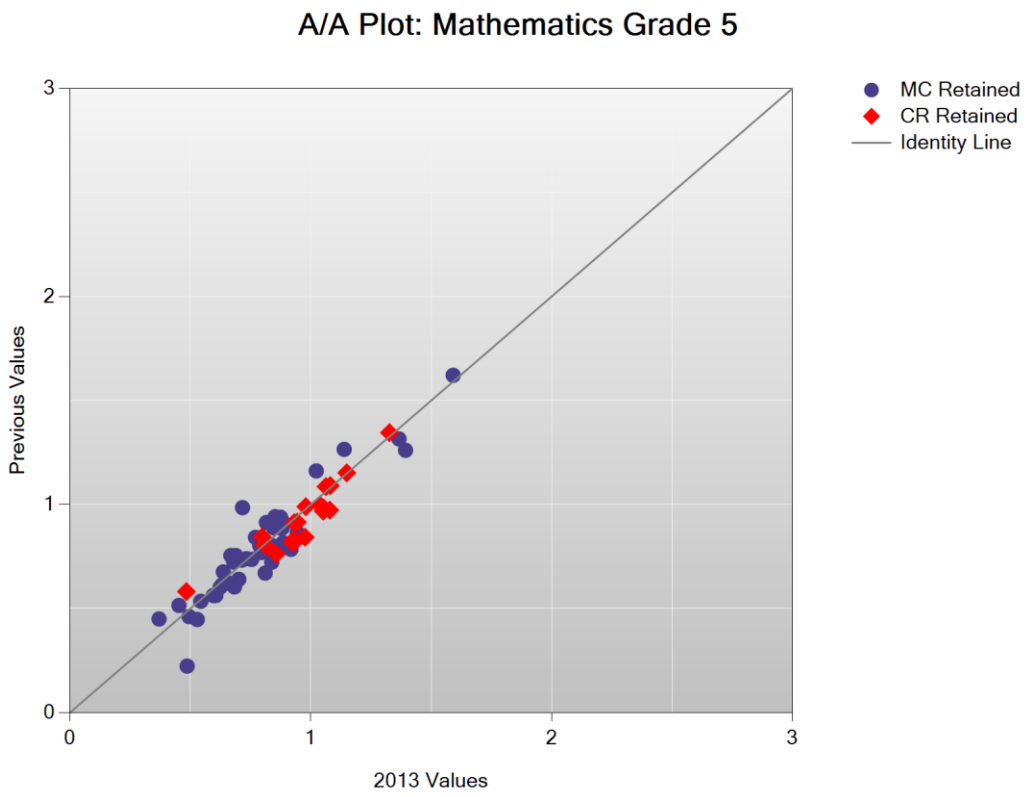


Figure K-3. 2013–14 NECAP: Mathematics Grade 5 Plots
Top: *α*-Plot Bottom: *b*-Plot



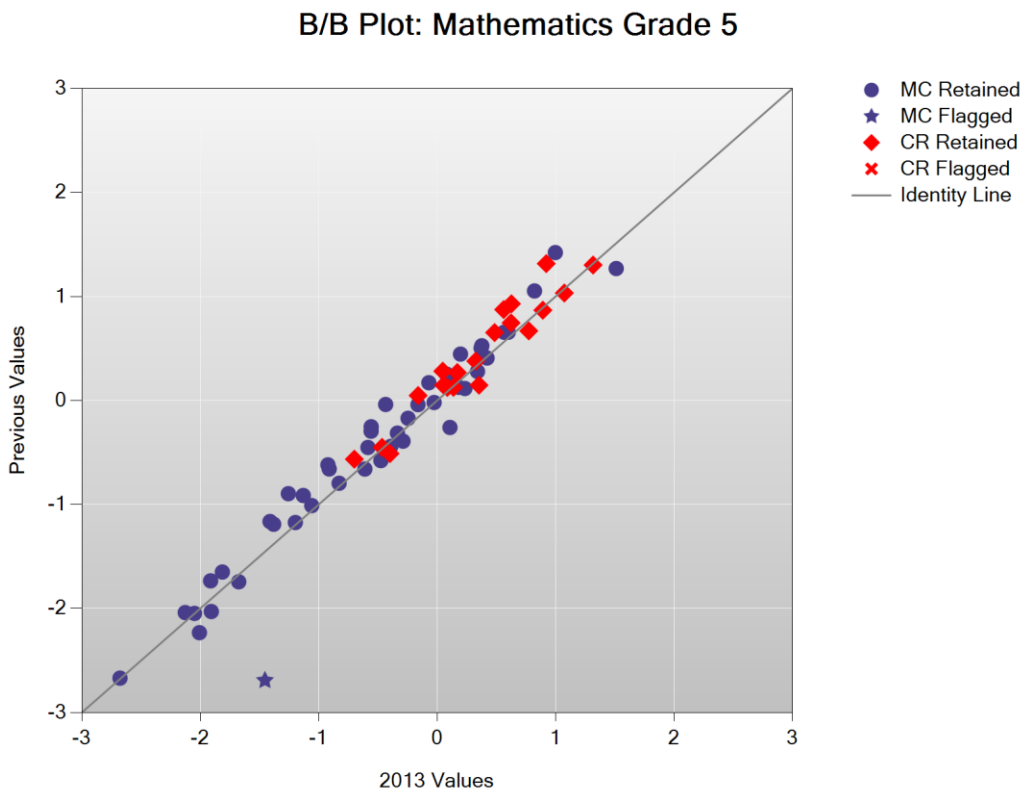
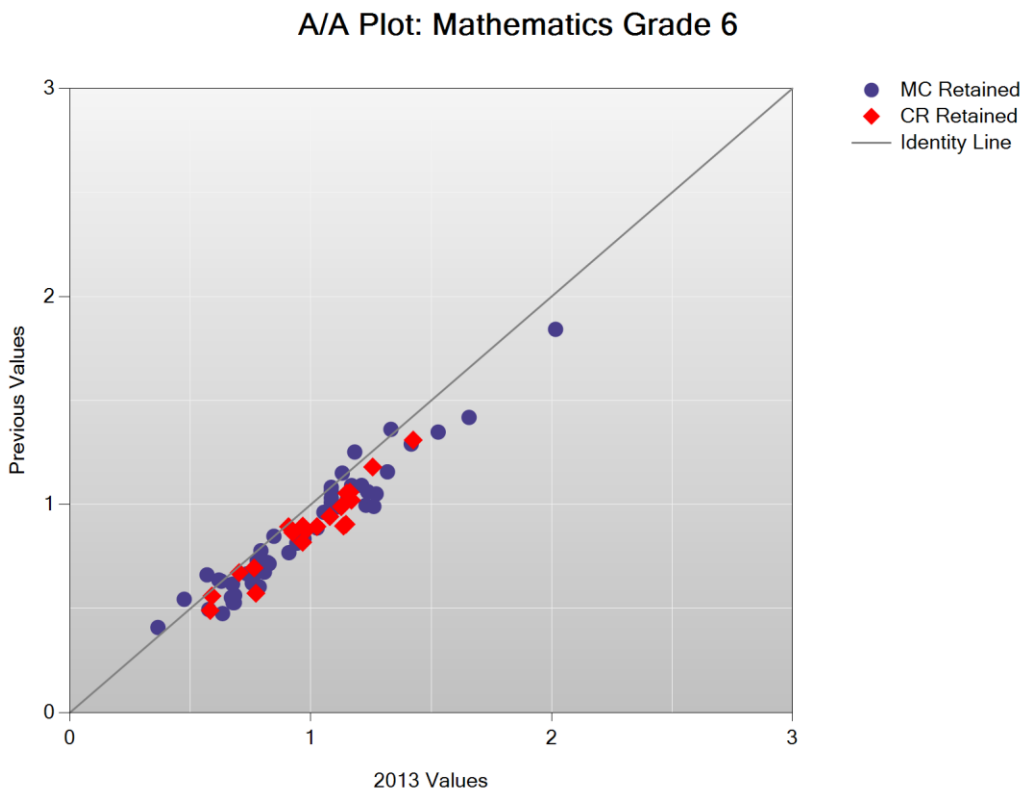


Figure K-4. 2013–14 NECAP: Mathematics Grade 6 Plots
Top: *α*-Plot Bottom: *b*-Plot



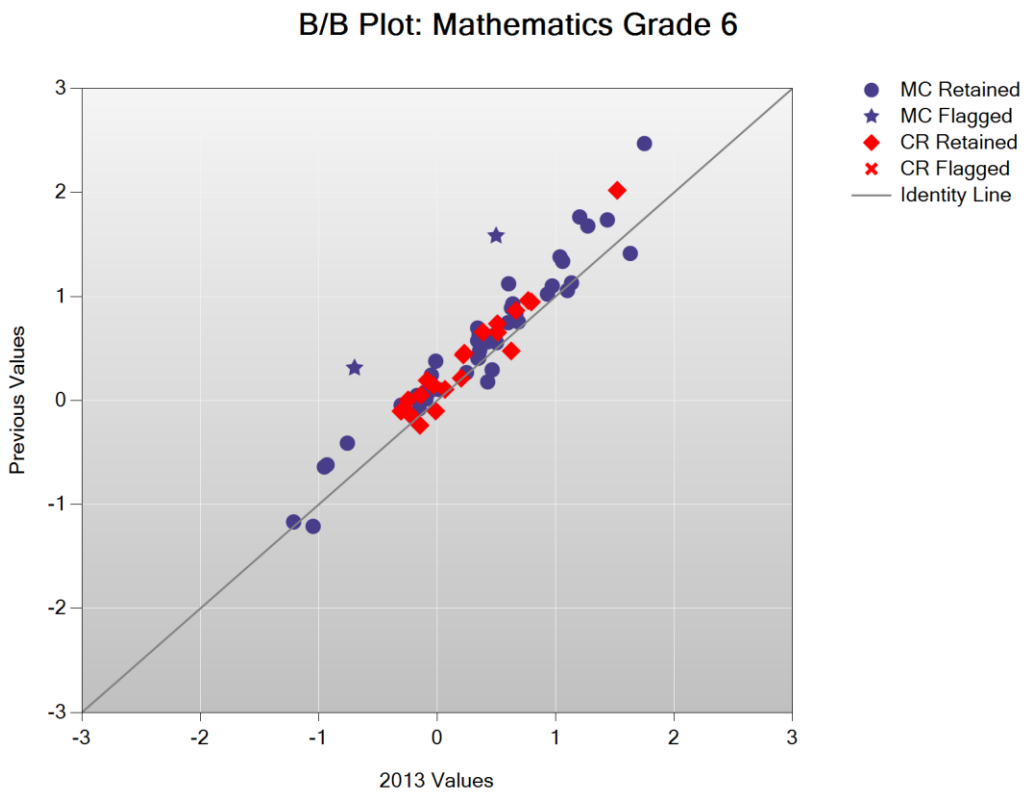
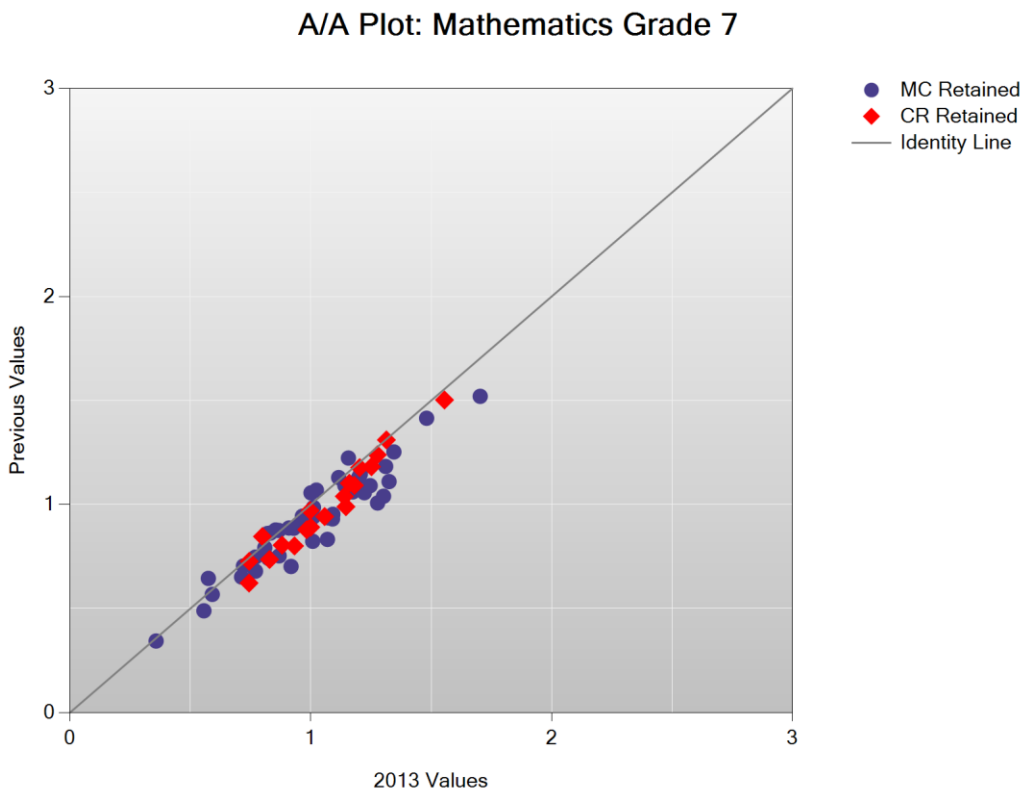


Figure K-5. 2013–14 NECAP: Mathematics Grade 7 Plots
Top: *α*-Plot Bottom: *b*-Plot



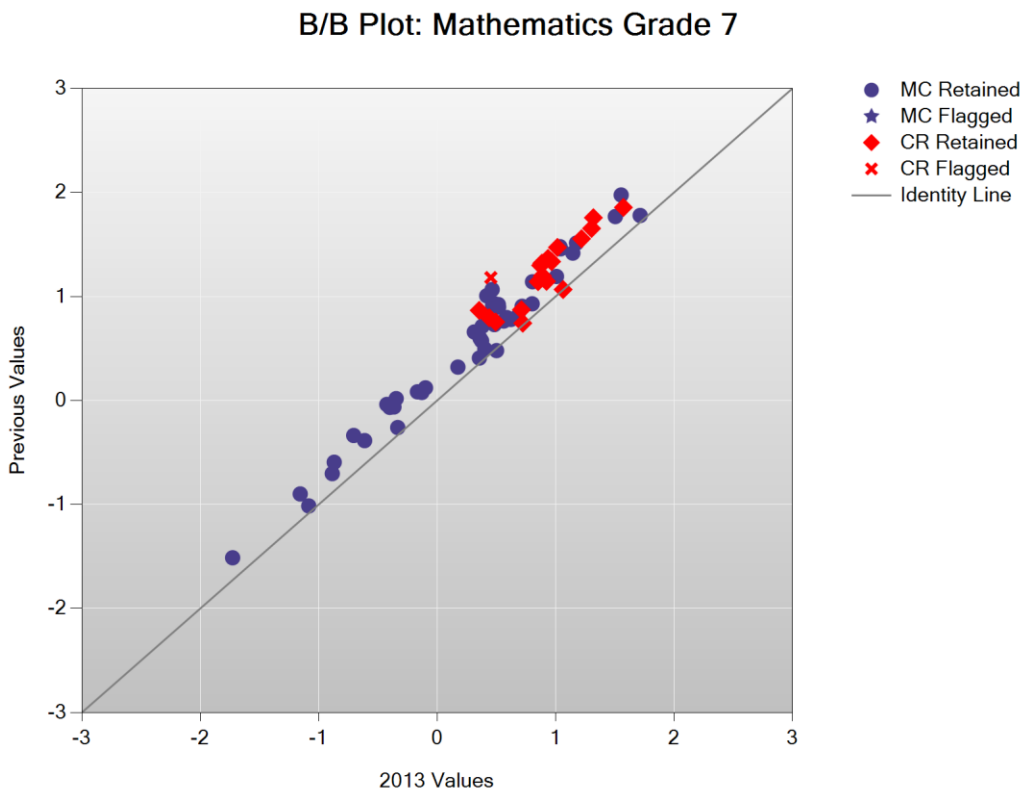
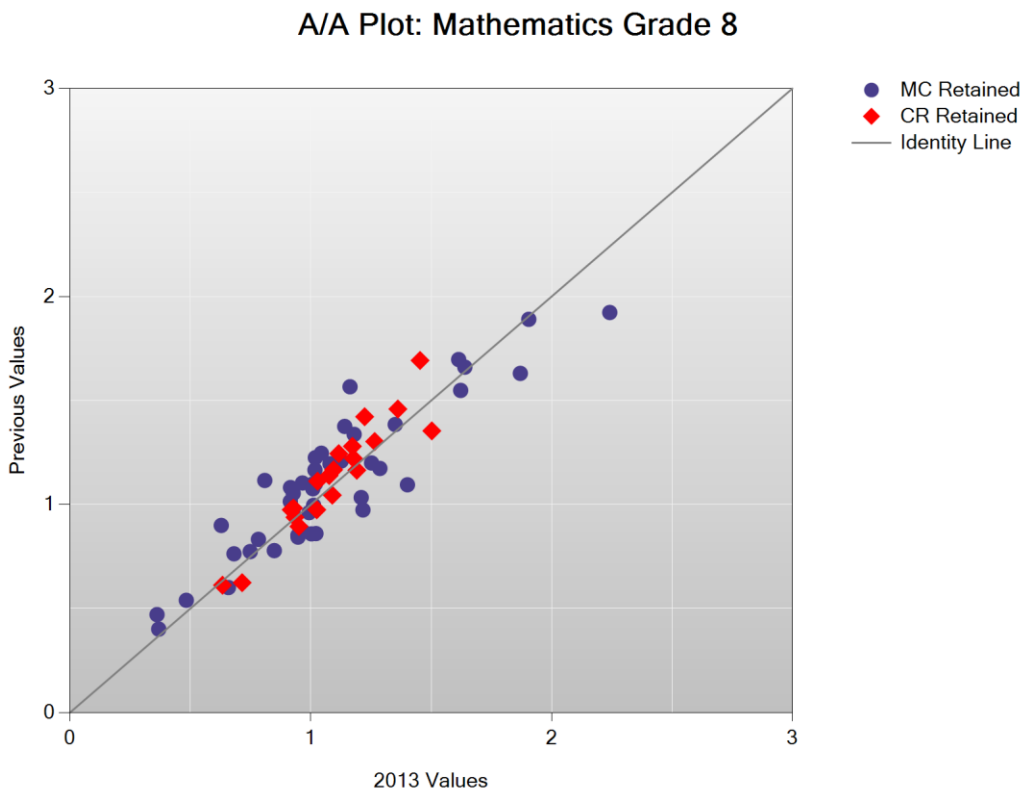


Figure K-6. 2013–14 NECAP: Mathematics Grade 8 Plots
Top: *α*-Plot Bottom: *b*-Plot



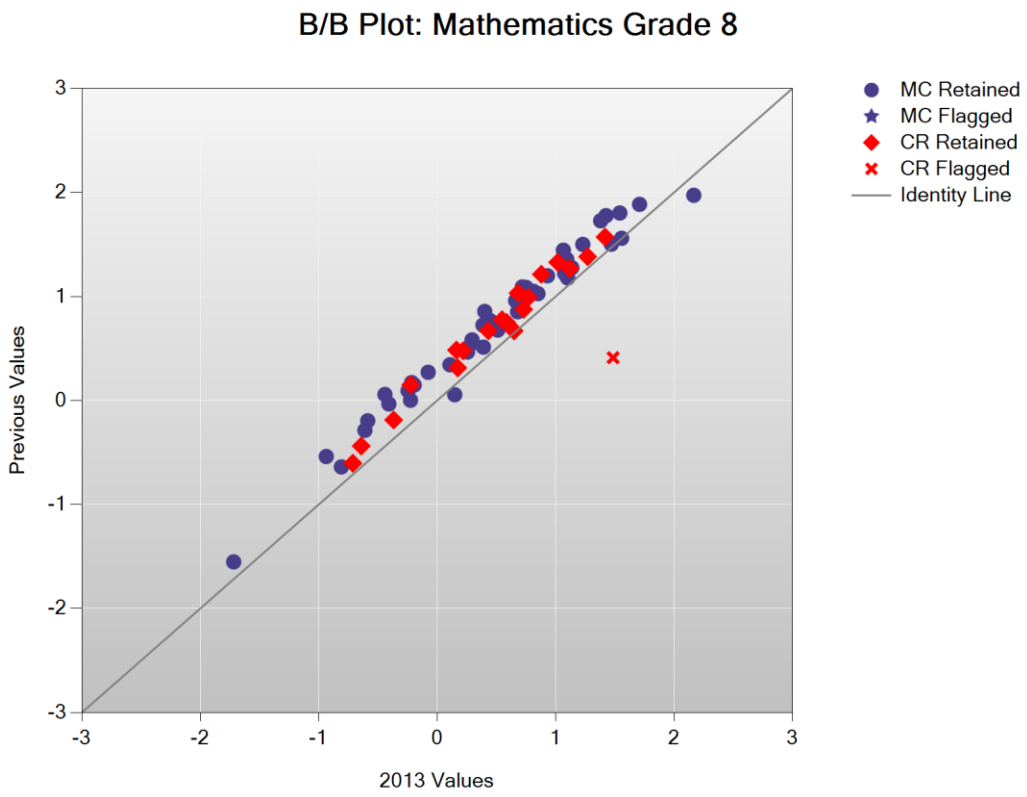
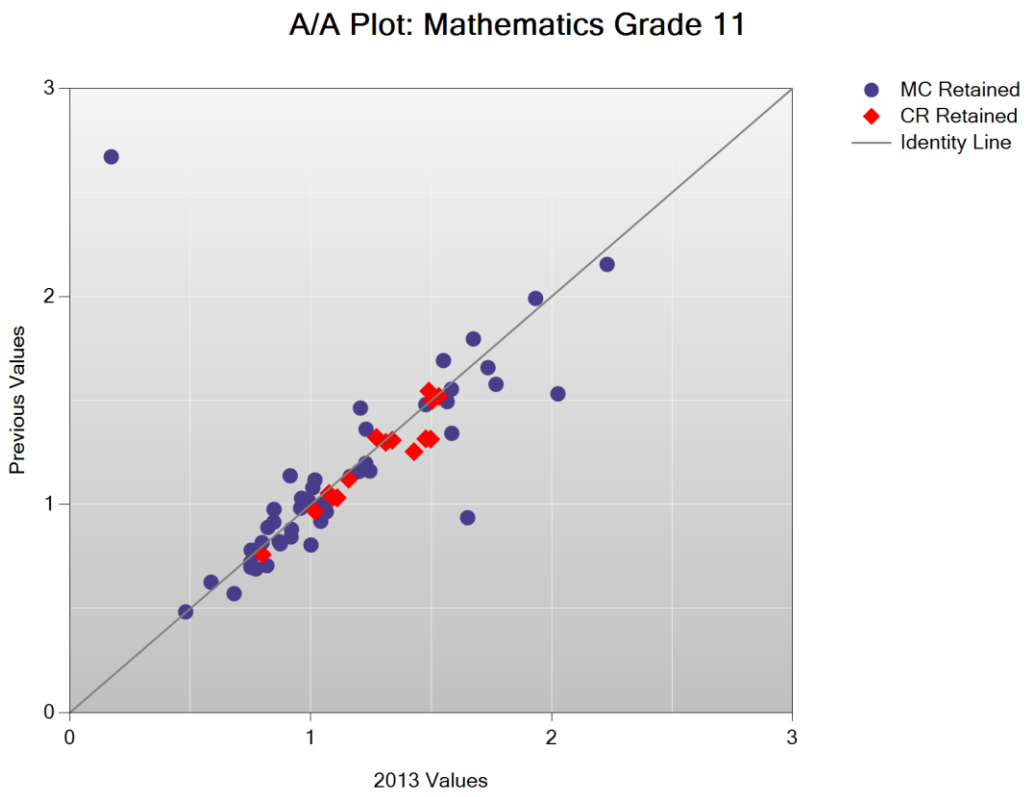


Figure K-7. 2013–14 NECAP: Mathematics Grade 11 Plots
Top: *α*-Plot Bottom: *b*-Plot



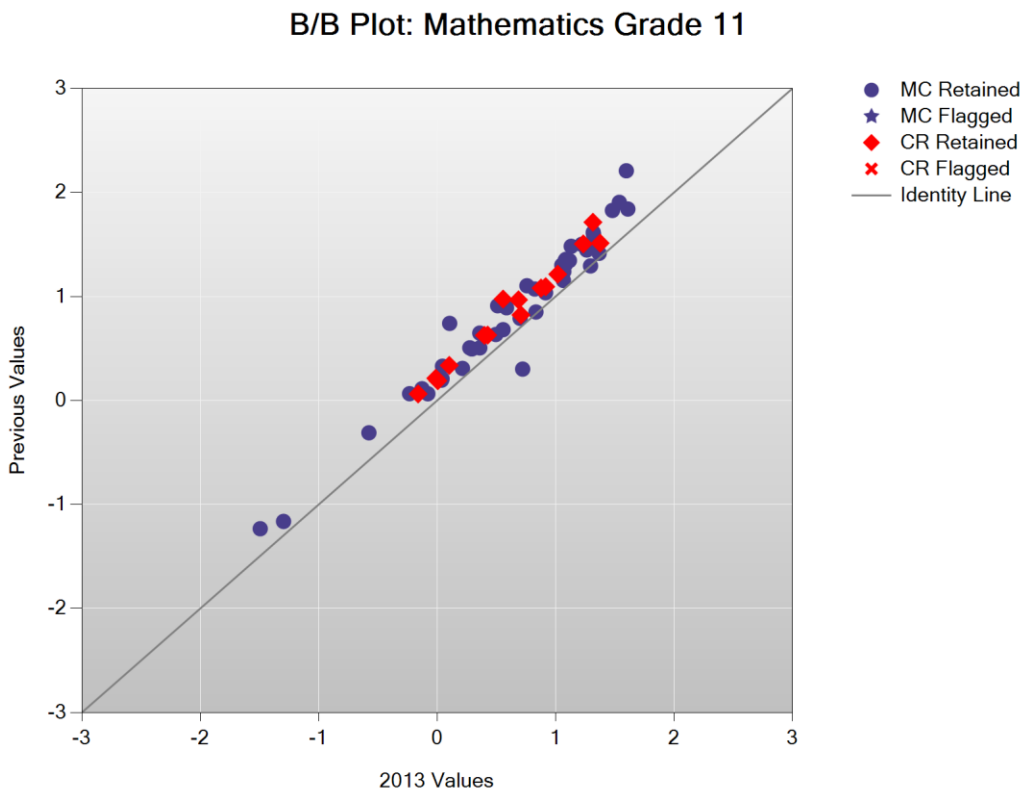
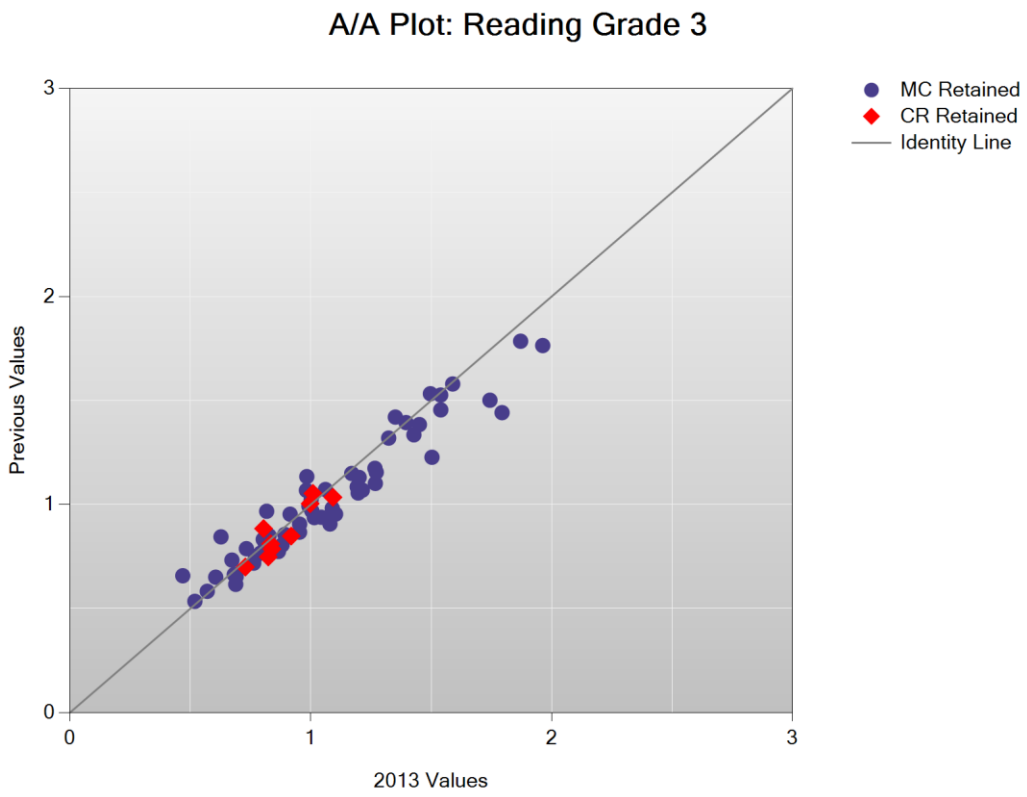


Figure K-8. 2013–14 NECAP: Reading Grade 3 Plots
Top: *α*-Plot Bottom: *b*-Plot



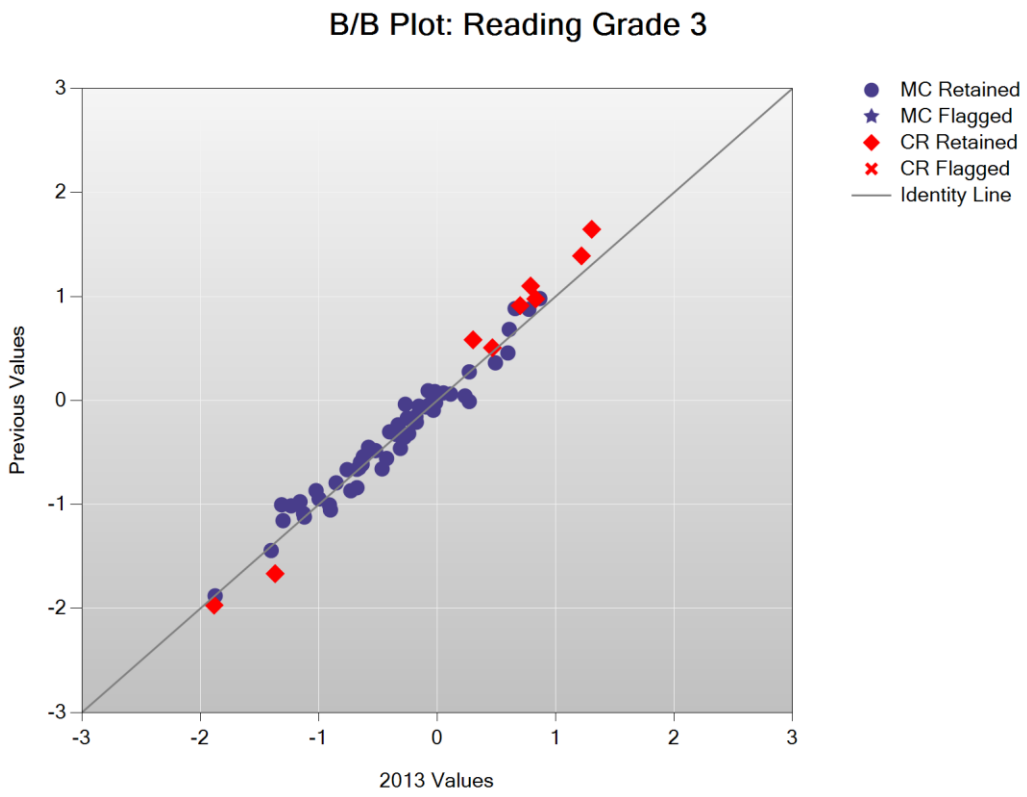
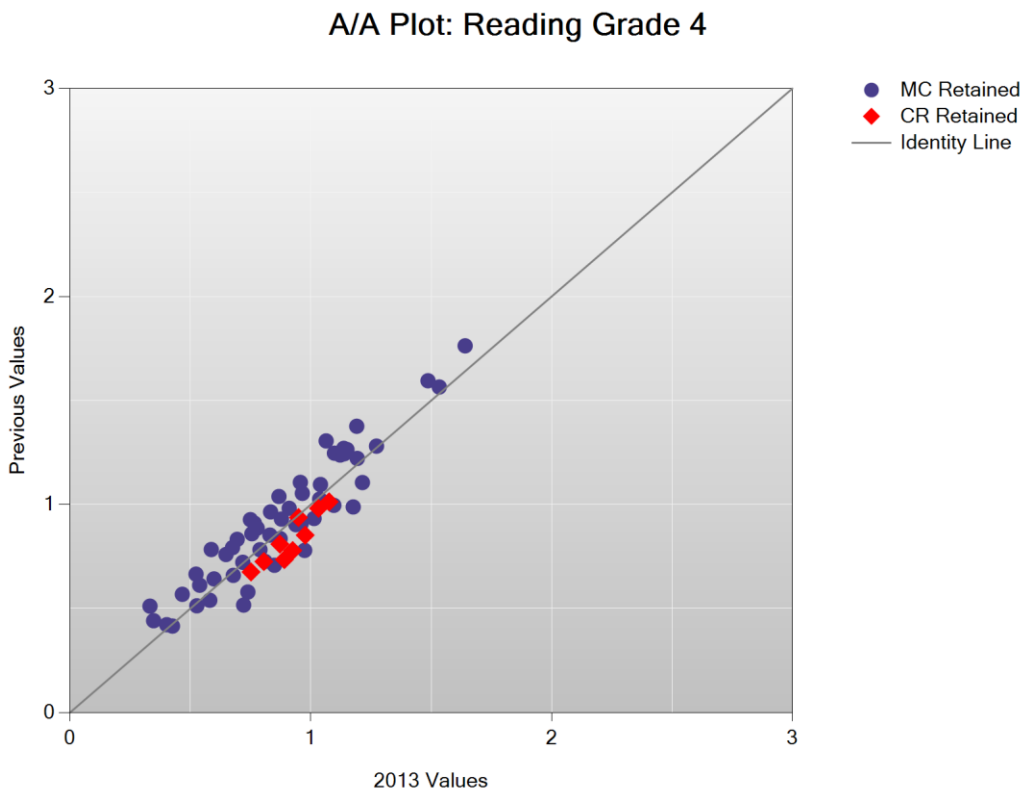


Figure K-9. 2013–14 NECAP: Reading Grade 4 Plots
Top: *α*-Plot Bottom: *b*-Plot



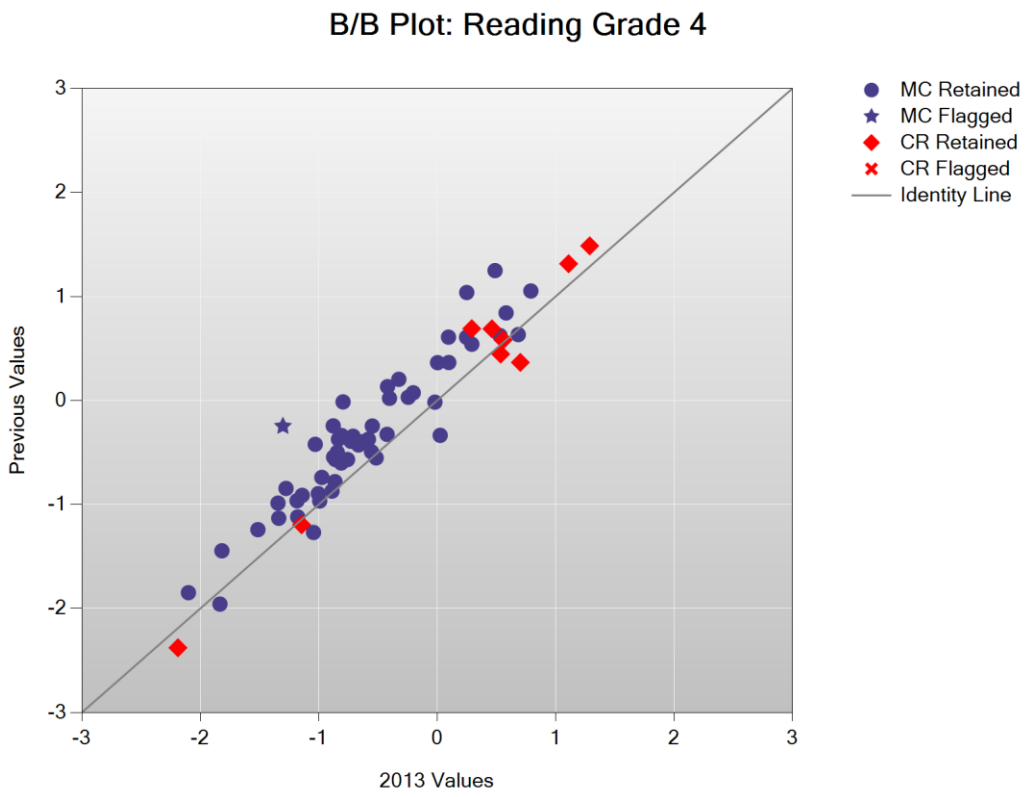
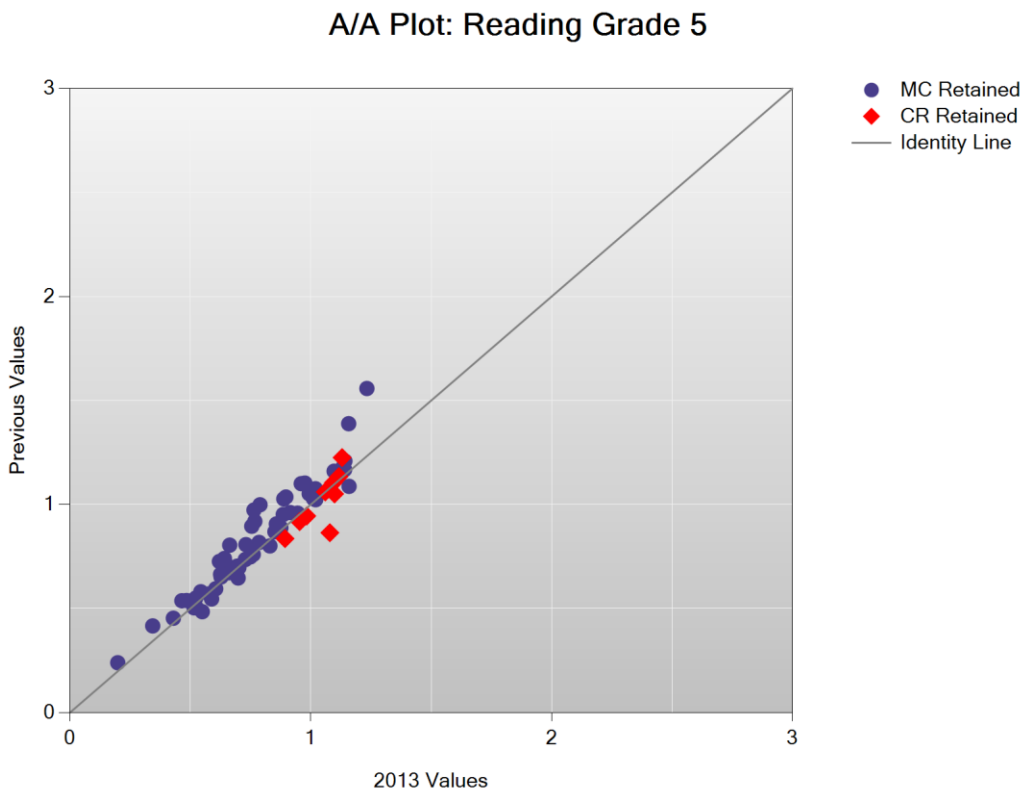


Figure K-10. 2013–14 NECAP: Reading Grade 5 Plots
Top: *α*-Plot Bottom: *b*-Plot



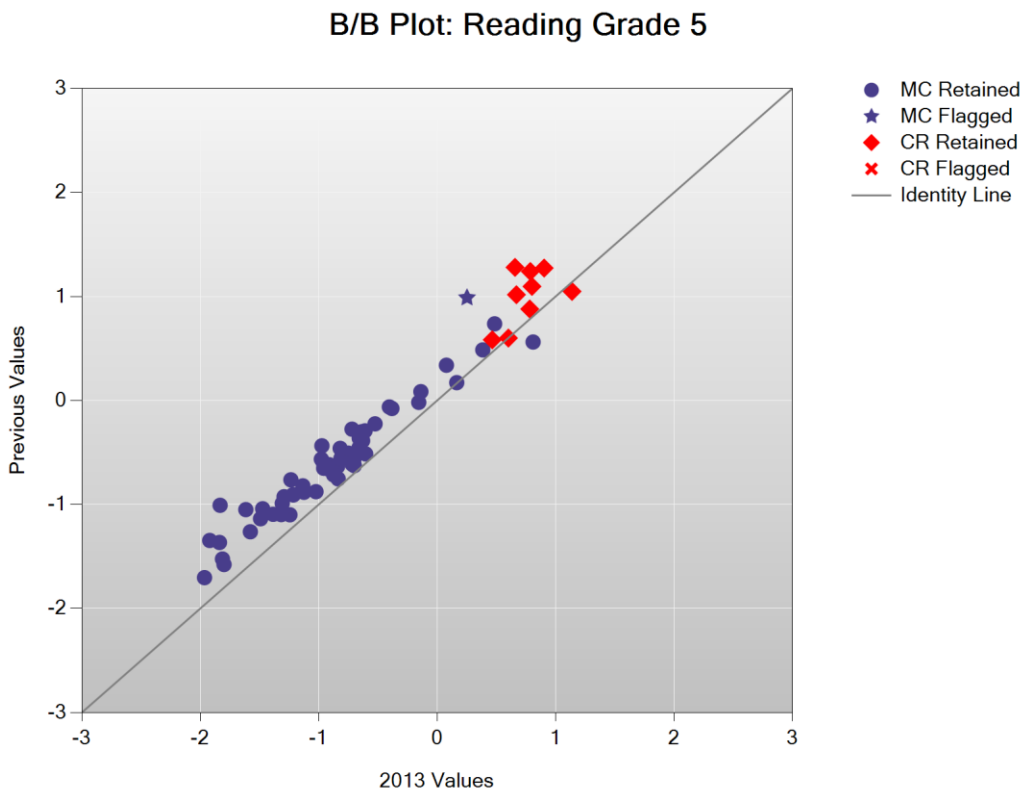
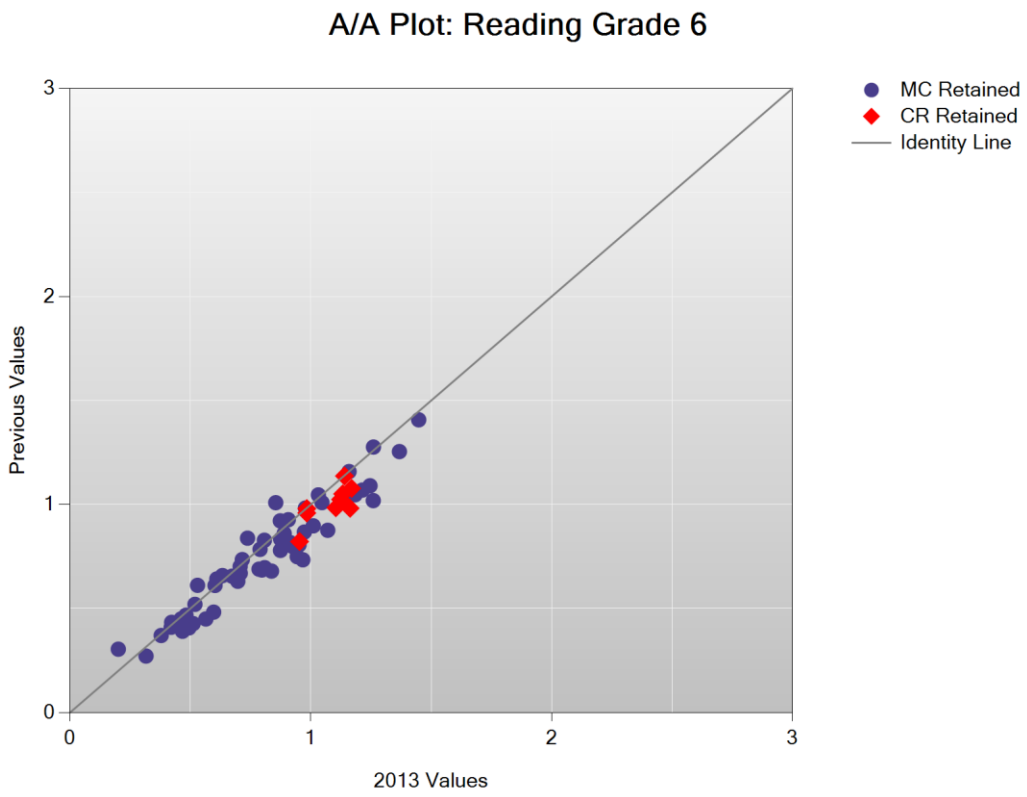


Figure K-11. 2013–14 NECAP: Reading Grade 6 Plots
Top: *α*-Plot Bottom: *b*-Plot



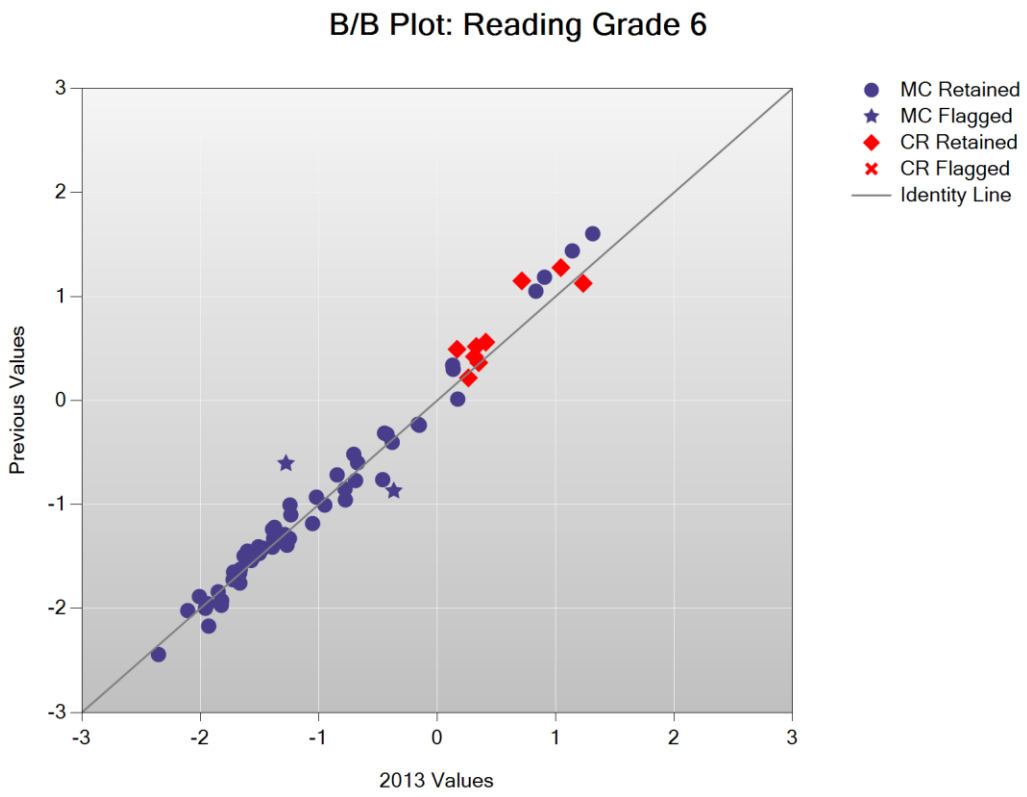
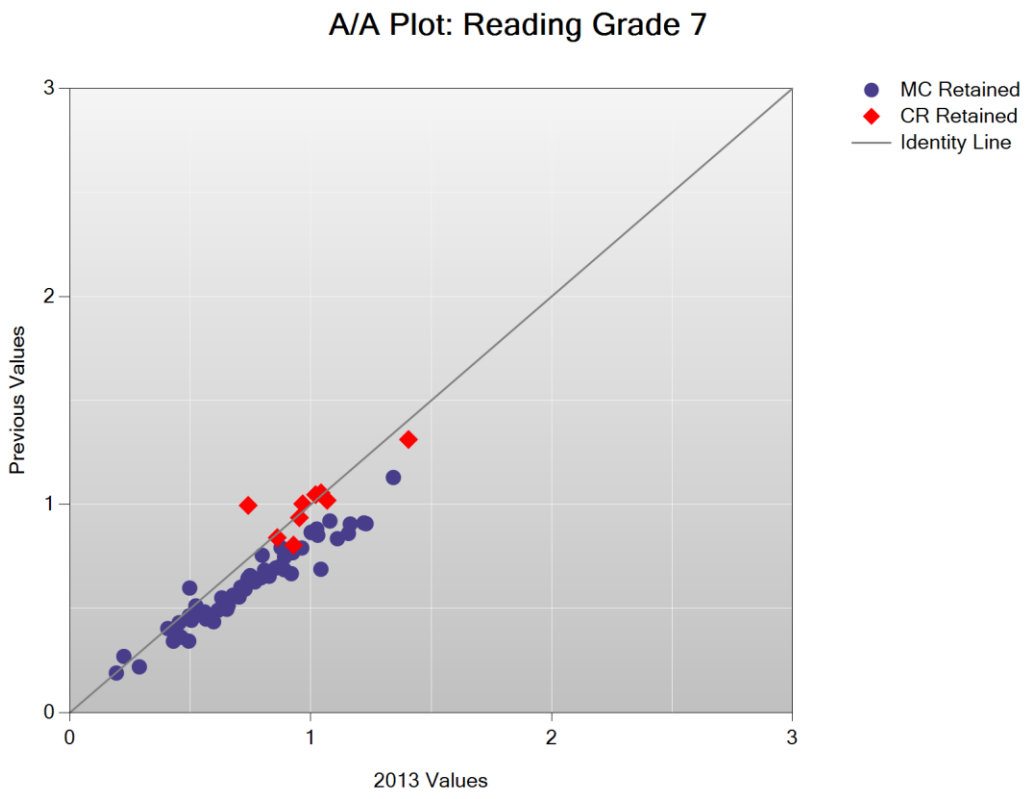


Figure K-12. 2013–14 NECAP: Reading Grade 7 Plots
Top: *α*-Plot Bottom: *b*-Plot



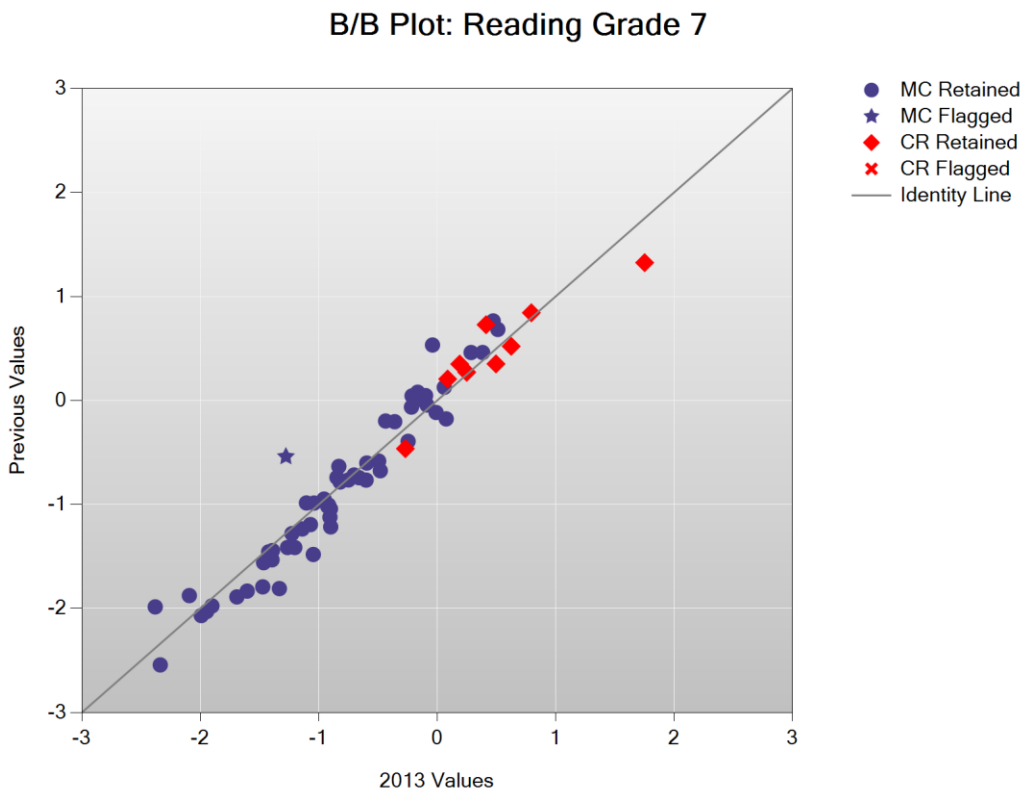
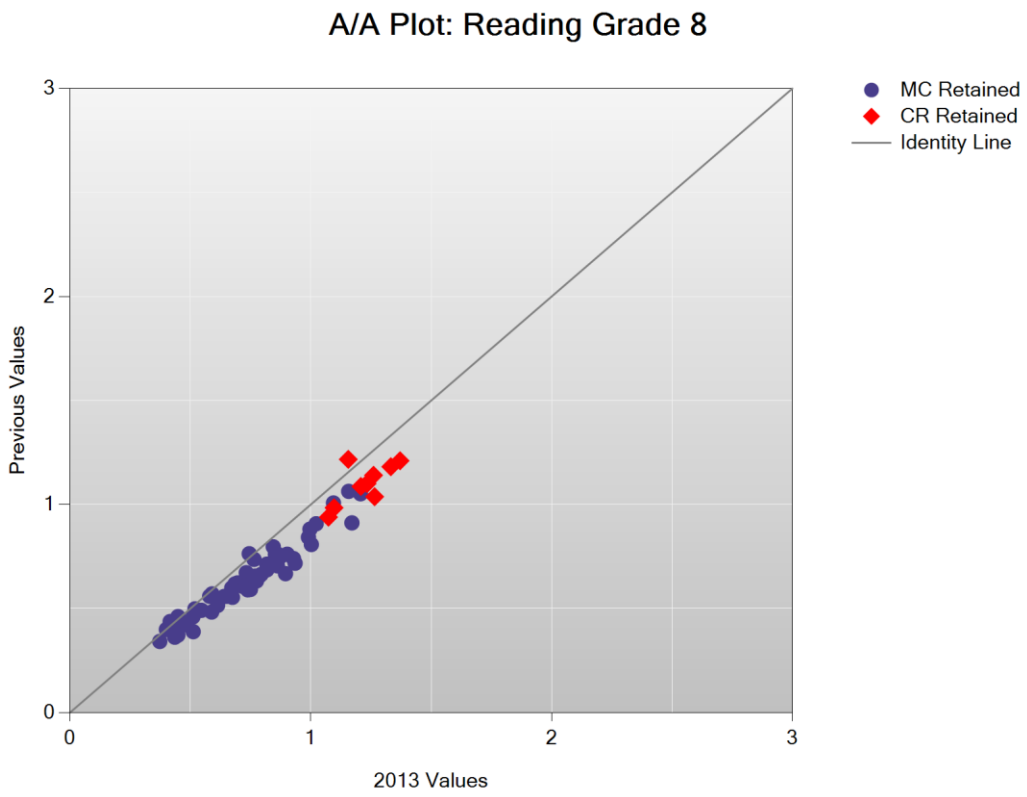


Figure K-13. 2013–14 NECAP: Reading Grade 8 Plots
Top: *α*-Plot Bottom: *b*-Plot



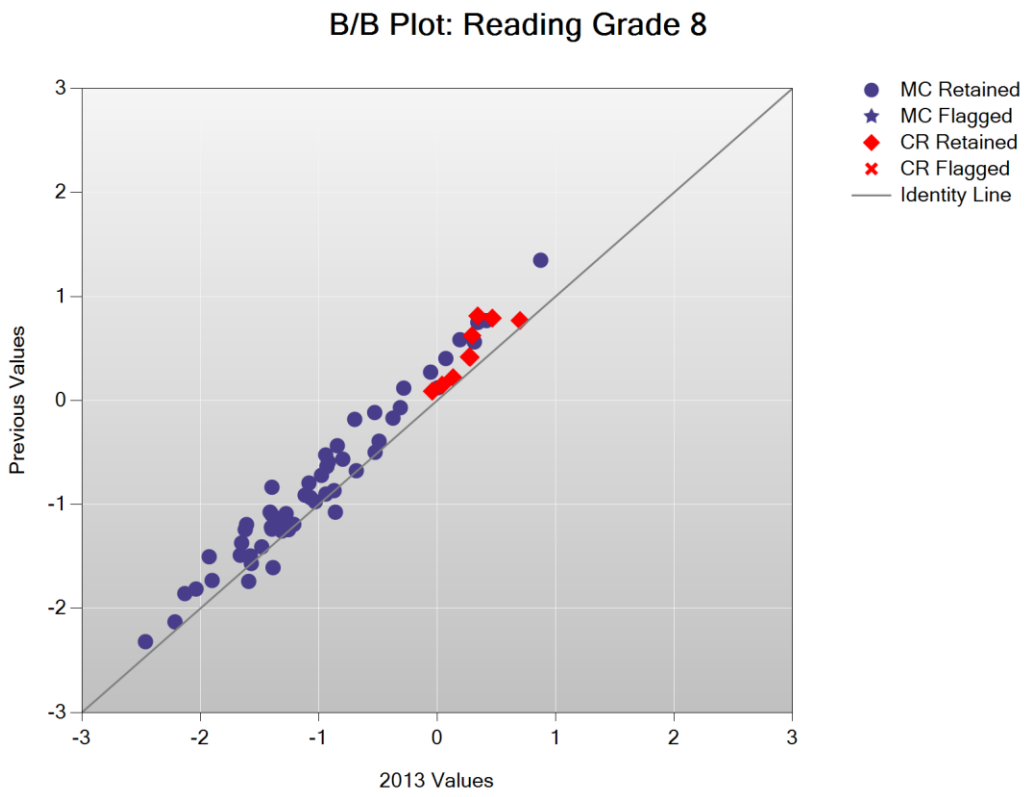
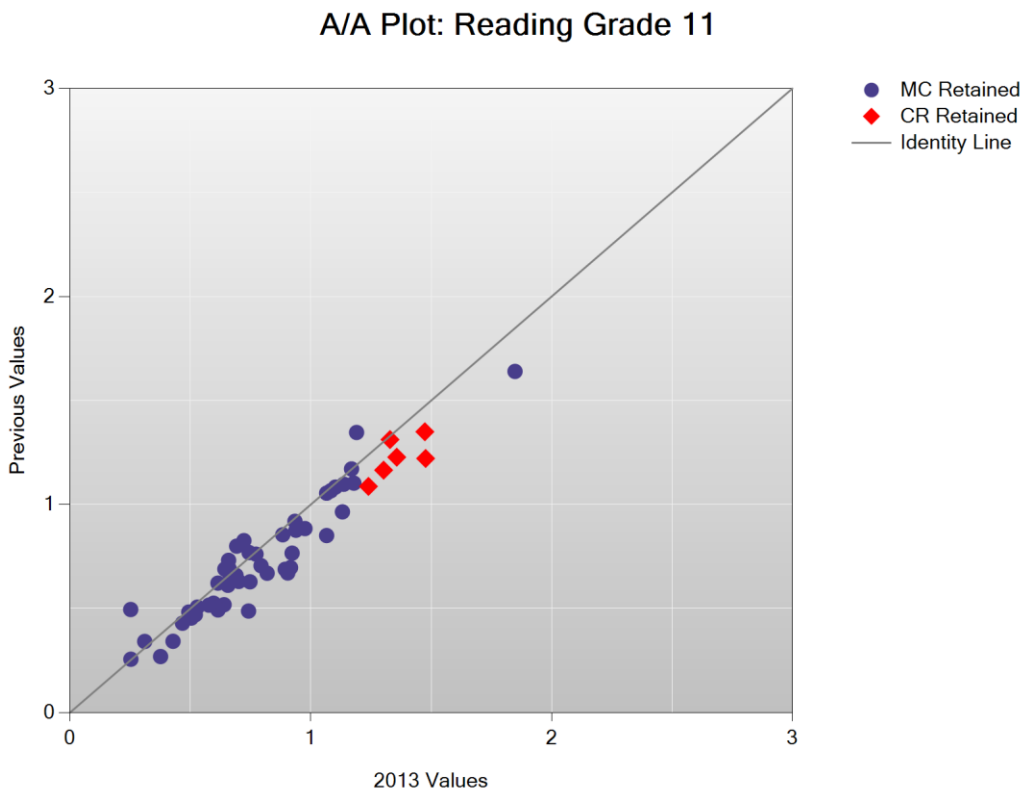
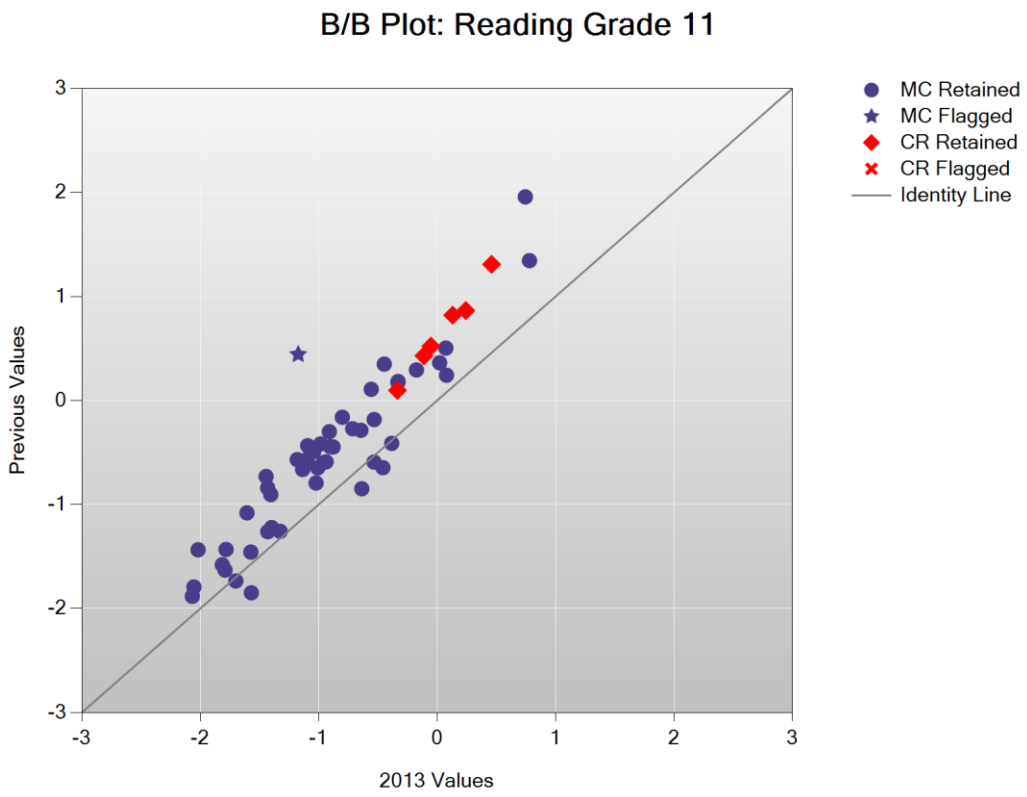


Figure K-14. 2013–14 NECAP: Reading Grade 11 Plots
Top: *α*-Plot Bottom: *b*-Plot





APPENDIX L—PERFORMANCE LEVEL SCORE DISTRIBUTIONS

Table L-1. 2013–14 NECAP: Performance Level Distributions by Grade—Mathematics

Grade	*Performance Level*	*Percent in Level*		
		2013-14	*2012-13*	*2011-12*
3	4	19.37	19.04	21.40
	3	43.08	46.30	45.81
	2	20.82	20.18	18.94
	1	16.73	14.48	13.85
4	4	21.84	23.83	23.61
	3	44.27	45.33	45.82
	2	18.57	17.59	17.11
	1	15.33	13.25	13.46
5	4	17.26	20.85	20.24
	3	48.57	45.60	47.57
	2	17.11	16.45	16.03
	1	17.06	17.10	16.15
6	4	21.00	23.55	24.63
	3	42.55	43.59	42.48
	2	17.11	15.57	15.80
	1	19.34	17.30	17.09
7	4	21.75	22.35	23.24
	3	40.36	40.03	39.23
	2	18.95	18.86	17.93
	1	18.94	18.76	19.59
8	4	18.61	18.09	19.51
	3	41.04	44.81	43.08
	2	20.53	17.99	19.46
	1	19.82	19.10	17.95
11	4	3.27	2.61	2.54
	3	32.82	33.98	31.62
	2	27.58	25.82	26.08
	1	36.33	37.59	39.77

Table L-2. 2013–14 NECAP: Performance Level Distributions by Grade—Reading

Grade	*Performance Level*	*Percent in Level*		
		2013-14	*2012-13*	*2011-12*
3	4	18.01	15.08	20.87
	3	52.77	56.87	54.16
	2	17.36	17.60	15.77
	1	11.85	10.44	9.20
4	4	20.39	19.63	22.55
	3	49.54	52.32	50.78
	2	18.73	17.95	16.99
	1	11.34	10.10	9.67
5	4	18.27	18.35	19.05
	3	55.71	55.18	52.15

continued

Grade	Performance Level	Percent in Level		
		2013-14	*2012-13*	*2011-12*
5	2	18.43	18.71	19.91
	1	7.58	7.76	8.89
6	4	18.49	15.91	21.77
	3	54.79	58.58	53.54
	2	17.90	17.67	17.27
	1	8.82	7.85	7.41
7	4	17.95	18.07	16.49
	3	53.10	54.36	56.72
	2	19.57	18.53	18.06
	1	9.38	9.04	8.73
8	4	24.33	23.52	25.07
	3	50.23	55.41	53.87
	2	17.69	15.42	15.11
	1	7.75	5.65	5.95
11	4	37.89	30.85	30.30
	3	40.18	46.07	45.56
	2	12.98	14.84	14.87
	1	8.96	8.24	9.27

Table L-3. 2013–14 NECAP: Performance Level Distributions by Grade—Writing

Grade	Performance Level	Percent in Level		
		2014-13	*2012-13*	*2011-12*
5	4	13.92	13.40	8.90
	3	43.65	39.61	40.41
	2	29.39	35.53	39.06
	1	13.04	11.46	11.63
8	4	5.10	15.16	9.93
	3	48.12	48.50	47.26
	2	34.59	26.88	32.19
	1	12.19	9.46	10.62
11	4	8.78	3.23	4.26
	3	49.40	41.86	43.25
	2	37.84	45.72	44.04
	1	3.98	9.19	8.45

APPENDIX M—RAW TO SCALED SCORE LOOK-UP TABLES

Table M-1. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 3

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	300	10.0	1	300	10.0	1
1	300	10.0	1	300	10.0	1
2	300	10.0	1	300	10.0	1
3	300	10.0	1	300	10.0	1
4	300	10.0	1	300	10.0	1
5	300	10.0	1	300	10.0	1
6	300	8.7	1	300	10.0	1
7	303	7.3	1	302	9.5	1
8	307	6.3	1	307	7.4	1
9	310	5.6	1	311	6.2	1
10	312	5.1	1	313	5.4	1
11	314	4.7	1	316	4.8	1
12	316	4.4	1	318	4.3	1
13	318	4.2	1	319	4.0	1
14	319	4.0	1	321	3.7	1
15	321	3.8	1	322	3.5	1
16	322	3.6	1	323	3.4	1
17	323	3.5	1	324	3.2	1
18	324	3.4	1	325	3.1	1
19	325	3.3	1	326	3.0	1
20	326	3.2	1	327	2.9	1
21	327	3.1	1	328	2.9	1
22	328	3.0	1	329	2.8	1
23	329	2.9	1	330	2.8	1
24	330	2.8	1	331	2.7	1
25	331	2.8	1	331	2.7	1
26	331	2.7	1	332	2.7	2
27	332	2.6	2	333	2.7	2
28	333	2.6	2	334	2.6	2
29	334	2.6	2	335	2.6	2
30	335	2.5	2	335	2.6	2
31	335	2.5	2	336	2.6	2
32	336	2.5	2	337	2.6	2
33	337	2.5	2	338	2.6	2
34	338	2.4	2	338	2.6	2
35	338	2.4	2	339	2.6	2
36	339	2.4	2	339	2.6	2
37	339	2.5	2	341	2.6	3
38	341	2.5	3	341	2.6	3
39	341	2.5	3	342	2.6	3
40	342	2.5	3	343	2.6	3
41	343	2.5	3	344	2.6	3
42	344	2.5	3	344	2.6	3
43	344	2.6	3	345	2.6	3
44	345	2.6	3	346	2.6	3

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
45	346	2.7	3	347	2.6	3
46	347	2.7	3	348	2.6	3
47	348	2.7	3	349	2.7	3
48	349	2.8	3	349	2.7	3
49	350	2.8	3	350	2.7	3
50	351	2.9	3	351	2.8	3
51	352	3.0	3	352	2.8	3
52	352	3.0	3	352	2.9	3
53	354	3.1	4	354	3.0	4
54	355	3.2	4	355	3.1	4
55	356	3.3	4	357	3.2	4
56	357	3.4	4	358	3.4	4
57	359	3.6	4	359	3.5	4
58	360	3.7	4	361	3.8	4
59	362	4.0	4	363	4.0	4
60	364	4.3	4	365	4.4	4
61	366	4.7	4	367	4.9	4
62	369	5.4	4	370	5.6	4
63	373	6.6	4	374	6.7	4
64	380	9.6	4	380	9.4	4
65	380	10.0	4	380	10.0	4

Table M-2. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 4

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	400	10.0	1	400	10.0	1
1	400	10.0	1	400	10.0	1
2	400	10.0	1	400	10.0	1
3	400	10.0	1	400	10.0	1
4	400	10.0	1	400	10.0	1
5	400	10.0	1	400	10.0	1
6	400	9.2	1	400	10.0	1
7	404	7.5	1	401	8.5	1
8	407	6.4	1	406	6.8	1
9	410	5.7	1	409	5.9	1
10	412	5.2	1	411	5.3	1
11	414	4.8	1	413	4.9	1
12	416	4.5	1	415	4.5	1
13	418	4.3	1	417	4.3	1
14	419	4.1	1	418	4.1	1
15	420	3.9	1	420	3.9	1
16	422	3.8	1	421	3.8	1
17	423	3.7	1	422	3.7	1
18	424	3.6	1	424	3.6	1
19	425	3.5	1	425	3.5	1

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
20	426	3.4	1	426	3.4	1
21	427	3.4	1	427	3.4	1
22	428	3.3	1	428	3.3	1
23	429	3.3	1	429	3.3	1
24	430	3.2	1	430	3.2	1
25	430	3.2	1	430	3.2	1
26	432	3.1	2	432	3.1	2
27	433	3.1	2	432	3.1	2
28	434	3.1	2	433	3.1	2
29	435	3.1	2	434	3.0	2
30	436	3.0	2	435	3.0	2
31	436	3.0	2	436	3.0	2
32	437	3.0	2	437	3.0	2
33	438	3.0	2	438	3.0	2
34	439	3.0	2	438	3.0	2
35	439	3.0	2	439	3.0	2
36	441	3.0	3	440	2.9	3
37	442	3.0	3	441	2.9	3
38	442	3.0	3	442	2.9	3
39	443	3.0	3	443	2.9	3
40	444	3.0	3	443	2.9	3
41	445	3.0	3	444	3.0	3
42	446	3.0	3	445	3.0	3
43	447	3.0	3	446	3.0	3
44	448	3.0	3	447	3.0	3
45	448	3.0	3	448	3.0	3
46	449	3.0	3	449	3.1	3
47	450	3.1	3	450	3.1	3
48	451	3.1	3	451	3.1	3
49	452	3.1	3	452	3.2	3
50	453	3.1	3	453	3.2	3
51	454	3.2	3	454	3.3	3
52	455	3.3	4	455	3.4	4
53	457	3.3	4	456	3.5	4
54	458	3.4	4	457	3.6	4
55	459	3.5	4	459	3.7	4
56	460	3.7	4	460	3.9	4
57	462	3.9	4	462	4.1	4
58	463	4.1	4	463	4.3	4
59	465	4.4	4	465	4.6	4
60	467	4.8	4	468	5.1	4
61	470	5.3	4	471	5.7	4
62	473	6.2	4	474	6.6	4
63	478	7.6	4	479	8.4	4
64	480	10.0	4	480	10.0	4
65	480	10.0	4	480	10.0	4

Table M-3. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 5

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	500	10.0	1	500	10.0	1
1	500	10.0	1	500	10.0	1
2	500	10.0	1	500	10.0	1
3	500	10.0	1	500	10.0	1
4	500	10.0	1	500	10.0	1
5	500	10.0	1	500	10.0	1
6	503	9.8	1	500	10.0	1
7	508	7.4	1	508	9.4	1
8	512	6.3	1	513	6.8	1
9	515	5.5	1	517	5.6	1
10	518	5.0	1	519	4.9	1
11	520	4.6	1	521	4.5	1
12	521	4.3	1	523	4.1	1
13	523	4.1	1	524	3.9	1
14	525	3.9	1	526	3.7	1
15	526	3.8	1	527	3.6	1
16	527	3.6	1	528	3.5	1
17	528	3.5	1	529	3.3	1
18	530	3.4	1	530	3.2	1
19	531	3.3	1	531	3.2	1
20	532	3.2	1	532	3.1	1
21	532	3.2	1	532	3.0	1
22	534	3.1	2	534	2.9	2
23	534	3.1	2	535	2.9	2
24	535	3.0	2	535	2.8	2
25	536	3.0	2	536	2.8	2
26	537	2.9	2	537	2.7	2
27	538	2.9	2	538	2.7	2
28	539	2.8	2	538	2.6	2
29	539	2.8	2	539	2.6	2
30	540	2.8	3	539	2.6	2
31	541	2.7	3	540	2.5	3
32	542	2.7	3	541	2.5	3
33	542	2.7	3	542	2.5	3
34	543	2.6	3	542	2.5	3
35	544	2.6	3	543	2.5	3
36	545	2.6	3	544	2.5	3
37	545	2.6	3	544	2.4	3
38	546	2.5	3	545	2.4	3
39	547	2.5	3	545	2.4	3
40	547	2.5	3	546	2.4	3
41	548	2.5	3	547	2.4	3
42	549	2.5	3	547	2.4	3
43	550	2.5	3	548	2.4	3
44	550	2.5	3	549	2.4	3
45	551	2.6	3	549	2.4	3

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
46	552	2.6	3	550	2.5	3
47	553	2.6	3	551	2.5	3
48	553	2.7	3	551	2.5	3
49	553	2.7	3	552	2.5	3
50	555	2.8	4	553	2.6	3
51	556	2.8	4	553	2.6	3
52	557	2.9	4	554	2.6	4
53	558	3.0	4	555	2.7	4
54	559	3.1	4	556	2.8	4
55	560	3.2	4	557	2.8	4
56	561	3.3	4	558	2.9	4
57	562	3.4	4	559	3.0	4
58	563	3.6	4	560	3.2	4
59	565	3.8	4	561	3.3	4
60	567	4.1	4	563	3.6	4
61	568	4.4	4	564	3.9	4
62	571	4.9	4	566	4.4	4
63	574	5.7	4	569	5.2	4
64	577	6.9	4	573	6.5	4
65	580	9.8	4	579	9.8	4
66	580	10.0	4	580	10.0	4

Table M-4. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 6

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	600	10.0	1	600	10.0	1
1	600	10.0	1	600	10.0	1
2	600	10.0	1	600	10.0	1
3	600	10.0	1	600	10.0	1
4	600	10.0	1	600	10.0	1
5	600	10.0	1	600	10.0	1
6	600	10.0	1	600	10.0	1
7	600	10.0	1	606	10.0	1
8	608	9.7	1	612	7.8	1
9	613	7.8	1	616	6.4	1
10	617	6.6	1	619	5.5	1
11	620	5.8	1	622	4.9	1
12	622	5.2	1	623	4.5	1
13	624	4.7	1	625	4.2	1
14	626	4.4	1	627	4.0	1
15	628	4.1	1	628	3.8	1
16	629	3.8	1	629	3.7	1
17	630	3.6	1	630	3.5	1
18	631	3.5	1	631	3.4	1
19	632	3.3	1	632	3.3	1

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
20	633	3.2	2	633	3.2	2
21	634	3.1	2	634	3.1	2
22	635	3.0	2	635	3.1	2
23	636	3.0	2	636	3.0	2
24	637	2.9	2	636	2.9	2
25	638	2.8	2	637	2.9	2
26	639	2.8	2	638	2.8	2
27	639	2.7	2	639	2.8	2
28	640	2.7	3	639	2.7	2
29	641	2.7	3	640	2.7	3
30	642	2.6	3	641	2.7	3
31	642	2.6	3	641	2.6	3
32	643	2.6	3	642	2.6	3
33	644	2.5	3	643	2.6	3
34	645	2.5	3	643	2.6	3
35	645	2.5	3	644	2.5	3
36	646	2.5	3	645	2.5	3
37	647	2.5	3	645	2.5	3
38	647	2.5	3	646	2.5	3
39	648	2.5	3	647	2.5	3
40	649	2.5	3	647	2.5	3
41	649	2.5	3	648	2.5	3
42	650	2.5	3	649	2.5	3
43	651	2.5	3	649	2.5	3
44	651	2.5	3	650	2.5	3
45	652	2.5	3	651	2.6	3
46	652	2.6	3	651	2.6	3
47	654	2.6	4	652	2.6	3
48	654	2.6	4	652	2.6	3
49	655	2.7	4	654	2.7	4
50	656	2.7	4	654	2.7	4
51	657	2.8	4	655	2.8	4
52	658	2.9	4	656	2.8	4
53	659	3.0	4	657	2.9	4
54	660	3.1	4	658	3.0	4
55	661	3.2	4	659	3.1	4
56	662	3.3	4	660	3.2	4
57	663	3.5	4	661	3.3	4
58	665	3.7	4	662	3.5	4
59	666	4.0	4	664	3.7	4
60	668	4.3	4	665	3.9	4
61	670	4.7	4	667	4.2	4
62	673	5.2	4	669	4.7	4
63	676	6.0	4	672	5.5	4
64	680	7.2	4	676	6.8	4
65	680	8.9	4	680	10.0	4
66	680	8.9	4	680	10.0	4

Table M-5. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 7

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	700	10.0	1	700	10.0	1
1	700	10.0	1	700	10.0	1
2	700	10.0	1	700	10.0	1
3	700	10.0	1	700	10.0	1
4	700	10.0	1	700	10.0	1
5	701	10.0	1	700	10.0	1
6	711	8.6	1	702	10.0	1
7	716	6.5	1	713	9.4	1
8	719	5.5	1	718	6.8	1
9	722	4.8	1	721	5.5	1
10	724	4.4	1	724	4.8	1
11	726	4.1	1	725	4.3	1
12	727	3.9	1	727	3.9	1
13	729	3.7	1	728	3.6	1
14	730	3.5	1	730	3.4	1
15	732	3.4	1	731	3.2	1
16	733	3.3	1	732	3.1	1
17	734	3.2	2	733	3.0	1
18	735	3.1	2	734	2.9	2
19	736	3.0	2	735	2.8	2
20	737	2.9	2	735	2.7	2
21	737	2.9	2	736	2.6	2
22	738	2.8	2	737	2.6	2
23	739	2.7	2	738	2.5	2
24	739	2.7	2	738	2.5	2
25	741	2.6	3	739	2.4	2
26	741	2.6	3	739	2.4	2
27	742	2.5	3	740	2.4	3
28	743	2.5	3	741	2.3	3
29	743	2.4	3	742	2.3	3
30	744	2.4	3	742	2.3	3
31	745	2.4	3	743	2.3	3
32	745	2.3	3	743	2.2	3
33	746	2.3	3	744	2.2	3
34	747	2.3	3	745	2.2	3
35	747	2.2	3	745	2.2	3
36	748	2.2	3	746	2.2	3
37	748	2.2	3	746	2.2	3
38	749	2.2	3	747	2.2	3
39	749	2.2	3	748	2.2	3
40	750	2.2	3	748	2.2	3
41	751	2.2	3	749	2.3	3
42	751	2.2	3	749	2.3	3
43	751	2.2	3	750	2.3	3
44	752	2.2	4	751	2.3	3
45	753	2.2	4	751	2.4	3

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
46	754	2.2	4	752	2.4	4
47	754	2.2	4	753	2.4	4
48	755	2.2	4	753	2.5	4
49	756	2.3	4	754	2.5	4
50	756	2.3	4	755	2.6	4
51	757	2.3	4	756	2.7	4
52	758	2.4	4	757	2.7	4
53	758	2.4	4	757	2.8	4
54	759	2.4	4	758	2.9	4
55	760	2.5	4	759	3.0	4
56	761	2.6	4	760	3.2	4
57	762	2.7	4	762	3.3	4
58	763	2.8	4	763	3.5	4
59	764	3.0	4	764	3.7	4
60	765	3.2	4	766	4.0	4
61	767	3.5	4	768	4.4	4
62	769	3.9	4	770	5.0	4
63	771	4.5	4	773	5.9	4
64	774	5.6	4	778	7.5	4
65	780	8.2	4	780	9.3	4
66	780	9.2	4	780	9.3	4

Table M-6. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 8

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	800	10.0	1	800	10.0	1
1	800	10.0	1	800	10.0	1
2	800	10.0	1	800	10.0	1
3	800	10.0	1	800	10.0	1
4	800	10.0	1	800	10.0	1
5	800	10.0	1	800	10.0	1
6	802	10.0	1	800	10.0	1
7	814	8.1	1	811	9.7	1
8	819	6.1	1	817	6.7	1
9	823	5.0	1	820	5.3	1
10	825	4.3	1	822	4.5	1
11	827	3.8	1	824	3.9	1
12	829	3.5	1	826	3.6	1
13	830	3.2	1	827	3.3	1
14	831	2.9	1	828	3.1	1
15	832	2.8	1	829	2.9	1
16	833	2.6	1	830	2.8	1
17	834	2.5	2	831	2.7	1
18	835	2.4	2	832	2.6	1
19	836	2.3	2	833	2.5	1

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
20	836	2.2	2	833	2.4	1
21	837	2.2	2	834	2.4	2
22	838	2.1	2	835	2.3	2
23	838	2.1	2	836	2.3	2
24	839	2.0	2	836	2.2	2
25	839	2.0	2	837	2.2	2
26	839	2.0	2	838	2.2	2
27	841	1.9	3	838	2.1	2
28	841	1.9	3	839	2.1	2
29	842	1.9	3	839	2.1	2
30	842	1.9	3	839	2.1	2
31	843	1.9	3	840	2.1	3
32	843	1.9	3	841	2.1	3
33	844	1.9	3	842	2.0	3
34	844	1.9	3	842	2.0	3
35	845	1.9	3	843	2.0	3
36	845	1.9	3	843	2.0	3
37	846	1.9	3	844	2.0	3
38	846	1.9	3	844	2.0	3
39	847	1.9	3	845	2.0	3
40	847	1.9	3	845	2.0	3
41	848	1.9	3	846	2.0	3
42	848	1.9	3	847	2.0	3
43	849	1.9	3	847	2.0	3
44	849	1.9	3	848	2.0	3
45	850	1.9	3	848	2.0	3
46	850	1.9	3	849	2.0	3
47	851	1.9	3	849	2.1	3
48	851	2.0	3	850	2.1	3
49	852	2.0	4	851	2.1	3
50	853	2.0	4	851	2.1	3
51	853	2.0	4	852	2.2	4
52	854	2.1	4	853	2.2	4
53	855	2.1	4	853	2.2	4
54	855	2.2	4	854	2.3	4
55	856	2.3	4	855	2.3	4
56	857	2.3	4	856	2.4	4
57	858	2.5	4	857	2.5	4
58	859	2.6	4	858	2.6	4
59	860	2.8	4	859	2.7	4
60	861	3.0	4	860	2.9	4
61	863	3.4	4	861	3.2	4
62	864	3.8	4	863	3.5	4
63	867	4.5	4	865	4.1	4
64	870	5.6	4	868	5.1	4
65	876	8.2	4	874	7.7	4
66	880	10.0	4	880	10.0	4

Table M-7. 2013–14 NECAP: Raw to Scaled Score Correspondence
Mathematics Grade 11

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	1100	10.0	1	1100	10.0	1
1	1100	10.0	1	1100	10.0	1
2	1100	10.0	1	1100	10.0	1
3	1100	10.0	1	1100	10.0	1
4	1100	10.0	1	1100	10.0	1
5	1103	10.0	1	1114	8.0	1
6	1116	7.4	1	1119	5.3	1
7	1121	5.2	1	1122	4.2	1
8	1124	4.2	1	1124	3.6	1
9	1125	3.6	1	1125	3.2	1
10	1127	3.2	1	1127	2.9	1
11	1128	2.9	1	1128	2.7	1
12	1130	2.7	1	1129	2.5	1
13	1131	2.5	1	1130	2.4	1
14	1131	2.4	1	1131	2.2	1
15	1132	2.3	1	1132	2.2	1
16	1133	2.2	1	1132	2.1	1
17	1134	2.1	2	1133	2.0	1
18	1134	2.0	2	1133	1.9	1
19	1135	2.0	2	1134	1.9	2
20	1136	1.9	2	1135	1.8	2
21	1136	1.9	2	1135	1.8	2
22	1137	1.8	2	1136	1.7	2
23	1137	1.8	2	1136	1.7	2
24	1138	1.8	2	1137	1.7	2
25	1138	1.8	2	1137	1.7	2
26	1139	1.7	2	1138	1.6	2
27	1139	1.7	2	1138	1.6	2
28	1139	1.7	2	1139	1.6	2
29	1140	1.7	3	1139	1.6	2
30	1141	1.7	3	1139	1.6	2
31	1141	1.7	3	1140	1.6	3
32	1142	1.6	3	1141	1.6	3
33	1142	1.6	3	1141	1.6	3
34	1142	1.6	3	1141	1.6	3
35	1143	1.6	3	1142	1.6	3
36	1143	1.6	3	1142	1.6	3
37	1144	1.6	3	1143	1.6	3
38	1144	1.6	3	1143	1.6	3
39	1145	1.6	3	1144	1.6	3
40	1145	1.6	3	1144	1.6	3
41	1145	1.6	3	1145	1.6	3
42	1146	1.6	3	1145	1.6	3
43	1146	1.6	3	1146	1.6	3
44	1147	1.6	3	1146	1.6	3
45	1147	1.6	3	1146	1.6	3

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
46	1148	1.6	3	1147	1.6	3
47	1148	1.6	3	1147	1.6	3
48	1149	1.6	3	1148	1.6	3
49	1149	1.7	3	1149	1.7	3
50	1150	1.7	3	1149	1.7	3
51	1150	1.7	3	1150	1.7	3
52	1151	1.8	3	1150	1.8	3
53	1151	1.9	3	1151	1.8	3
54	1151	1.9	3	1151	1.9	3
55	1153	2.0	4	1151	2.0	3
56	1153	2.1	4	1153	2.1	4
57	1154	2.3	4	1154	2.2	4
58	1155	2.4	4	1155	2.4	4
59	1156	2.6	4	1156	2.6	4
60	1158	3.0	4	1158	2.9	4
61	1159	3.4	4	1159	3.2	4
62	1162	4.3	4	1161	3.9	4
63	1166	6.1	4	1165	5.4	4
64	1180	8.2	4	1180	8.1	4

Table M-8. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 3

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	300	10.0	1	300	10.0	1
1	300	10.0	1	300	10.0	1
2	300	10.0	1	300	10.0	1
3	300	10.0	1	300	10.0	1
4	300	10.0	1	300	10.0	1
5	300	10.0	1	300	10.0	1
6	301	10.0	1	300	10.0	1
7	308	8.7	1	300	9.7	1
8	312	7.5	1	304	8.6	1
9	316	6.6	1	308	7.7	1
10	318	5.9	1	311	7.1	1
11	321	5.4	1	314	6.5	1
12	323	4.9	1	316	6.0	1
13	325	4.6	1	319	5.6	1
14	326	4.3	1	321	5.2	1
15	328	4.1	1	322	4.9	1
16	329	3.9	1	324	4.7	1
17	330	3.8	1	326	4.5	1
18	332	3.6	2	327	4.3	1
19	333	3.5	2	328	4.1	1
20	334	3.4	2	330	4.0	1
21	335	3.4	2	331	3.9	2

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
22	336	3.3	2	332	3.8	2
23	337	3.2	2	334	3.7	2
24	338	3.2	2	335	3.7	2
25	339	3.1	2	336	3.6	2
26	339	3.1	2	337	3.6	2
27	341	3.1	3	338	3.6	2
28	342	3.0	3	339	3.5	2
29	343	3.0	3	341	3.5	3
30	344	3.0	3	342	3.5	3
31	345	3.1	3	343	3.5	3
32	346	3.1	3	344	3.5	3
33	347	3.1	3	346	3.5	3
34	348	3.2	3	347	3.5	3
35	349	3.3	3	348	3.6	3
36	350	3.4	3	349	3.6	3
37	351	3.5	3	351	3.7	3
38	353	3.6	3	352	3.8	3
39	354	3.8	3	354	3.9	3
40	355	3.9	3	356	4.1	3
41	356	4.2	3	356	4.3	3
42	359	4.4	4	359	4.6	4
43	361	4.8	4	362	4.9	4
44	363	5.2	4	364	5.3	4
45	366	5.6	4	367	5.7	4
46	369	6.2	4	370	6.1	4
47	372	6.8	4	374	6.6	4
48	377	7.5	4	378	7.1	4
49	380	8.4	4	380	7.9	4
50	380	9.6	4	380	9.2	4
51	380	10.0	4	380	9.7	4
52	380	10.0	4	380	9.7	4

Table M-9. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 4

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	400	10.0	1	400	10.0	1
1	400	10.0	1	400	10.0	1
2	400	10.0	1	400	10.0	1
3	400	10.0	1	400	10.0	1
4	400	10.0	1	400	10.0	1
5	400	9.7	1	400	10.0	1
6	400	8.7	1	400	9.7	1
7	404	7.6	1	400	8.8	1
8	408	6.8	1	404	7.9	1
9	411	6.1	1	408	7.1	1

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
10	413	5.6	1	411	6.5	1
11	416	5.2	1	413	6.0	1
12	418	4.8	1	416	5.6	1
13	419	4.6	1	418	5.2	1
14	421	4.3	1	420	4.9	1
15	423	4.1	1	422	4.7	1
16	424	4.0	1	423	4.5	1
17	425	3.9	1	425	4.3	1
18	427	3.8	1	426	4.1	1
19	428	3.7	1	427	3.9	1
20	429	3.6	1	429	3.8	1
21	430	3.5	1	430	3.6	1
22	432	3.5	2	431	3.5	2
23	433	3.4	2	432	3.4	2
24	434	3.4	2	433	3.4	2
25	435	3.4	2	434	3.3	2
26	436	3.4	2	436	3.2	2
27	437	3.3	2	437	3.2	2
28	438	3.3	2	438	3.2	2
29	439	3.4	2	439	3.1	2
30	441	3.4	3	439	3.1	2
31	442	3.4	3	441	3.1	3
32	443	3.4	3	442	3.1	3
33	444	3.5	3	443	3.1	3
34	445	3.5	3	444	3.1	3
35	447	3.6	3	445	3.2	3
36	448	3.7	3	446	3.3	3
37	450	3.8	3	448	3.3	3
38	451	3.9	3	449	3.5	3
39	453	4.1	3	450	3.6	3
40	454	4.2	3	452	3.8	3
41	456	4.4	4	453	4.0	3
42	458	4.6	4	455	4.2	3
43	460	4.9	4	457	4.5	4
44	463	5.2	4	459	4.8	4
45	465	5.6	4	462	5.1	4
46	468	6.1	4	465	5.5	4
47	472	6.6	4	468	6.1	4
48	476	7.2	4	472	6.9	4
49	480	8.1	4	478	8.1	4
50	480	9.1	4	480	9.9	4
51	480	9.1	4	480	10.0	4
52	480	9.1	4	480	10.0	4

Table M-10. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 5

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	500	10.0	1	500	10.0	1
1	500	10.0	1	500	10.0	1
2	500	10.0	1	500	10.0	1
3	500	10.0	1	501	10.0	1
4	500	10.0	1	508	7.4	1
5	506	9.0	1	512	6.1	1
6	511	7.0	1	515	5.3	1
7	514	5.9	1	517	4.8	1
8	517	5.2	1	519	4.4	1
9	519	4.7	1	521	4.1	1
10	521	4.3	1	523	3.9	1
11	523	4.0	1	524	3.7	1
12	524	3.8	1	526	3.5	1
13	525	3.6	1	527	3.4	1
14	527	3.4	1	528	3.3	1
15	528	3.3	1	529	3.2	1
16	529	3.2	1	530	3.1	2
17	530	3.1	2	531	3.1	2
18	531	3.1	2	532	3.1	2
19	532	3.0	2	534	3.0	2
20	533	3.0	2	535	3.0	2
21	534	3.0	2	536	3.0	2
22	536	3.0	2	537	3.0	2
23	537	3.0	2	538	3.0	2
24	538	3.0	2	539	3.1	2
25	539	3.1	2	539	3.1	2
26	539	3.1	2	541	3.1	3
27	541	3.2	3	542	3.2	3
28	542	3.2	3	543	3.2	3
29	543	3.3	3	544	3.3	3
30	544	3.3	3	546	3.3	3
31	546	3.4	3	547	3.4	3
32	547	3.5	3	548	3.5	3
33	548	3.6	3	550	3.6	3
34	550	3.7	3	551	3.7	3
35	551	3.9	3	553	3.8	3
36	553	4.0	3	554	3.9	3
37	555	4.2	3	555	4.0	3
38	555	4.3	3	558	4.2	4
39	558	4.5	4	559	4.3	4
40	560	4.6	4	561	4.4	4
41	562	4.8	4	563	4.5	4
42	565	4.9	4	566	4.6	4
43	567	5.0	4	568	4.7	4
44	569	5.2	4	570	4.8	4
45	572	5.3	4	573	4.9	4

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
46	575	5.4	4	575	5.0	4
47	578	5.5	4	578	5.1	4
48	580	5.8	4	580	5.4	4
49	580	6.3	4	580	5.8	4
50	580	7.3	4	580	6.8	4
51	580	7.5	4	580	6.9	4
52	580	7.5	4	580	6.9	4

Table M-11. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 6

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	600	10.0	1	600	10.0	1
1	600	10.0	1	600	10.0	1
2	600	10.0	1	600	10.0	1
3	600	10.0	1	600	9.8	1
4	600	9.4	1	601	8.2	1
5	602	7.5	1	605	6.6	1
6	606	6.2	1	609	5.7	1
7	609	5.4	1	611	5.1	1
8	612	4.9	1	614	4.6	1
9	614	4.6	1	615	4.3	1
10	616	4.3	1	617	4.1	1
11	618	4.1	1	619	3.9	1
12	619	4.0	1	620	3.8	1
13	621	3.9	1	622	3.7	1
14	622	3.8	1	623	3.6	1
15	624	3.7	1	624	3.5	1
16	625	3.7	1	626	3.5	1
17	626	3.6	1	627	3.4	1
18	627	3.6	1	628	3.4	1
19	628	3.6	1	629	3.4	2
20	630	3.6	2	630	3.4	2
21	631	3.6	2	632	3.4	2
22	633	3.6	2	633	3.4	2
23	634	3.6	2	634	3.4	2
24	635	3.7	2	635	3.4	2
25	637	3.7	2	636	3.5	2
26	638	3.8	2	638	3.5	2
27	639	3.8	2	639	3.6	2
28	641	3.9	3	640	3.6	3
29	642	3.9	3	642	3.7	3
30	644	4.0	3	643	3.8	3
31	645	4.1	3	644	3.8	3
32	647	4.2	3	646	3.9	3
33	648	4.2	3	648	4.0	3

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
34	650	4.4	3	649	4.1	3
35	652	4.5	3	651	4.2	3
36	654	4.6	3	653	4.3	3
37	655	4.7	3	655	4.4	3
38	657	4.8	3	657	4.5	3
39	660	4.9	4	658	4.5	3
40	662	5.0	4	661	4.6	4
41	664	5.1	4	663	4.7	4
42	666	5.3	4	665	4.8	4
43	669	5.4	4	668	4.9	4
44	671	5.5	4	670	4.9	4
45	674	5.6	4	673	5.0	4
46	676	5.7	4	675	5.1	4
47	679	5.9	4	678	5.1	4
48	680	6.1	4	680	5.3	4
49	680	6.5	4	680	5.7	4
50	680	7.3	4	680	6.6	4
51	680	7.6	4	680	7.4	4
52	680	7.6	4	680	7.4	4

Table M-12. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 7

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	700	10.0	1	700	10.0	1
1	700	10.0	1	700	10.0	1
2	700	10.0	1	700	10.0	1
3	700	10.0	1	700	9.4	1
4	700	10.0	1	700	8.3	1
5	700	10.0	1	701	7.3	1
6	705	8.6	1	705	6.4	1
7	710	7.2	1	708	5.8	1
8	713	6.3	1	711	5.3	1
9	716	5.7	1	713	5.0	1
10	718	5.3	1	715	4.8	1
11	720	4.9	1	717	4.6	1
12	722	4.7	1	718	4.4	1
13	724	4.4	1	720	4.2	1
14	725	4.3	1	722	4.1	1
15	727	4.1	1	723	4.0	1
16	728	4.0	1	724	4.0	1
17	729	3.9	2	726	3.9	1
18	731	3.8	2	727	3.8	1
19	732	3.7	2	728	3.8	1
20	733	3.7	2	730	3.8	2
21	734	3.7	2	731	3.8	2

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
22	736	3.6	2	732	3.7	2
23	737	3.6	2	733	3.7	2
24	738	3.6	2	735	3.7	2
25	739	3.6	2	736	3.7	2
26	740	3.6	3	737	3.8	2
27	742	3.6	3	738	3.8	2
28	743	3.6	3	739	3.8	2
29	744	3.7	3	741	3.9	3
30	745	3.7	3	742	3.9	3
31	747	3.8	3	743	4.0	3
32	748	3.9	3	745	4.0	3
33	750	4.0	3	746	4.1	3
34	751	4.1	3	748	4.1	3
35	753	4.3	3	749	4.2	3
36	754	4.4	3	751	4.3	3
37	756	4.6	3	752	4.3	3
38	758	4.8	3	754	4.4	3
39	760	5.0	4	756	4.4	3
40	762	5.1	4	757	4.5	3
41	765	5.3	4	759	4.6	3
42	767	5.5	4	761	4.6	4
43	769	5.6	4	763	4.7	4
44	772	5.8	4	765	4.8	4
45	775	6.0	4	767	4.9	4
46	778	6.1	4	770	5.0	4
47	780	6.2	4	772	5.2	4
48	780	6.4	4	775	5.5	4
49	780	6.8	4	779	6.1	4
50	780	7.3	4	780	7.3	4
51	780	7.3	4	780	10.0	4
52	780	7.3	4	780	10.0	4

Table M-13. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 8

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	800	10.0	1	800	10.0	1
1	800	10.0	1	800	10.0	1
2	800	10.0	1	800	10.0	1
3	800	10.0	1	800	10.0	1
4	800	10.0	1	800	10.0	1
5	800	9.9	1	803	9.1	1
6	804	8.3	1	808	7.3	1
7	808	7.1	1	811	6.3	1
8	812	6.3	1	814	5.6	1
9	815	5.8	1	817	5.1	1

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
10	817	5.4	1	819	4.7	1
11	819	5.0	1	821	4.5	1
12	821	4.8	1	822	4.3	1
13	823	4.6	1	824	4.1	1
14	825	4.5	1	826	4.0	1
15	826	4.4	1	827	3.9	1
16	827	4.3	1	828	3.8	2
17	830	4.2	2	830	3.8	2
18	831	4.2	2	831	3.8	2
19	832	4.1	2	832	3.7	2
20	834	4.1	2	834	3.7	2
21	835	4.1	2	835	3.7	2
22	837	4.0	2	836	3.7	2
23	838	4.0	2	838	3.7	2
24	839	4.0	2	839	3.7	2
25	841	4.0	3	840	3.7	3
26	842	4.1	3	841	3.7	3
27	844	4.1	3	843	3.7	3
28	845	4.1	3	844	3.8	3
29	847	4.2	3	845	3.8	3
30	848	4.2	3	847	3.8	3
31	850	4.3	3	848	3.8	3
32	851	4.3	3	849	3.9	3
33	853	4.4	3	851	3.9	3
34	854	4.4	3	852	4.0	3
35	856	4.5	3	854	4.0	3
36	858	4.6	3	855	4.1	3
37	860	4.6	4	857	4.1	3
38	861	4.7	4	858	4.2	3
39	863	4.8	4	860	4.2	4
40	865	4.8	4	862	4.3	4
41	867	4.9	4	864	4.3	4
42	869	5.0	4	866	4.4	4
43	871	5.0	4	868	4.5	4
44	874	5.1	4	870	4.5	4
45	876	5.2	4	872	4.6	4
46	879	5.4	4	875	4.7	4
47	880	5.6	4	877	4.9	4
48	880	6.0	4	880	5.1	4
49	880	6.8	4	880	5.7	4
50	880	7.7	4	880	6.8	4
51	880	7.7	4	880	8.5	4
52	880	7.7	4	880	8.5	4

Table M-14. 2013–14 NECAP: Raw to Scaled Score Correspondence
Reading Grade 11

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
0	1100	10.0	1	1100	10.0	1
1	1100	10.0	1	1100	10.0	1
2	1100	10.0	1	1100	10.0	1
3	1100	10.0	1	1100	10.0	1
4	1100	9.8	1	1100	10.0	1
5	1103	7.7	1	1106	7.7	1
6	1107	6.4	1	1110	6.2	1
7	1110	5.6	1	1113	5.3	1
8	1113	5.0	1	1115	4.7	1
9	1115	4.7	1	1117	4.3	1
10	1117	4.5	1	1119	4.0	1
11	1119	4.3	1	1121	3.8	1
12	1120	4.1	1	1122	3.6	1
13	1122	4.0	1	1124	3.5	1
14	1123	3.9	1	1125	3.4	1
15	1125	3.8	1	1126	3.3	1
16	1126	3.7	1	1127	3.3	1
17	1128	3.7	1	1128	3.2	1
18	1129	3.6	1	1129	3.2	1
19	1129	3.6	1	1130	3.1	2
20	1131	3.5	2	1131	3.1	2
21	1133	3.5	2	1132	3.1	2
22	1134	3.5	2	1133	3.1	2
23	1135	3.5	2	1134	3.0	2
24	1136	3.5	2	1135	3.0	2
25	1138	3.5	2	1136	3.0	2
26	1139	3.5	2	1137	3.0	2
27	1140	3.5	3	1138	3.1	2
28	1141	3.5	3	1139	3.1	2
29	1143	3.6	3	1141	3.1	3
30	1144	3.6	3	1142	3.2	3
31	1145	3.7	3	1143	3.2	3
32	1147	3.8	3	1144	3.3	3
33	1148	3.8	3	1145	3.3	3
34	1150	3.9	3	1147	3.4	3
35	1151	3.9	3	1148	3.4	3
36	1153	4.0	3	1149	3.5	3
37	1154	4.1	4	1151	3.5	3
38	1156	4.2	4	1152	3.5	3
39	1158	4.2	4	1153	3.6	3
40	1160	4.3	4	1155	3.6	4
41	1161	4.4	4	1157	3.7	4
42	1163	4.5	4	1158	3.8	4
43	1165	4.5	4	1160	3.8	4
44	1168	4.6	4	1162	3.9	4
45	1170	4.6	4	1164	4.0	4

continued

Raw Score	2013–14			2012–13		
	Scaled Score	Standard Error	Performance Level	Scaled Score	Standard Error	Performance Level
46	1172	4.7	4	1166	4.0	4
47	1175	4.9	4	1168	4.1	4
48	1178	5.3	4	1171	4.3	4
49	1180	5.9	4	1174	4.7	4
50	1180	7.2	4	1177	5.5	4
51	1180	7.4	4	1180	8.0	4
52	1180	7.4	4	1180	10.0	4

APPENDIX N—SCALED SCORE DISTRIBUTIONS

Figure N-1. 2013–14 NECAP: Cumulative Score Distribution
Mathematics Grade 3

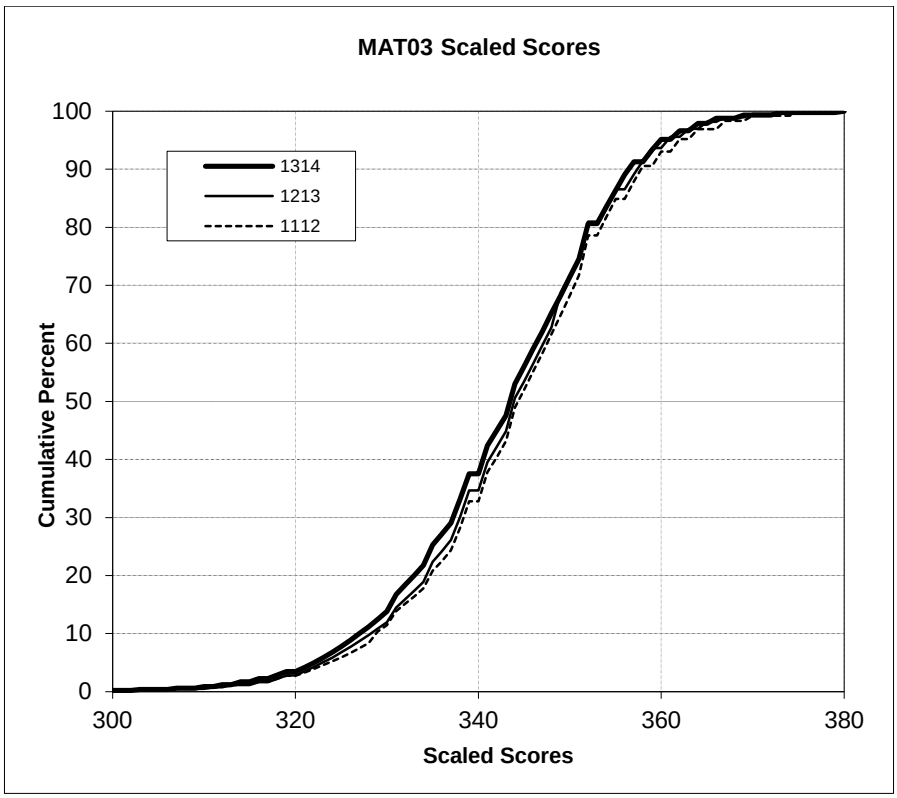


Figure N-2. 2013–14 NECAP: Cumulative Score Distribution
Mathematics Grade 4

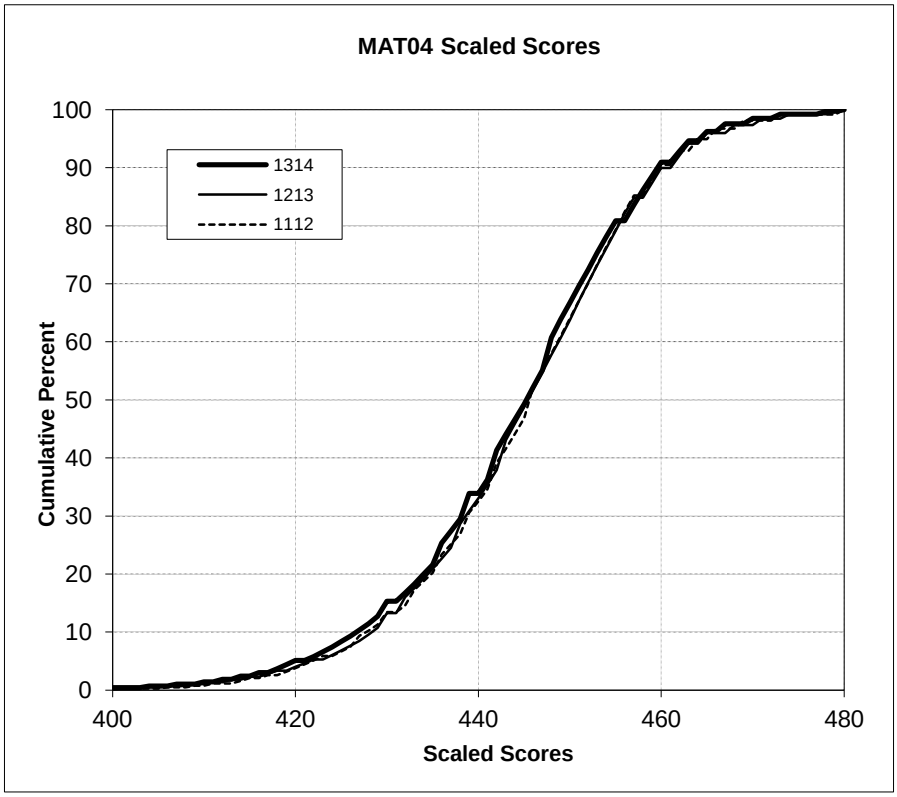


Figure N-3. 2013–14 NECAP: Cumulative Score Distribution Mathematics Grade 5

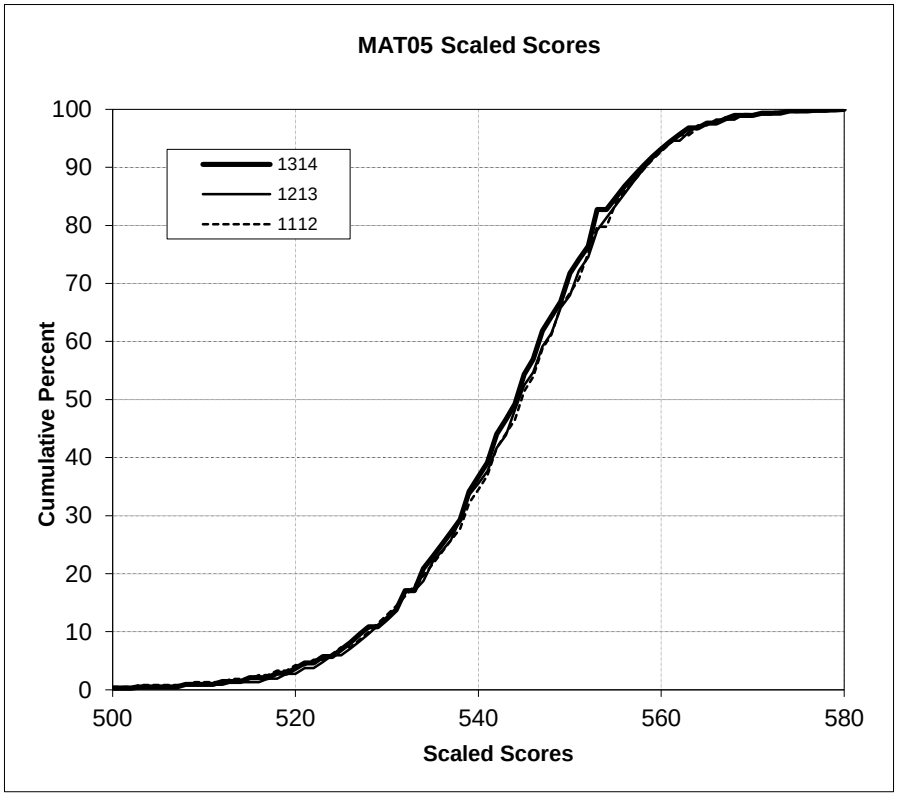


Figure N-4. 2013–14 NECAP: Cumulative Score Distribution Mathematics Grade 6

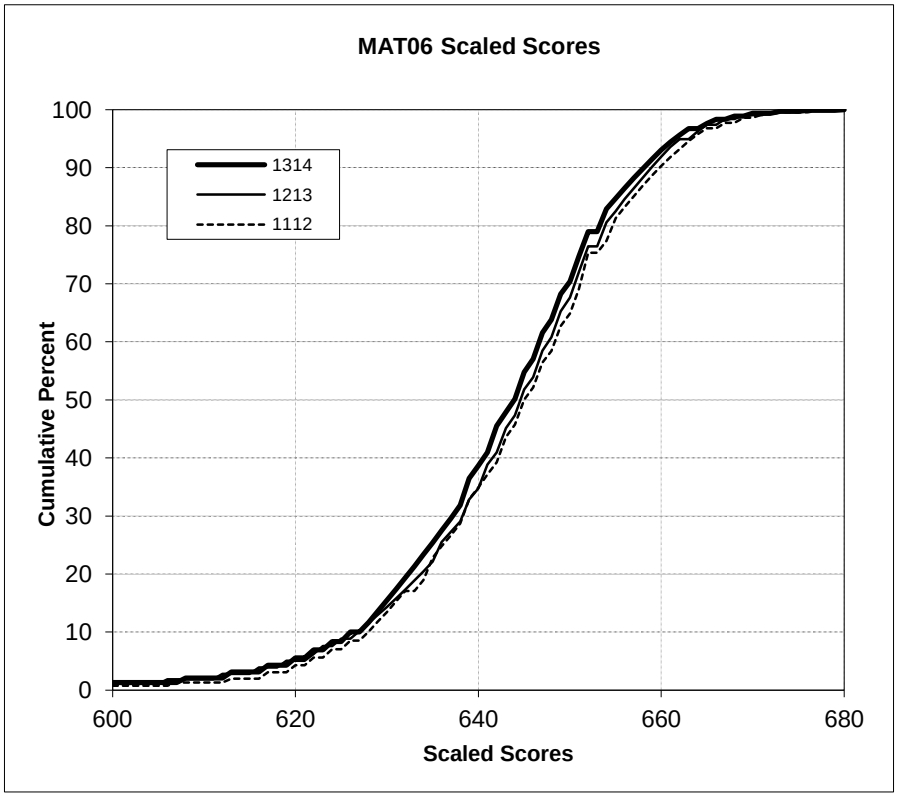


Figure N-5. 2013–14 NECAP: Cumulative Score Distribution Mathematics Grade 7

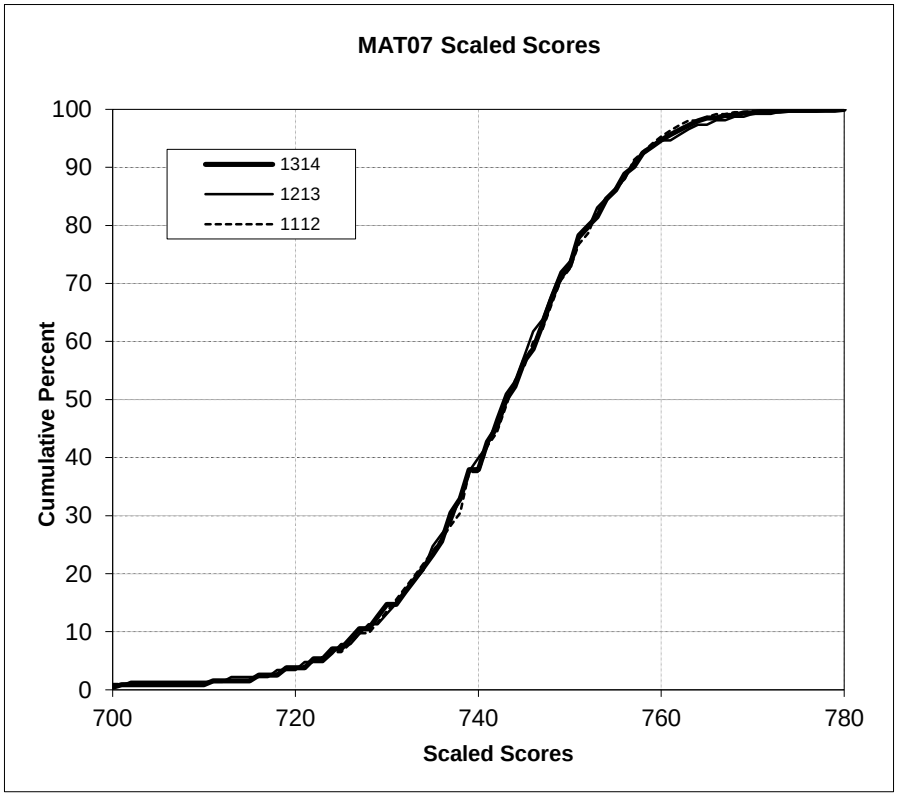


Figure N-6. 2013–14 NECAP: Cumulative Score Distribution Mathematics Grade 8

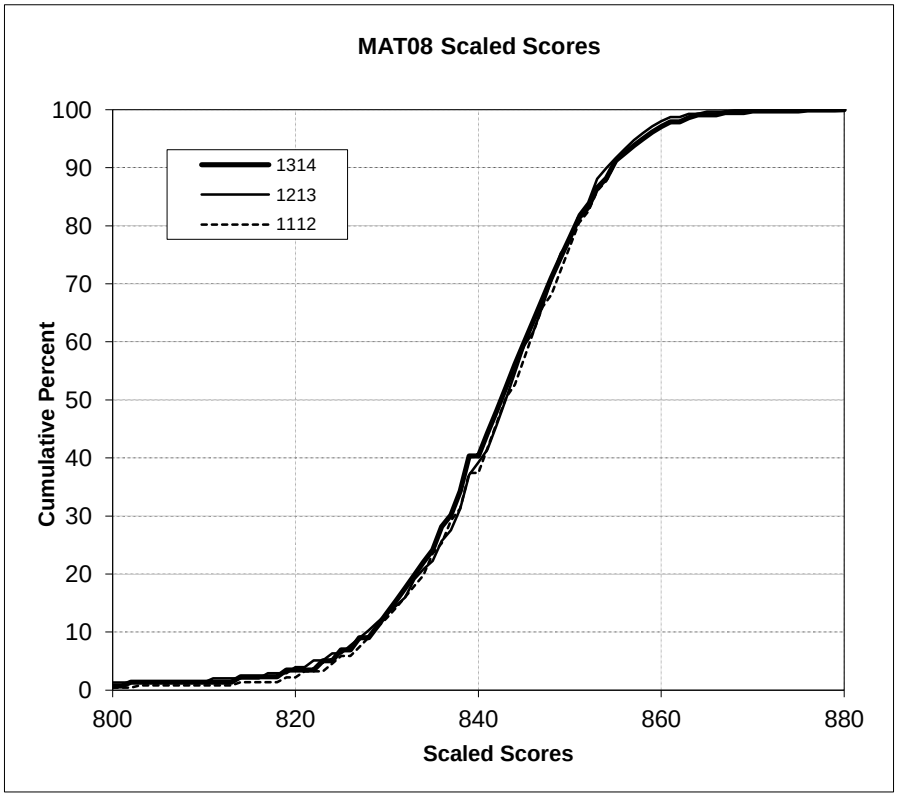


Figure N-7. 2013–14 NECAP: Cumulative Score Distribution
Mathematics Grade 11

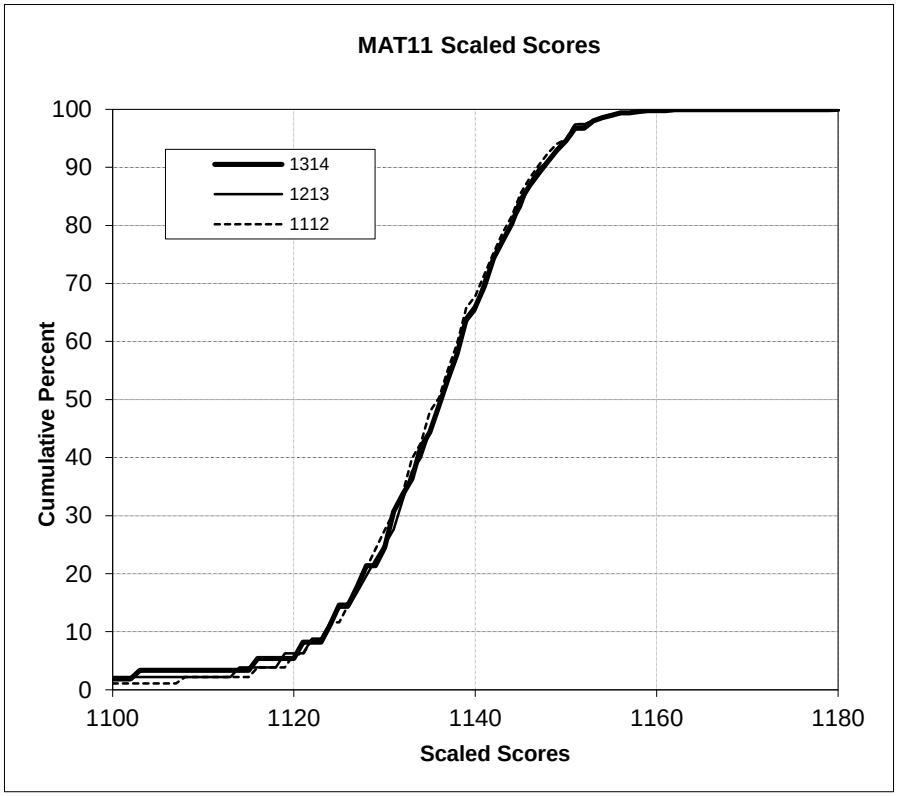


Figure N-8. 2013–14 NECAP: Cumulative Score Distribution
Reading Grade 3

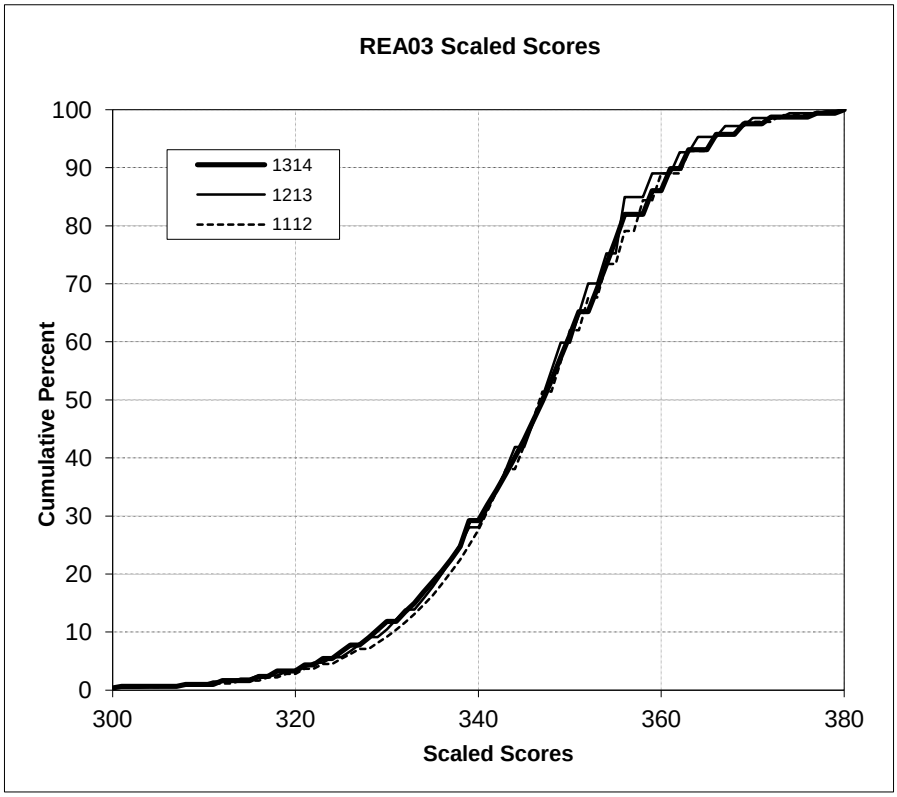


Figure N-9. 2013–14 NECAP: Cumulative Score Distribution Reading Grade 4

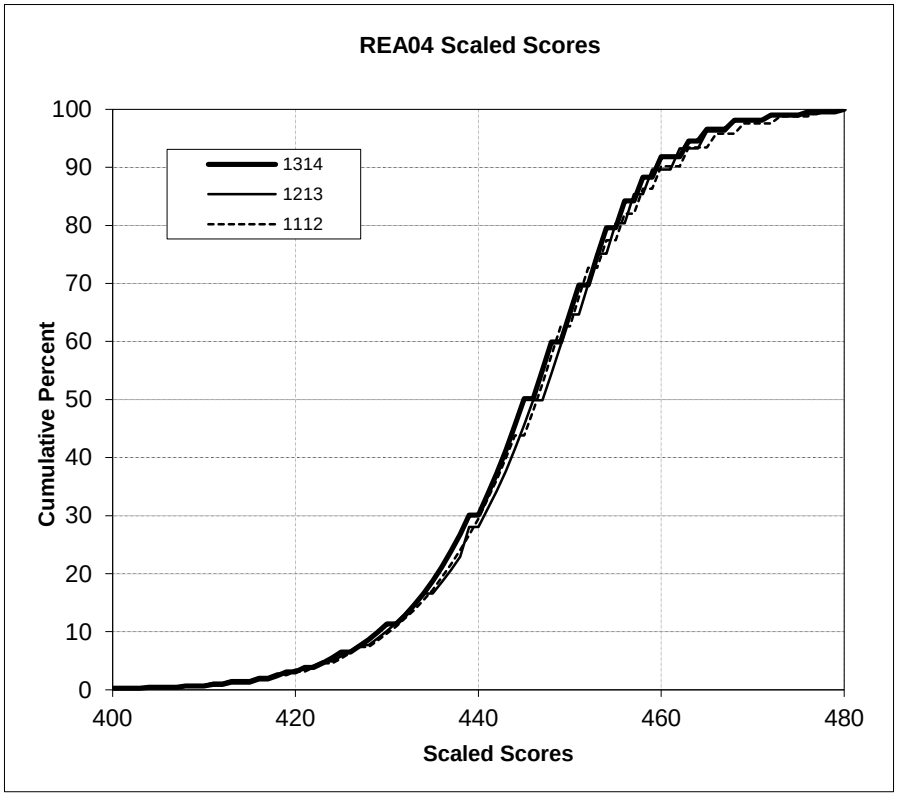


Figure N-10. 2013–14 NECAP: Cumulative Score Distribution Reading Grade 5

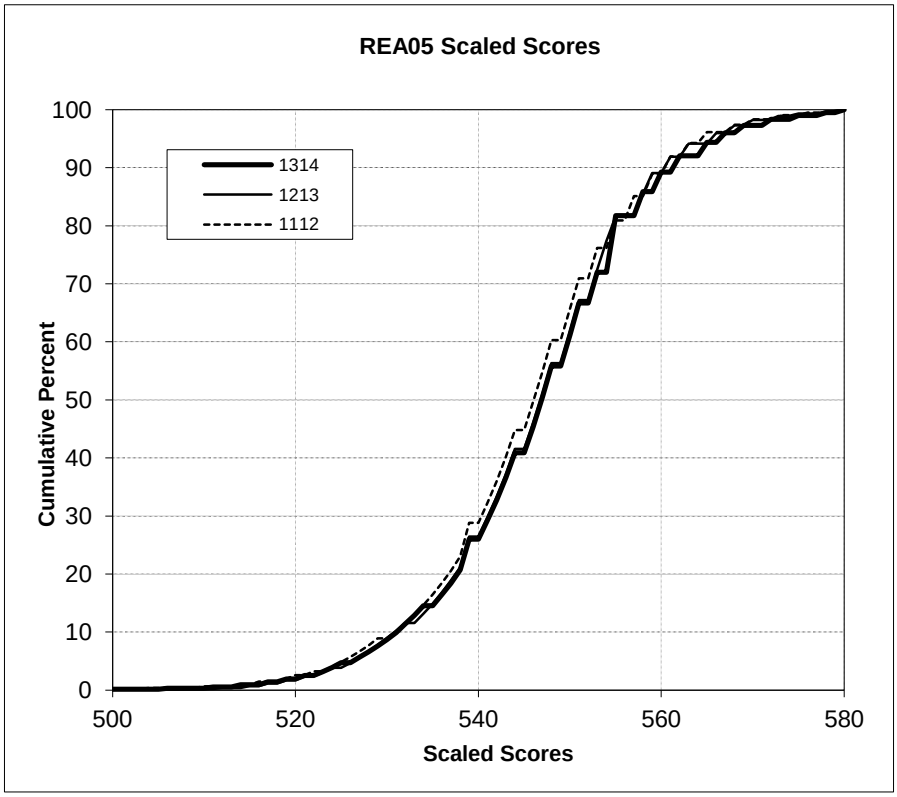


Figure N-11. 2013–14 NECAP: Cumulative Score Distribution Reading Grade 6

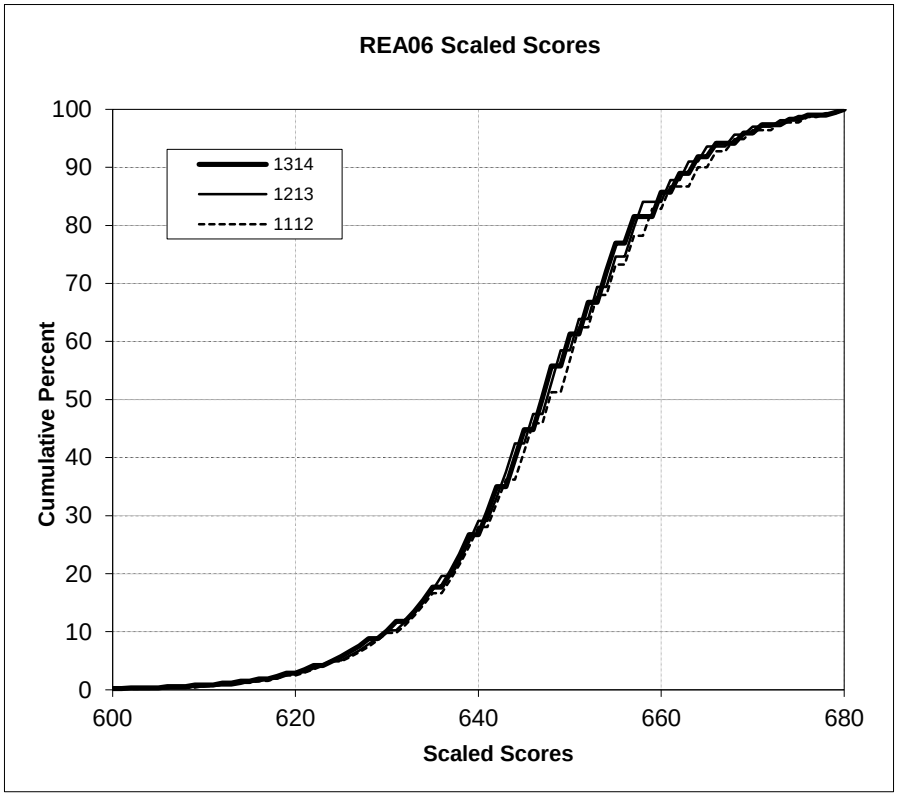


Figure N-12. 2013–14 NECAP: Cumulative Score Distribution Reading Grade 7

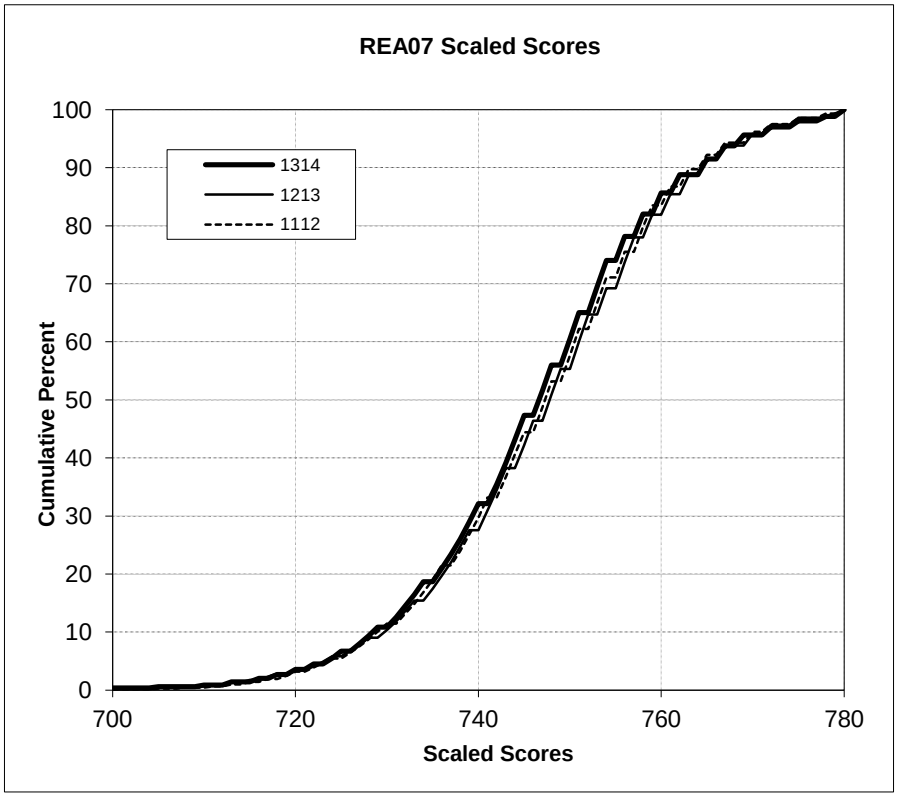


Figure N-13. 2013–14 NECAP: Cumulative Score Distribution Reading Grade 8

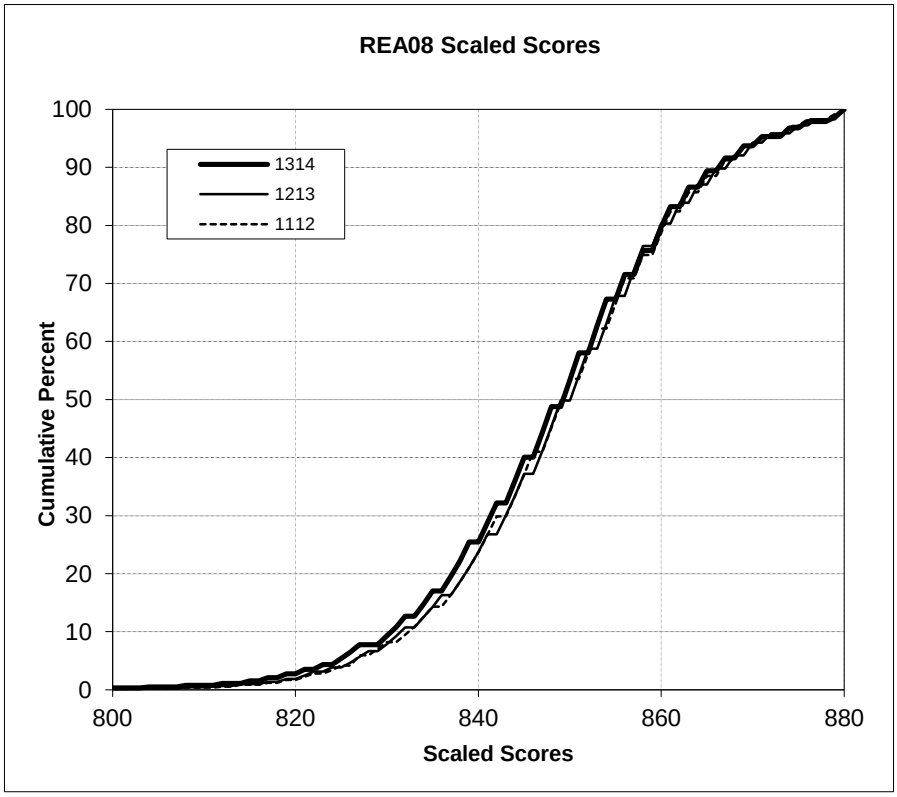


Figure N-14. 2013–14 NECAP: Cumulative Score Distribution Reading Grade 11

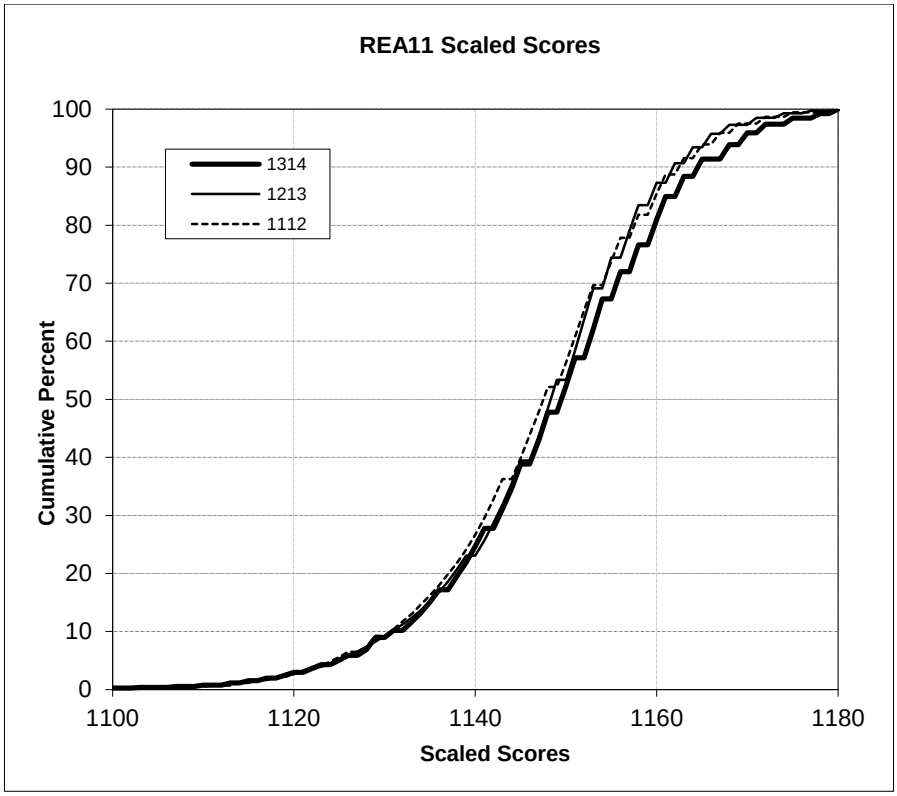


Figure N-15. 2013–14 NECAP: Cumulative Score Distribution Writing Grade 5

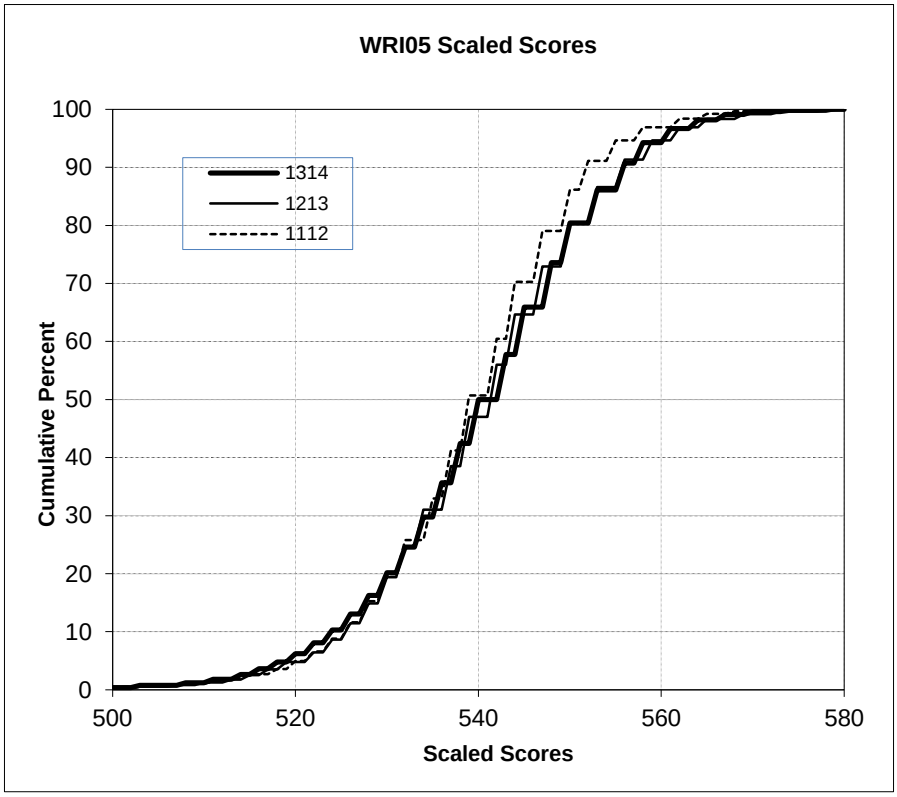


Figure N-16. 2013–14 NECAP: Cumulative Score Distribution Writing Grade 8

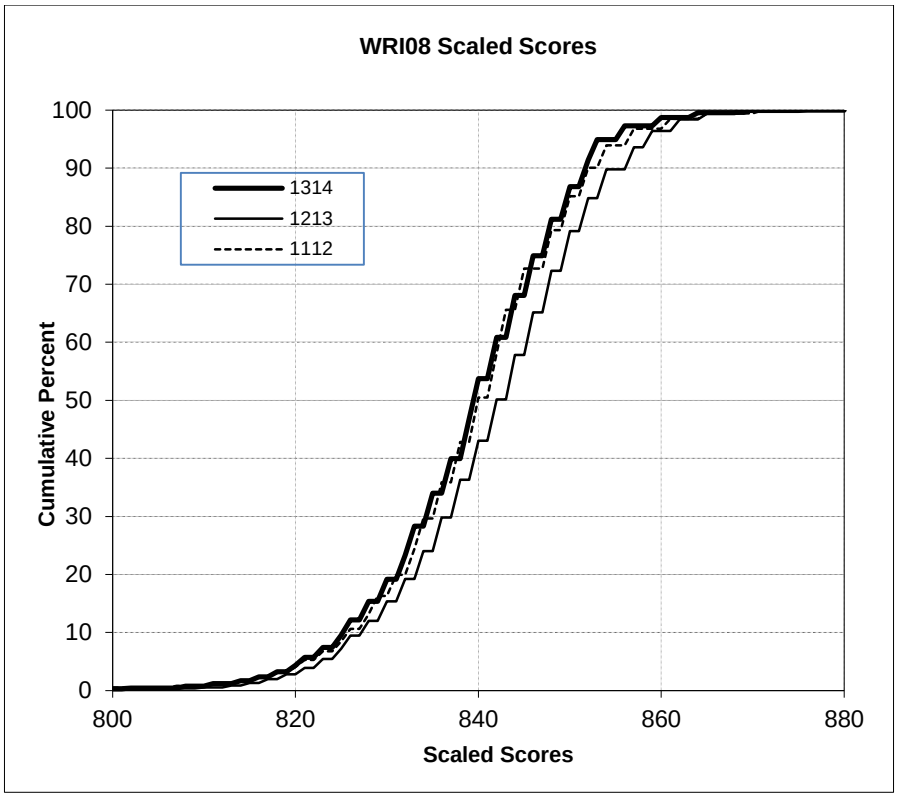


Figure N-17. 2013–14 NECAP: Cumulative Score Distribution
Writing Grade 11

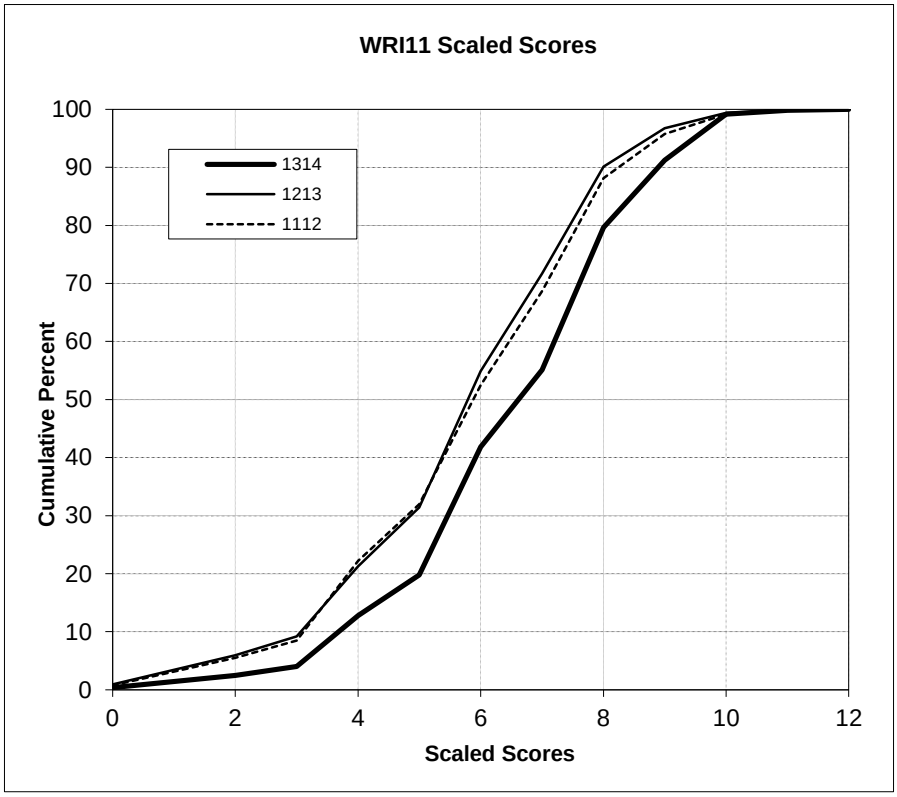


Table N-1. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 3

Scaled Score	*Percentage*	*Cumulative Percentage*
300	0.21	0.21
301	0	0.21
302	0	0.21
303	0.13	0.34
304	0	0.34
305	0	0.34
306	0	0.34
307	0.23	0.57
308	0	0.57
309	0	0.57
310	0.26	0.84
311	0	0.84
312	0.38	1.22
313	0	1.22
314	0.48	1.7
315	0	1.7
316	0.54	2.23
317	0	2.23
318	0.6	2.84
319	0.59	3.43
320	0	3.43
321	0.72	4.15
322	0.79	4.93
323	0.88	5.81
324	0.93	6.74
325	1	7.75
326	1.09	8.84
327	1.2	10.03
328	1.17	11.2
329	1.25	12.45
330	1.34	13.8
331	2.94	16.73
332	1.68	18.42
333	1.63	20.04
334	1.72	21.77
335	3.54	25.3
336	1.79	27.09
337	1.95	29.04
338	4.21	33.25
339	4.3	37.55
340	0	37.55
341	4.85	42.4
342	2.55	44.95
343	2.59	47.54
344	5.48	53.02
345	3.02	56.04
346	3.03	59.07
347	3.01	62.07
348	3.15	65.22
349	3.04	68.26
350	3.21	71.47
351	3.06	74.53
352	6.1	80.63
353	0	80.63
354	2.95	83.58
355	2.82	86.4
356	2.67	89.07
357	2.2	91.27
358	0	91.27
359	2.11	93.38
360	1.79	95.16
361	0	95.16
362	1.47	96.63
363	0	96.63
364	1.28	97.91
365	0	97.91
366	0.88	98.79
367	0	98.79
368	0	98.79
369	0.57	99.36
370	0	99.36
371	0	99.36
372	0	99.36
373	0.44	99.8
374	0	99.8
375	0	99.8
376	0	99.8
377	0	99.8
378	0	99.8
379	0	99.8
380	0.2	100

Table N-2. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 4

Scaled Score	*Percentage*	*Cumulative Percentage*
400	0.42	0.42
401	0	0.42
402	0	0.42
403	0	0.42
404	0.26	0.68
405	0	0.68
406	0	0.68
407	0.33	1.01
408	0	1.01
409	0	1.01
410	0.41	1.42
411	0	1.42
412	0.46	1.88
413	0	1.88
414	0.52	2.4
415	0	2.4
416	0.64	3.03
417	0	3.03
418	0.63	3.66
419	0.72	4.38
420	0.72	5.1
421	0	5.1
422	0.69	5.79
423	0.79	6.58
424	0.85	7.43
425	0.91	8.34
426	0.94	9.28
427	1.06	10.34
428	1.12	11.46
429	1.24	12.7
430	2.63	15.33
431	0	15.33
432	1.39	16.72
433	1.58	18.3
434	1.62	19.93
435	1.68	21.61
436	3.72	25.33
437	2.06	27.39
438	2.07	29.46
439	4.44	33.89
440	0	33.89
441	2.36	36.25
442	5.1	41.36
443	2.71	44.07
444	2.55	46.61
445	2.68	49.3
446	2.9	52.19
447	2.92	55.11
448	5.64	60.76
449	3.1	63.86
450	2.89	66.74
451	2.89	69.63
452	2.79	72.42
453	2.95	75.37
454	2.8	78.16
455	2.68	80.85
456	0	80.85
457	2.75	83.6
458	2.58	86.17
459	2.41	88.58
460	2.35	90.94
461	0	90.94
462	1.92	92.86
463	1.8	94.66
464	0	94.66
465	1.6	96.26
466	0	96.26
467	1.29	97.55
468	0	97.55
469	0	97.55
470	0.97	98.52
471	0	98.52
472	0	98.52
473	0.73	99.25
474	0	99.25
475	0	99.25
476	0	99.25
477	0	99.25
478	0.46	99.71
479	0	99.71
480	0.29	100

Table N-3. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 5

Scaled Score	*Percentage*	*Cumulative Percentage*
500	0.27	0.27
501	0	0.27
502	0	0.27
503	0.23	0.5
504	0	0.5
505	0	0.5
506	0	0.5
507	0	0.5
508	0.41	0.91
509	0	0.91
510	0	0.91
511	0	0.91
512	0.52	1.44
513	0	1.44
514	0	1.44
515	0.67	2.1
516	0	2.1
517	0	2.1
518	0.73	2.83
519	0	2.83
520	0.82	3.65
521	0.97	4.62
522	0	4.62
523	1.12	5.74
524	0	5.74
525	1.17	6.91
526	1.25	8.16
527	1.35	9.5
528	1.34	10.85
529	0	10.85
530	1.37	12.22
531	1.55	13.77
532	3.29	17.06
533	0	17.06
534	3.8	20.86
535	2.04	22.9
536	2.06	24.97
537	2.16	27.12
538	2.22	29.34
539	4.83	34.17
540	2.55	36.72
541	2.43	39.15
542	4.9	44.05
543	2.52	46.57
544	2.65	49.22
545	5.1	54.32
546	2.6	56.93
547	4.93	61.86
548	2.49	64.35
549	2.52	66.87
550	4.91	71.78
551	2.37	74.15
552	2.26	76.41
553	6.33	82.74
554	0	82.74
555	2.04	84.78
556	1.98	86.76
557	1.77	88.54
558	1.66	90.19
559	1.57	91.77
560	1.38	93.15
561	1.36	94.51
562	1.2	95.71
563	1.07	96.78
564	0	96.78
565	0.85	97.63
566	0	97.63
567	0.74	98.36
568	0.6	98.97
569	0	98.97
570	0	98.97
571	0.38	99.34
572	0	99.34
573	0	99.34
574	0.36	99.7
575	0	99.7
576	0	99.7
577	0.19	99.9
578	0	99.9
579	0	99.9
580	0.1	100

Table N-4. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 6

Scaled Score	*Percentage*	*Cumulative Percentage*
600	1.33	1.33
601	0	1.33
602	0	1.33
603	0	1.33
604	0	1.33
605	0	1.33
606	0	1.33
607	0	1.33
608	0.75	2.08
609	0	2.08
610	0	2.08
611	0	2.08
612	0	2.08
613	1.03	3.12
614	0	3.12
615	0	3.12
616	0	3.12
617	1.17	4.29
618	0	4.29
619	0	4.29
620	1.26	5.55
621	0	5.55
622	1.39	6.93
623	0	6.93
624	1.43	8.37
625	0	8.37
626	1.67	10.04
627	0	10.04
628	1.64	11.67
629	1.86	13.53
630	1.93	15.46
631	1.96	17.42
632	1.92	19.34
633	1.96	21.3
634	2.08	23.38
635	2.04	25.42
636	2.08	27.5
637	2.07	29.57
638	2.27	31.84
639	4.62	36.46
640	2.24	38.7
641	2.26	40.96
642	4.56	45.52
643	2.35	47.87
644	2.3	50.17
645	4.59	54.76
646	2.28	57.04
647	4.53	61.57
648	2.24	63.81
649	4.41	68.22
650	2.17	70.39
651	4.36	74.74
652	4.26	79
653	0	79
654	3.92	82.92
655	1.8	84.72
656	1.76	86.47
657	1.79	88.26
658	1.62	89.88
659	1.61	91.5
660	1.54	93.03
661	1.39	94.42
662	1.25	95.67
663	1.05	96.72
664	0	96.72
665	0.91	97.64
666	0.73	98.37
667	0	98.37
668	0.55	98.91
669	0	98.91
670	0.47	99.38
671	0	99.38
672	0	99.38
673	0.32	99.71
674	0	99.71
675	0	99.71
676	0.2	99.91
677	0	99.91
678	0	99.91
679	0	99.91
680	0.09	100

Table N-5. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 7

Scaled Score	*Percentage*	*Cumulative Percentage*
700	0.41	0.41
701	0.43	0.85
702	0	0.85
703	0	0.85
704	0	0.85
705	0	0.85
706	0	0.85
707	0	0.85
708	0	0.85
709	0	0.85
710	0	0.85
711	0.68	1.52
712	0	1.52
713	0	1.52
714	0	1.52
715	0	1.52
716	1.01	2.53
717	0	2.53
718	0	2.53
719	1.25	3.79
720	0	3.79
721	0	3.79
722	1.52	5.31
723	0	5.31
724	1.73	7.04
725	0	7.04
726	1.74	8.78
727	1.74	10.52
728	0	10.52
729	2.1	12.62
730	2.11	14.73
731	0	14.73
732	2.12	16.85
733	2.1	18.94
734	2.09	21.04
735	2.2	23.23
736	2.31	25.55
737	4.93	30.48
738	2.43	32.91
739	4.98	37.89
740	0	37.89
741	4.83	42.71
742	2.46	45.18
743	4.78	49.95
744	2.31	52.26
745	4.31	56.58
746	2.14	58.71
747	4.21	62.93
748	4.32	67.24
749	3.87	71.11
750	1.91	73.02
751	5.24	78.25
752	1.66	79.92
753	1.56	81.48
754	3.1	84.58
755	1.52	86.1
756	2.74	88.84
757	1.28	90.12
758	2.37	92.48
759	1.11	93.6
760	1.09	94.69
761	0.97	95.66
762	0.82	96.47
763	0.76	97.23
764	0.76	97.99
765	0.52	98.5
766	0	98.5
767	0.46	98.96
768	0	98.96
769	0.44	99.39
770	0	99.39
771	0.25	99.65
772	0	99.65
773	0	99.65
774	0.19	99.84
775	0	99.84
776	0	99.84
777	0	99.84
778	0	99.84
779	0	99.84
780	0.16	100

Table N-6. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 8

Scaled Score	*Percentage*	*Cumulative Percentage*
800	0.71	0.71
801	0	0.71
802	0.65	1.36
803	0	1.36
804	0	1.36
805	0	1.36
806	0	1.36
807	0	1.36
808	0	1.36
809	0	1.36
810	0	1.36
811	0	1.36
812	0	1.36
813	0	1.36
814	0.92	2.28
815	0	2.28
816	0	2.28
817	0	2.28
818	0	2.28
819	1.19	3.47
820	0	3.47
821	0	3.47
822	0	3.47
823	1.56	5.03
824	0	5.03
825	1.89	6.92
826	0	6.92
827	2.07	9
828	0	9
829	2.09	11.09
830	2.2	13.29
831	2.12	15.4
832	2.17	17.58
833	2.24	19.82
834	2.22	22.04
835	2.07	24.11
836	4.05	28.16
837	1.99	30.14
838	4.12	34.26
839	6.09	40.35
840	0	40.35
841	3.9	44.25
842	3.88	48.13
843	3.99	52.12
844	3.98	56.1
845	3.79	59.89
846	3.65	63.54
847	3.83	67.37
848	3.7	71.07
849	3.51	74.58
850	3.4	77.98
851	3.42	81.39
852	1.79	83.19
853	3.38	86.57
854	1.63	88.2
855	3.06	91.26
856	1.25	92.51
857	1.3	93.81
858	1.17	94.98
859	1.14	96.12
860	0.97	97.09
861	0.81	97.9
862	0	97.9
863	0.73	98.63
864	0.51	99.14
865	0	99.14
866	0	99.14
867	0.4	99.53
868	0	99.53
869	0	99.53
870	0.25	99.78
871	0	99.78
872	0	99.78
873	0	99.78
874	0	99.78
875	0	99.78
876	0.16	99.95
877	0	99.95
878	0	99.95
879	0	99.95
880	0.05	100

Table N-7. 2013–14 NECAP: Scaled Score Distribution
Mathematics Grade 11

Scaled Score	*Percentage*	*Cumulative Percentage*
1100	1.83	1.83
1101	0	1.83
1102	0	1.83
1103	1.51	3.34
1104	0	3.34
1105	0	3.34
1106	0	3.34
1107	0	3.34
1108	0	3.34
1109	0	3.34
1110	0	3.34
1111	0	3.34
1112	0	3.34
1113	0	3.34
1114	0	3.34
1115	0	3.34
1116	2.06	5.4
1117	0	5.4
1118	0	5.4
1119	0	5.4
1120	0	5.4
1121	2.77	8.17
1122	0	8.17
1123	0	8.17
1124	3.07	11.24
1125	3.33	14.58
1126	0	14.58
1127	3.26	17.83
1128	3.51	21.35
1129	0	21.35
1130	3.2	24.54
1131	6.14	30.68
1132	2.92	33.61
1133	2.73	36.33
1134	5.48	41.81
1135	2.54	44.35
1136	4.64	48.99
1137	4.6	53.59
1138	4.24	57.83
1139	6.08	63.91
1140	2.04	65.95
1141	3.63	69.58
1142	4.75	74.33
1143	2.96	77.29
1144	2.96	80.25
1145	4.15	84.4
1146	2.48	86.88
1147	2.14	89.03
1148	2	91.03
1149	1.9	92.93
1150	1.69	94.61
1151	2.12	96.73
1152	0	96.73
1153	1.27	98.01
1154	0.58	98.58
1155	0.39	98.97
1156	0.43	99.4
1157	0	99.4
1158	0.24	99.64
1159	0.16	99.8
1160	0	99.8
1161	0	99.8
1162	0.12	99.92
1163	0	99.92
1164	0	99.92
1165	0	99.92
1166	0.05	99.97
1167	0	99.97
1168	0	99.97
1169	0	99.97
1170	0	99.97
1171	0	99.97
1172	0	99.97
1173	0	99.97
1174	0	99.97
1175	0	99.97
1176	0	99.97
1177	0	99.97
1178	0	99.97
1179	0	99.97
1180	0.03	100

Table N-8. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 3

Scaled Score	*Percentage*	*Cumulative Percentage*
300	0.37	0.37
301	0.25	0.62
302	0	0.62
303	0	0.62
304	0	0.62
305	0	0.62
306	0	0.62
307	0	0.62
308	0.39	1
309	0	1
310	0	1
311	0	1
312	0.61	1.61
313	0	1.61
314	0	1.61
315	0	1.61
316	0.73	2.34
317	0	2.34
318	0.95	3.29
319	0	3.29
320	0	3.29
321	1.02	4.31
322	0	4.31
323	1.13	5.43
324	0	5.43
325	1.14	6.57
326	1.17	7.74
327	0	7.74
328	1.3	9.04
329	1.38	10.42
330	1.43	11.85
331	0	11.85
332	1.61	13.47
333	1.53	15
334	1.86	16.86
335	1.8	18.65
336	1.81	20.46
337	2.01	22.47
338	2.25	24.72
339	4.5	29.22
340	0	29.22
341	2.68	31.89
342	2.59	34.49
343	2.8	37.29
344	2.82	40.11
345	3.02	43.13
346	3.25	46.38
347	3.39	49.77
348	3.61	53.38
349	3.97	57.35
350	3.82	61.17
351	4.02	65.19
352	0	65.19
353	4.01	69.2
354	4.19	73.39
355	4.26	77.64
356	4.35	81.99
357	0	81.99
358	0	81.99
359	4.05	86.05
360	0	86.05
361	3.79	89.84
362	0	89.84
363	3.26	93.1
364	0	93.1
365	0	93.1
366	2.65	95.75
367	0	95.75
368	0	95.75
369	1.8	97.55
370	0	97.55
371	0	97.55
372	1.18	98.74
373	0	98.74
374	0	98.74
375	0	98.74
376	0	98.74
377	0.69	99.42
378	0	99.42
379	0	99.42
380	0.58	100

Table N-9. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 4

Scaled Score	*Percentage*	*Cumulative Percentage*
400	0.27	0.27
401	0	0.27
402	0	0.27
403	0	0.27
404	0.14	0.41
405	0	0.41
406	0	0.41
407	0	0.41
408	0.21	0.62
409	0	0.62
410	0	0.62
411	0.32	0.94
412	0	0.94
413	0.36	1.3
414	0	1.3
415	0	1.3
416	0.56	1.87
417	0	1.87
418	0.56	2.42
419	0.65	3.07
420	0	3.07
421	0.77	3.84
422	0	3.84
423	0.76	4.6
424	0.9	5.5
425	0.99	6.5
426	0	6.5
427	1.02	7.52
428	1.1	8.62
429	1.27	9.9
430	1.44	11.34
431	0	11.34
432	1.48	12.82
433	1.8	14.62
434	1.91	16.53
435	2.2	18.73
436	2.35	21.08
437	2.74	23.83
438	2.95	26.77
439	3.3	30.07
440	0	30.07
441	3.46	33.54
442	3.71	37.24
443	4.01	41.26
444	4.34	45.6
445	4.59	50.18
446	0	50.18
447	4.9	55.08
448	4.81	59.89
449	0	59.89
450	5.06	64.96
451	4.8	69.75
452	0	69.75
453	5	74.75
454	4.86	79.61
455	0	79.61
456	4.61	84.22
457	0	84.22
458	4.08	88.3
459	0	88.3
460	3.55	91.86
461	0	91.86
462	0	91.86
463	2.66	94.52
464	0	94.52
465	2.08	96.6
466	0	96.6
467	0	96.6
468	1.52	98.11
469	0	98.11
470	0	98.11
471	0	98.11
472	0.9	99.02
473	0	99.02
474	0	99.02
475	0	99.02
476	0.54	99.56
477	0	99.56
478	0	99.56
479	0	99.56
480	0.44	100

Table N-10. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 5

Scaled Score	*Percentage*	*Cumulative Percentage*
500	0.17	0.17
501	0	0.17
502	0	0.17
503	0	0.17
504	0	0.17
505	0	0.17
506	0.15	0.32
507	0	0.32
508	0	0.32
509	0	0.32
510	0	0.32
511	0.21	0.53
512	0	0.53
513	0	0.53
514	0.38	0.92
515	0	0.92
516	0	0.92
517	0.47	1.39
518	0	1.39
519	0.54	1.93
520	0	1.93
521	0.58	2.51
522	0	2.51
523	0.67	3.17
524	0.72	3.89
525	0.86	4.75
526	0	4.75
527	0.89	5.64
528	0.95	6.6
529	0.99	7.58
530	1.13	8.72
531	1.18	9.9
532	1.48	11.38
533	1.52	12.89
534	1.65	14.54
535	0	14.54
536	1.86	16.4
537	2	18.4
538	2.33	20.73
539	5.29	26.01
540	0	26.01
541	3.26	29.27
542	3.44	32.71
543	3.91	36.62
544	4.25	40.87
545	0	40.87
546	4.51	45.37
547	5.09	50.47
548	5.34	55.81
549	0	55.81
550	5.4	61.2
551	5.5	66.71
552	0	66.71
553	5.27	71.98
554	0	71.98
555	9.75	81.73
556	0	81.73
557	0	81.73
558	4.18	85.9
559	0	85.9
560	3.36	89.27
561	0	89.27
562	2.79	92.06
563	0	92.06
564	0	92.06
565	2.31	94.37
566	0	94.37
567	1.68	96.05
568	0	96.05
569	1.26	97.31
570	0	97.31
571	0	97.31
572	1.01	98.32
573	0	98.32
574	0	98.32
575	0.69	99.01
576	0	99.01
577	0	99.01
578	0.48	99.49
579	0	99.49
580	0.51	100

Table N-11. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 6

Scaled Score	*Percentage*	*Cumulative Percentage*
600	0.19	0.19
601	0	0.19
602	0.15	0.33
603	0	0.33
604	0	0.33
605	0	0.33
606	0.21	0.55
607	0	0.55
608	0	0.55
609	0.27	0.82
610	0	0.82
611	0	0.82
612	0.31	1.13
613	0	1.13
614	0.33	1.47
615	0	1.47
616	0.39	1.86
617	0	1.86
618	0.45	2.31
619	0.53	2.84
620	0	2.84
621	0.63	3.47
622	0.71	4.18
623	0	4.18
624	0.75	4.93
625	0.77	5.7
626	0.94	6.63
627	0.92	7.56
628	1.26	8.82
629	0	8.82
630	1.34	10.15
631	1.63	11.78
632	0	11.78
633	1.7	13.48
634	1.92	15.41
635	2.27	17.67
636	0	17.67
637	2.65	20.33
638	2.99	23.32
639	3.4	26.72
640	0	26.72
641	3.87	30.59
642	4.41	35
643	0	35
644	4.83	39.83
645	4.98	44.81
646	0	44.81
647	5.48	50.29
648	5.51	55.79
649	0	55.79
650	5.5	61.3
651	0	61.3
652	5.43	66.73
653	0	66.73
654	5.35	72.08
655	4.86	76.94
656	0	76.94
657	4.57	81.51
658	0	81.51
659	0	81.51
660	4.19	85.7
661	0	85.7
662	3.29	88.99
663	0	88.99
664	2.87	91.86
665	0	91.86
666	2.31	94.17
667	0	94.17
668	0	94.17
669	1.75	95.92
670	0	95.92
671	1.43	97.35
672	0	97.35
673	0	97.35
674	0.95	98.3
675	0	98.3
676	0.71	99.01
677	0	99.01
678	0	99.01
679	0.45	99.47
680	0.53	100

Table N-12. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 7

Scaled Score	*Percentage*	*Cumulative Percentage*
700	0.34	0.34
701	0	0.34
702	0	0.34
703	0	0.34
704	0	0.34
705	0.23	0.57
706	0	0.57
707	0	0.57
708	0	0.57
709	0	0.57
710	0.32	0.89
711	0	0.89
712	0	0.89
713	0.51	1.4
714	0	1.4
715	0	1.4
716	0.63	2.02
717	0	2.02
718	0.68	2.7
719	0	2.7
720	0.86	3.57
721	0	3.57
722	0.91	4.48
723	0	4.48
724	1	5.48
725	1.21	6.69
726	0	6.69
727	1.3	7.99
728	1.39	9.38
729	1.5	10.87
730	0	10.87
731	1.69	12.56
732	1.9	14.46
733	2.02	16.48
734	2.19	18.67
735	0	18.67
736	2.23	20.91
737	2.45	23.36
738	2.68	26.03
739	2.91	28.95
740	3.15	32.1
741	0	32.1
742	3.34	35.44
743	3.72	39.16
744	3.97	43.13
745	4.21	47.35
746	0	47.35
747	4.26	51.61
748	4.4	56.01
749	0	56.01
750	4.49	60.5
751	4.56	65.05
752	0	65.05
753	4.48	69.53
754	4.49	74.02
755	0	74.02
756	4.15	78.17
757	0	78.17
758	3.88	82.05
759	0	82.05
760	3.59	85.64
761	0	85.64
762	3.17	88.81
763	0	88.81
764	0	88.81
765	2.71	91.52
766	0	91.52
767	2.22	93.75
768	0	93.75
769	1.93	95.67
770	0	95.67
771	0	95.67
772	1.37	97.04
773	0	97.04
774	0	97.04
775	1.04	98.09
776	0	98.09
777	0	98.09
778	0.76	98.85
779	0	98.85
780	1.15	100

Table N-13. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 8

Scaled Score	*Percentage*	*Cumulative Percentage*
800	0.32	0.32
801	0	0.32
802	0	0.32
803	0	0.32
804	0.17	0.49
805	0	0.49
806	0	0.49
807	0	0.49
808	0.27	0.77
809	0	0.77
810	0	0.77
811	0	0.77
812	0.32	1.09
813	0	1.09
814	0	1.09
815	0.43	1.52
816	0	1.52
817	0.55	2.07
818	0	2.07
819	0.65	2.72
820	0	2.72
821	0.78	3.5
822	0	3.5
823	0.84	4.35
824	0	4.35
825	1.02	5.37
826	1.1	6.47
827	1.29	7.75
828	0	7.75
829	0	7.75
830	1.54	9.29
831	1.5	10.79
832	1.86	12.65
833	0	12.65
834	2.06	14.71
835	2.3	17
836	0	17
837	2.54	19.55
838	2.73	22.28
839	3.16	25.44
840	0	25.44
841	3.32	28.76
842	3.42	32.17
843	0	32.17
844	3.79	35.96
845	4.08	40.04
846	0	40.04
847	4.3	44.34
848	4.45	48.79
849	0	48.79
850	4.63	53.42
851	4.61	58.03
852	0	58.03
853	4.67	62.7
854	4.61	67.3
855	0	67.3
856	4.25	71.56
857	0	71.56
858	4.11	75.67
859	0	75.67
860	4.03	79.7
861	3.56	83.26
862	0	83.26
863	3.36	86.62
864	0	86.62
865	2.77	89.39
866	0	89.39
867	2.25	91.64
868	0	91.64
869	2.07	93.71
870	0	93.71
871	1.6	95.31
872	0	95.31
873	0	95.31
874	1.51	96.82
875	0	96.82
876	1.06	97.88
877	0	97.88
878	0	97.88
879	0.77	98.65
880	1.35	100

Table N-14. 2013–14 NECAP: Scaled Score Distribution
Reading Grade 11

Scaled Score	*Percentage*	*Cumulative Percentage*
1100	0.23	0.23
1101	0	0.23
1102	0	0.23
1103	0.1	0.34
1104	0	0.34
1105	0	0.34
1106	0	0.34
1107	0.2	0.54
1108	0	0.54
1109	0	0.54
1110	0.23	0.77
1111	0	0.77
1112	0	0.77
1113	0.36	1.13
1114	0	1.13
1115	0.39	1.53
1116	0	1.53
1117	0.47	1.99
1118	0	1.99
1119	0.46	2.45
1120	0.51	2.96
1121	0	2.96
1122	0.63	3.6
1123	0.68	4.28
1124	0	4.28
1125	0.8	5.08
1126	0.79	5.87
1127	0	5.87
1128	0.98	6.86
1129	2.11	8.96
1130	0	8.96
1131	1.24	10.2
1132	0	10.2
1133	1.46	11.66
1134	1.57	13.22
1135	1.81	15.04
1136	2.15	17.18
1137	0	17.18
1138	2.4	19.58
1139	2.35	21.94
1140	2.76	24.7
1141	3.05	27.75
1142	0	27.75
1143	3.31	31.06
1144	3.59	34.65
1145	4.2	38.85
1146	0	38.85
1147	4.16	43.01
1148	4.77	47.78
1149	0	47.78
1150	4.56	52.34
1151	4.8	57.14
1152	0	57.14
1153	4.97	62.11
1154	5.19	67.3
1155	0	67.3
1156	4.71	72.01
1157	0	72.01
1158	4.59	76.6
1159	0	76.6
1160	4.4	81
1161	3.93	84.93
1162	0	84.93
1163	3.5	88.43
1164	0	88.43
1165	2.99	91.42
1166	0	91.42
1167	0	91.42
1168	2.47	93.89
1169	0	93.89
1170	2.04	95.93
1171	0	95.93
1172	1.5	97.42
1173	0	97.42
1174	0	97.42
1175	1.06	98.48
1176	0	98.48
1177	0	98.48
1178	0.75	99.24
1179	0	99.24
1180	0.76	100

Table N-15. 2013–14 NECAP: Scaled Score Distribution
Writing Grade 5

Scaled Score	*Percentage*	*Cumulative Percentage*
500	0.38	0.38
501	0	0.38
502	0	0.38
503	0.35	0.73
504	0	0.73
505	0	0.73
506	0	0.73
507	0	0.73
508	0.47	1.2
509	0	1.2
510	0	1.2
511	0.58	1.78
512	0	1.78
513	0	1.78
514	0.83	2.61
515	0	2.61
516	0.98	3.6
517	0	3.6
518	1.19	4.79
519	0	4.79
520	1.42	6.2
521	0	6.2
522	1.89	8.09
523	0	8.09
524	2.18	10.27
525	0	10.27
526	2.77	13.04
527	0	13.04
528	3.2	16.24
529	0	16.24
530	3.9	20.14
531	0	20.14
532	4.4	24.55
533	0	24.55
534	5.21	29.76
535	0	29.76
536	5.9	35.66
537	0	35.66
538	6.77	42.43
539	0	42.43
540	7.55	49.98
541	0	49.98
542	0	49.98
543	7.79	57.77
544	0	57.77
545	8.15	65.92
546	0	65.92
547	0	65.92
548	7.69	73.61
549	0	73.61
550	6.82	80.44
551	0	80.44
552	0	80.44
553	5.65	86.08
554	0	86.08
555	0	86.08
556	4.64	90.73
557	0	90.73
558	3.54	94.26
559	0	94.26
560	0	94.26
561	2.43	96.69
562	0	96.69
563	0	96.69
564	1.51	98.2
565	0	98.2
566	0	98.2
567	0.93	99.14
568	0	99.14
569	0	99.14
570	0.5	99.63
571	0	99.63
572	0	99.63
573	0	99.63
574	0.23	99.86
575	0	99.86
576	0	99.86
577	0	99.86
578	0.12	99.98
579	0	99.98
580	0.02	100

Table N-16. 2013–14 NECAP: Scaled Score Distribution
Writing Grade 8

Scaled Score	*Percentage*	*Cumulative Percentage*
800	0.29	0.29
801	0	0.29
802	0.15	0.44
803	0	0.44
804	0	0.44
805	0	0.44
806	0	0.44
807	0	0.44
808	0.31	0.75
809	0	0.75
810	0	0.75
811	0.43	1.18
812	0	1.18
813	0	1.18
814	0.51	1.69
815	0	1.69
816	0.67	2.36
817	0	2.36
818	0.85	3.22
819	0	3.22
820	1.09	4.31
821	1.43	5.74
822	0	5.74
823	1.68	7.42
824	0	7.42
825	2.09	9.51
826	2.68	12.19
827	0	12.19
828	3.19	15.37
829	0	15.37
830	3.78	19.15
831	0	19.15
832	4.15	23.3
833	5	28.31
834	0	28.31
835	5.67	33.98
836	0	33.98
837	6	39.97
838	0	39.97
839	6.8	46.77
840	6.96	53.73
841	0	53.73
842	7.14	60.87
843	0	60.87
844	7.22	68.09
845	0	68.09
846	6.82	74.91
847	0	74.91
848	6.3	81.21
849	0	81.21
850	5.6	86.81
851	0	86.81
852	4.58	91.39
853	3.51	94.9
854	0	94.9
855	0	94.9
856	2.41	97.31
857	0	97.31
858	0	97.31
859	0	97.31
860	1.44	98.75
861	0	98.75
862	0	98.75
863	0	98.75
864	0.8	99.55
865	0	99.55
866	0	99.55
867	0	99.55
868	0	99.55
869	0.37	99.92
870	0	99.92
871	0	99.92
872	0	99.92
873	0	99.92
874	0	99.92
875	0	99.92
876	0.06	99.98
877	0	99.98
878	0	99.98
879	0	99.98
880	0.02	100

Table N-17. 2013–14 NECAP: Scaled Score Distribution
Writing Grade 11

Scaled Score	*Percentage*	*Cumulative Percentage*
0	0.39	0.39
2	2.05	2.44
3	1.54	3.98
4	8.8	12.78
5	7.02	19.8
6	22.02	41.82
7	13.32	55.14
8	24.51	79.64
9	11.57	91.22
10	7.96	99.18
11	0.67	99.85
12	0.15	100

APPENDIX O—CLASSICAL RELIABILTIES

Table O-1. 2013–14 NECAP: Subgroup Reliabilities
Mathematics

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
3	All Students	42,819	65	40.42	12.89	0.93	3.40
	Male	21,977	65	40.53	13.02	0.93	3.39
	Female	20,831	65	40.31	12.76	0.93	3.41
	Gender Not Reported	11	65	35.36	15.01	0.95	3.51
	Hispanic or Latino	3,699	65	32.92	13.10	0.93	3.45
	American Indian or Alaskan Native	269	65	33.50	13.58	0.94	3.45
	Asian	1,058	65	42.51	13.51	0.94	3.33
	Black or African American	1,683	65	32.04	13.09	0.93	3.47
	Native Hawaiian or Pacific Islander	30	65	36.47	13.84	0.94	3.44
	White (non-Hispanic)	34,820	65	41.65	12.36	0.92	3.39
	Two or More Races (non-Hispanic)	1,128	65	39.40	13.33	0.93	3.41
	No Primary Race/Ethnicity Reported	132	65	39.87	13.74	0.94	3.41
	Currently receiving LEP services	2,309	65	29.67	12.97	0.93	3.46
	Former LEP student - monitoring year 1	113	65	44.58	10.03	0.89	3.29
	Former LEP student - monitoring year 2	18	65	43.78	12.91	0.94	3.28
	LEP: All Other Students	40,379	65	41.02	12.62	0.93	3.39
	Students with an IEP	5,826	65	29.79	13.26	0.93	3.49
	IEP: All Other Students	36,993	65	42.09	12.00	0.92	3.38
	Economically Disadvantaged Students	18,031	65	35.46	12.90	0.93	3.47
	SES: All Other Students	24,788	65	44.03	11.62	0.92	3.33
	Migrant Students	24	65	27.83	10.89	0.90	3.44
	Migrant: All Other Students	42,795	65	40.43	12.89	0.93	3.40
	Students receiving Title 1 Services	11,437	65	34.83	12.91	0.93	3.47
	Title 1: All Other Students	31,382	65	42.46	12.27	0.92	3.37
	Plan 504	340	65	40.53	11.80	0.92	3.41
	Plan 504: All Other Students	42,479	65	40.42	12.90	0.93	3.40
4	All Students	43,456	65	40.09	13.10	0.93	3.46
	Male	22,174	65	39.93	13.23	0.93	3.46
	Female	21,268	65	40.27	12.95	0.93	3.47
	Gender Not Reported	14	65	33.64	18.93	0.97	3.43
	Hispanic or Latino	3,674	65	33.43	13.57	0.93	3.50
	American Indian or Alaskan Native	250	65	33.71	12.90	0.93	3.52
	Asian	1,143	65	42.70	13.81	0.94	3.40
	Black or African American	1,672	65	31.75	13.59	0.93	3.51
	Native Hawaiian or Pacific Islander	55	65	38.80	13.73	0.93	3.58
	White (non-Hispanic)	35,539	65	41.20	12.61	0.93	3.45
	Two or More Races (non-Hispanic)	1,019	65	38.13	13.41	0.93	3.49
	No Primary Race/Ethnicity Reported	104	65	38.69	14.70	0.95	3.41
	Currently receiving LEP services	1,705	65	27.79	13.51	0.93	3.45
	Former LEP student - monitoring year 1	507	65	37.76	12.07	0.91	3.53
	Former LEP student - monitoring year 2	93	65	44.22	11.41	0.91	3.39
	LEP: All Other Students	41,151	65	40.62	12.84	0.93	3.46
	Students with an IEP	6,075	65	27.50	13.12	0.93	3.49
	IEP: All Other Students	37,381	65	42.14	11.89	0.92	3.45

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
4	Economically Disadvantaged Students	18,032	65	34.96	13.03	0.93	3.52
	SES: All Other Students	25,424	65	43.73	11.87	0.92	3.41
	Migrant Students	22	65	28.41	10.52	0.88	3.67
	Migrant: All Other Students	43,434	65	40.10	13.09	0.93	3.46
	Students receivng Title 1 Services	11,178	65	34.77	12.97	0.93	3.52
	Title 1: All Other Students	32,278	65	41.94	12.63	0.93	3.44
	Plan 504	467	65	39.49	12.06	0.92	3.50
	Plan 504: All Other Students	42,989	65	40.10	13.11	0.93	3.46
5	All Students	42,996	66	35.51	13.43	0.92	3.80
	Male	22,154	66	35.32	13.59	0.92	3.78
	Female	20,824	66	35.71	13.25	0.92	3.82
	Gender Not Reported	18	66	32.33	12.80	0.91	3.92
	Hispanic or Latino	3,402	66	28.30	12.97	0.92	3.70
	American Indian or Alaskan Native	227	66	30.91	12.44	0.91	3.81
	Asian	1,072	66	38.88	14.58	0.93	3.81
	Black or African American	1,616	66	27.33	12.94	0.92	3.67
	Native Hawaiian or Pacific Islander	38	66	35.32	14.17	0.93	3.85
	White (non-Hispanic)	35,568	66	36.56	13.09	0.92	3.80
	Two or More Races (non-Hispanic)	958	66	33.71	13.55	0.92	3.80
	No Primary Race/Ethnicity Reported	115	66	33.47	14.41	0.93	3.83
	Currently receiving LEP services	1,364	66	21.74	11.93	0.91	3.55
	Former LEP student - monitoring year 1	358	66	30.20	11.69	0.90	3.74
	Former LEP student - monitoring year 2	387	66	33.92	11.95	0.90	3.77
	LEP: All Other Students	40,887	66	36.03	13.24	0.92	3.80
	Students with an IEP	6,335	66	22.95	11.40	0.90	3.60
	IEP: All Other Students	36,661	66	37.68	12.53	0.91	3.80
	Economically Disadvantaged Students	17,197	66	29.91	12.61	0.91	3.74
	SES: All Other Students	25,799	66	39.24	12.64	0.91	3.79
	Migrant Students	20	66	29.45	14.38	0.93	3.75
	Migrant: All Other Students	42,976	66	35.51	13.43	0.92	3.80
	Students receiving Title 1 Services	10,085	66	29.78	12.74	0.91	3.73
	Title 1: All Other Students	32,911	66	37.27	13.14	0.92	3.80
	Plan 504	551	66	34.00	12.44	0.91	3.81
	Plan 504: All Other Students	42,445	66	35.53	13.44	0.92	3.80
6	All Students	43,408	66	33.48	13.97	0.92	3.84
	Male	22,335	66	33.23	14.09	0.93	3.82
	Female	21,057	66	33.76	13.83	0.92	3.86
	Gender Not Reported	16	66	20.50	9.11	0.86	3.47
	Hispanic or Latino	3,466	66	25.48	13.14	0.92	3.69
	American Indian or Alaskan Native	244	66	27.42	12.73	0.91	3.73
	Asian	1,011	66	37.78	15.02	0.94	3.82
	Black or African American	1,562	66	24.95	12.57	0.91	3.68
	Native Hawaiian or Pacific Islander	52	66	30.60	14.23	0.93	3.76
	White (non-Hispanic)	36,042	66	34.62	13.67	0.92	3.85
	Two or More Races (non-Hispanic)	925	66	31.04	13.81	0.92	3.82
	No Primary Race/Ethnicity Reported	106	66	29.72	13.91	0.92	3.83
	Currently receiving LEP services	1,162	66	17.92	10.44	0.90	3.36
	Former LEP student - monitoring year 1	238	66	27.07	12.08	0.90	3.74

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
6	Former LEP student - monitoring year 2	289	66	27.73	12.55	0.91	3.79
	LEP: All Other Students	41,719	66	33.99	13.81	0.92	3.85
	Students with an IEP	6,630	66	19.73	10.68	0.90	3.45
	IEP: All Other Students	36,778	66	35.96	13.02	0.91	3.86
	Economically Disadvantaged Students	17,402	66	27.47	12.76	0.91	3.75
	SES: All Other Students	26,006	66	37.50	13.29	0.92	3.86
	Migrant Students	15	66	18.27	9.82	0.87	3.55
	Migrant: All Other Students	43,393	66	33.48	13.97	0.92	3.84
	Students receiving Title 1 Services	8,286	66	26.86	12.86	0.92	3.72
	Title 1: All Other Students	35,122	66	35.04	13.76	0.92	3.86
	Plan 504	639	66	31.18	12.99	0.91	3.85
	Plan 504: All Other Students	42,769	66	33.51	13.98	0.92	3.84
7	All Students	43,936	66	30.77	14.39	0.92	3.96
	Male	22,619	66	30.35	14.59	0.93	3.93
	Female	21,301	66	31.23	14.17	0.92	3.97
	Gender Not Reported	16	66	26.88	13.51	0.91	4.06
	Hispanic or Latino	3,409	66	23.55	12.61	0.91	3.75
	American Indian or Alaskan Native	253	66	23.96	13.19	0.92	3.76
	Asian	1,068	66	36.95	16.07	0.94	3.97
	Black or African American	1,647	66	22.32	12.19	0.91	3.72
	Native Hawaiian or Pacific Islander	39	66	31.03	14.18	0.92	4.08
	White (non-Hispanic)	36,474	66	31.75	14.22	0.92	3.97
	Two or More Races (non-Hispanic)	926	66	28.98	15.01	0.93	3.94
	No Primary Race/Ethnicity Reported	120	66	29.31	14.22	0.92	3.96
	Currently receiving LEP services	1,241	66	16.02	10.01	0.89	3.36
	Former LEP student - monitoring year 1	153	66	28.22	12.08	0.90	3.91
	Former LEP student - monitoring year 2	264	66	25.75	12.56	0.91	3.76
	LEP: All Other Students	42,278	66	31.25	14.29	0.92	3.96
	Students with an IEP	6,694	66	16.65	9.71	0.88	3.37
	IEP: All Other Students	37,242	66	33.31	13.61	0.91	3.98
	Economically Disadvantaged Students	17,317	66	24.74	12.62	0.91	3.81
	SES: All Other Students	26,619	66	34.70	14.12	0.92	3.98
	Migrant Students	18	66	15.00	8.27	0.84	3.28
	Migrant: All Other Students	43,918	66	30.78	14.39	0.92	3.96
	Students receiving Title 1 Services	5,691	66	24.04	12.47	0.91	3.77
	Title 1: All Other Students	38,245	66	31.77	14.39	0.92	3.97
	Plan 504	710	66	28.36	12.63	0.91	3.88
	Plan 504: All Other Students	43,226	66	30.81	14.42	0.92	3.96
8	All Students	43,812	66	32.16	15.35	0.93	3.97
	Male	22,762	66	31.57	15.63	0.94	3.94
	Female	21,032	66	32.80	15.01	0.93	3.98
	Gender Not Reported	18	66	25.00	22.07	0.97	3.86
	Hispanic or Latino	3,202	66	24.07	13.23	0.92	3.75
	American Indian or Alaskan Native	235	66	25.11	14.45	0.93	3.81
	Asian	971	66	38.61	16.06	0.94	3.97
	Black or African American	1,600	66	22.93	13.19	0.92	3.71
	Native Hawaiian or Pacific Islander	43	66	29.47	14.30	0.93	3.89
	White (non-Hispanic)	36,844	66	33.18	15.20	0.93	3.97

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
8	Two or More Races (non-Hispanic)	793	66	30.55	15.74	0.94	3.94
	No Primary Race/Ethnicity Reported	124	66	29.69	16.25	0.94	3.97
	Currently receiving LEP services	1,229	66	16.78	10.64	0.90	3.33
	Former LEP student - monitoring year 1	80	66	27.26	12.86	0.91	3.90
	Former LEP student - monitoring year 2	98	66	32.98	13.72	0.92	3.93
	LEP: All Other Students	42,405	66	32.61	15.24	0.93	3.97
	Students with an IEP	6,740	66	16.97	10.26	0.89	3.34
	IEP: All Other Students	37,072	66	34.92	14.48	0.92	3.99
	Economically Disadvantaged Students	16,770	66	25.50	13.58	0.92	3.81
	SES: All Other Students	27,042	66	36.29	14.93	0.93	3.98
	Migrant Students	14	66	20.86	11.87	0.90	3.68
	Migrant: All Other Students	43,798	66	32.16	15.35	0.93	3.97
	Students receiving Title 1 Services	4,396	66	24.17	13.21	0.92	3.74
	Title 1: All Other Students	39,416	66	33.05	15.31	0.93	3.97
	Plan 504	785	66	30.37	13.77	0.92	3.90
	Plan 504: All Other Students	43,027	66	32.19	15.38	0.93	3.97
11	All Students	29,933	64	24.70	14.37	0.93	3.72
	Male	15,180	64	24.94	14.68	0.94	3.72
	Female	14,706	64	24.49	14.04	0.93	3.72
	Gender Not Reported	47	64	12.30	9.15	0.91	2.74
	Hispanic or Latino	2,771	64	17.40	11.18	0.91	3.34
	American Indian or Alaskan Native	125	64	19.34	13.63	0.94	3.45
	Asian	818	64	29.10	16.65	0.95	3.86
	Black or African American	1,262	64	16.10	10.51	0.90	3.25
	Native Hawaiian or Pacific Islander	61	64	21.61	11.55	0.91	3.56
	White (non-Hispanic)	24,231	64	25.94	14.38	0.93	3.76
	Two or More Races (non-Hispanic)	532	64	23.18	13.93	0.93	3.65
	No Primary Race/Ethnicity Reported	133	64	18.74	13.00	0.93	3.38
	Currently receiving LEP services	664	64	10.44	8.04	0.89	2.67
	Former LEP student - monitoring year 1	105	64	16.95	10.30	0.90	3.31
	Former LEP student - monitoring year 2	105	64	16.60	9.75	0.89	3.29
	LEP: All Other Students	29,059	64	25.08	14.33	0.93	3.73
	Students with an IEP	4,241	64	11.98	8.04	0.87	2.86
	IEP: All Other Students	25,692	64	26.80	14.10	0.93	3.80
	Economically Disadvantaged Students	9,192	64	18.59	11.75	0.92	3.41
	SES: All Other Students	20,741	64	27.41	14.59	0.93	3.81
	Migrant Students	3	64				
	Migrant: All Other Students	29,930	64	24.70	14.37	0.93	3.72
	Students receiving Title 1 Services	2,423	64	17.32	11.51	0.92	3.33
	Title 1: All Other Students	27,510	64	25.35	14.41	0.93	3.74
	Plan 504	260	64	24.80	13.10	0.92	3.67
	Plan 504: All Other Students	29,673	64	24.70	14.38	0.93	3.72

Table O-2. 2013–14 NECAP: Subgroup Reliabilities
Reading

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
3	All Students	42,691	52	31.65	10.23	0.89	3.33
	Male	21,902	52	30.56	10.46	0.90	3.34
	Female	20,779	52	32.80	9.86	0.89	3.31
	Gender Not Reported	10	52	28.70	8.64	0.86	3.23
	Hispanic or Latino	3,640	52	26.72	10.36	0.89	3.46
	American Indian or Alaskan Native	268	52	25.63	11.29	0.91	3.39
	Asian	1,040	52	32.89	10.13	0.89	3.36
	Black or African American	1,648	52	26.43	10.26	0.89	3.45
	Native Hawaiian or Pacific Islander	29	52	29.76	11.09	0.91	3.41
	White (non-Hispanic)	34,811	52	32.41	9.97	0.89	3.29
	Two or More Races (non-Hispanic)	1,128	52	31.68	10.25	0.89	3.33
	No Primary Race/Ethnicity Reported	127	52	32.43	10.68	0.91	3.29
	Currently receiving LEP services	2,180	52	23.27	9.85	0.88	3.45
	Former LEP student - monitoring year 1	113	52	36.42	6.04	0.71	3.25
	Former LEP student - monitoring year 2	18	52	34.00	9.85	0.89	3.31
	LEP: All Other Students	40,380	52	32.08	10.06	0.89	3.31
	Students with an IEP	5,815	52	21.46	10.32	0.89	3.41
	IEP: All Other Students	36,876	52	33.25	9.24	0.87	3.29
	Economically Disadvantaged Students	17,953	52	27.75	10.37	0.89	3.43
	SES: All Other Students	24,738	52	34.47	9.14	0.88	3.21
	Migrant Students	24	52	19.04	8.77	0.85	3.36
	Migrant: All Other Students	42,667	52	31.65	10.23	0.89	3.33
	Students receiving Title 1 Services	11,685	52	27.36	10.26	0.89	3.44
	Title 1: All Other Students	31,006	52	33.26	9.74	0.89	3.26
	Plan 504	340	52	31.28	9.55	0.88	3.32
	Plan 504: All Other Students	42,351	52	31.65	10.24	0.89	3.33
4	All Students	43,324	52	33.02	8.67	0.88	3.02
	Male	22,116	52	31.80	8.84	0.88	3.02
	Female	21,194	52	34.31	8.30	0.87	2.99
	Gender Not Reported	14	52	30.43	13.85	0.94	3.47
	Hispanic or Latino	3,608	52	29.72	9.26	0.88	3.16
	American Indian or Alaskan Native	251	52	28.58	9.60	0.89	3.12
	Asian	1,120	52	34.81	8.97	0.89	2.98
	Black or African American	1,650	52	29.12	9.53	0.89	3.18
	Native Hawaiian or Pacific Islander	54	52	34.74	6.76	0.80	3.03
	White (non-Hispanic)	35,520	52	33.53	8.42	0.87	2.99
	Two or More Races (non-Hispanic)	1,020	52	32.37	8.62	0.87	3.06
	No Primary Race/Ethnicity Reported	101	52	33.87	9.59	0.90	2.99
	Currently receiving LEP services	1,577	52	24.74	9.43	0.88	3.28
	Former LEP student - monitoring year 1	508	52	32.17	7.41	0.82	3.13
	Former LEP student - monitoring year 2	94	52	36.13	7.39	0.84	2.94
	LEP: All Other Students	41,145	52	33.34	8.50	0.88	3.00
	Students with an IEP	6,071	52	23.21	9.01	0.87	3.22
	IEP: All Other Students	37,253	52	34.62	7.48	0.84	2.95
	Economically Disadvantaged Students	17,951	52	29.81	8.97	0.88	3.14
	SES: All Other Students	25,373	52	35.30	7.69	0.86	2.91

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
4	Migrant Students	22	52	24.59	9.31	0.89	3.15
	Migrant: All Other Students	43,302	52	33.03	8.67	0.88	3.02
	Students receiving Title 1 Services	11,336	52	29.83	8.80	0.87	3.13
	Title 1: All Other Students	31,988	52	34.16	8.34	0.87	2.97
	Plan 504	468	52	32.41	7.45	0.84	3.02
	Plan 504: All Other Students	42,856	52	33.03	8.69	0.88	3.02
5	All Students	42,879	52	30.97	8.61	0.89	2.90
	Male	22,085	52	29.21	8.58	0.89	2.87
	Female	20,776	52	32.84	8.25	0.88	2.89
	Gender Not Reported	18	52	28.67	8.39	0.87	3.00
	Hispanic or Latino	3,340	52	27.26	9.43	0.89	3.07
	American Indian or Alaskan Native	227	52	27.57	8.91	0.88	3.06
	Asian	1,055	52	32.31	9.31	0.90	2.97
	Black or African American	1,597	52	27.16	9.59	0.90	3.10
	Native Hawaiian or Pacific Islander	38	52	32.50	8.86	0.89	2.91
	White (non-Hispanic)	35,556	52	31.49	8.31	0.88	2.87
	Two or More Races (non-Hispanic)	954	52	30.39	8.90	0.89	2.94
	No Primary Race/Ethnicity Reported	112	52	30.28	9.07	0.90	2.84
	Currently receiving LEP services	1,256	52	21.02	9.31	0.88	3.19
	Former LEP student - monitoring year 1	358	52	28.83	7.19	0.81	3.13
	Former LEP student - monitoring year 2	387	52	30.46	6.96	0.82	2.99
	LEP: All Other Students	40,878	52	31.30	8.43	0.88	2.89
	Students with an IEP	6,333	52	21.04	8.64	0.87	3.07
	IEP: All Other Students	36,546	52	32.69	7.35	0.85	2.84
	Economically Disadvantaged Students	17,121	52	27.74	8.97	0.89	3.01
	SES: All Other Students	25,758	52	33.12	7.65	0.86	2.81
	Migrant Students	20	52	24.25	8.34	0.88	2.95
	Migrant: All Other Students	42,859	52	30.97	8.61	0.89	2.90
	Students receivng Title 1 Services	10,182	52	27.85	8.84	0.88	3.04
	Title 1: All Other Students	32,697	52	31.94	8.31	0.88	2.85
	Plan 504	550	52	30.04	7.34	0.84	2.89
	Plan 504: All Other Students	42,329	52	30.98	8.63	0.89	2.90
6	All Students	43,300	52	31.43	8.12	0.88	2.85
	Male	22,282	52	29.75	8.08	0.88	2.81
	Female	21,002	52	33.21	7.77	0.87	2.85
	Gender Not Reported	16	52	24.06	9.67	0.91	2.90
	Hispanic or Latino	3,395	52	27.51	9.03	0.89	2.96
	American Indian or Alaskan Native	245	52	27.90	7.54	0.85	2.96
	Asian	990	52	33.13	8.57	0.89	2.87
	Black or African American	1,538	52	27.97	8.85	0.88	3.01
	Native Hawaiian or Pacific Islander	50	52	31.94	7.57	0.84	2.98
	White (non-Hispanic)	36,052	52	31.95	7.82	0.87	2.83
	Two or More Races (non-Hispanic)	926	52	30.49	8.29	0.88	2.91
	No Primary Race/Ethnicity Reported	104	52	29.83	9.12	0.90	2.87
	Currently receiving LEP services	1,032	52	21.09	9.01	0.88	3.07
	Former LEP student - monitoring year 1	238	52	28.26	7.78	0.84	3.07
	Former LEP student - monitoring year 2	290	52	29.86	6.96	0.82	2.94
	LEP: All Other Students	41,740	52	31.72	7.93	0.87	2.84

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
6	Students with an IEP	6,633	52	22.17	8.24	0.87	2.95
	IEP: All Other Students	36,667	52	33.11	6.87	0.83	2.80
	Economically Disadvantaged Students	17,342	52	28.33	8.37	0.88	2.93
	SES: All Other Students	25,958	52	33.50	7.24	0.85	2.78
	Migrant Students	15	52	22.07	9.90	0.90	3.10
	Migrant: All Other Students	43,285	52	31.43	8.11	0.88	2.85
	Students receiving Title 1 Services	8,365	52	28.03	8.35	0.87	2.96
	Title 1: All Other Students	34,935	52	32.25	7.84	0.87	2.82
	Plan 504	643	52	30.35	7.07	0.84	2.85
	Plan 504: All Other Students	42,657	52	31.45	8.13	0.88	2.85
7	All Students	43,822	52	29.99	9.09	0.89	3.03
	Male	22,565	52	28.66	9.01	0.90	2.92
	Female	21,240	52	31.41	8.95	0.88	3.07
	Gender Not Reported	17	52	23.71	13.23	0.96	2.67
	Hispanic or Latino	3,340	52	25.34	9.37	0.89	3.14
	American Indian or Alaskan Native	253	52	24.70	10.03	0.91	3.06
	Asian	1,052	52	32.21	9.40	0.90	3.04
	Black or African American	1,609	52	24.98	9.21	0.88	3.15
	Native Hawaiian or Pacific Islander	38	52	30.26	8.88	0.88	3.03
	White (non-Hispanic)	36,485	52	30.64	8.82	0.88	3.00
	Two or More Races (non-Hispanic)	924	52	29.15	9.46	0.90	3.06
	No Primary Race/Ethnicity Reported	121	52	28.94	9.20	0.91	2.83
	Currently receiving LEP services	1,109	52	18.57	8.16	0.85	3.15
	Former LEP student - monitoring year 1	151	52	28.93	7.21	0.81	3.11
	Former LEP student - monitoring year 2	264	52	25.82	7.79	0.84	3.14
	LEP: All Other Students	42,298	52	30.32	8.93	0.89	3.02
	Students with an IEP	6,705	52	19.85	8.18	0.87	2.99
	IEP: All Other Students	37,117	52	31.83	7.97	0.86	2.99
	Economically Disadvantaged Students	17,256	52	26.28	9.07	0.88	3.08
	SES: All Other Students	26,566	52	32.41	8.26	0.87	2.96
	Migrant Students	17	52	17.35	8.34	0.86	3.13
	Migrant: All Other Students	43,805	52	30.00	9.09	0.89	3.03
	Students receiving Title 1 Services	5,667	52	25.64	8.97	0.88	3.12
	Title 1: All Other Students	38,155	52	30.64	8.93	0.89	3.01
	Plan 504	711	52	28.84	7.76	0.85	3.00
	Plan 504: All Other Students	43,111	52	30.01	9.11	0.89	3.03
8	All Students	43,733	52	30.01	8.73	0.87	3.13
	Male	22,715	52	28.35	8.67	0.88	3.03
	Female	20,998	52	31.82	8.41	0.86	3.15
	Gender Not Reported	20	52	21.30	12.88	0.95	2.94
	Hispanic or Latino	3,145	52	25.70	8.72	0.87	3.17
	American Indian or Alaskan Native	235	52	26.95	8.61	0.87	3.11
	Asian	956	52	32.16	9.03	0.88	3.16
	Black or African American	1,575	52	26.06	8.89	0.87	3.21
	Native Hawaiian or Pacific Islander	41	52	27.88	7.27	0.83	2.98
	White (non-Hispanic)	36,865	52	30.53	8.54	0.87	3.11
	Two or More Races (non-Hispanic)	793	52	29.45	9.08	0.88	3.16
	No Primary Race/Ethnicity Reported	123	52	27.51	10.38	0.91	3.09

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
8	Currently receiving LEP services	1,123	52	20.06	8.11	0.85	3.16
	Former LEP student - monitoring year 1	80	52	28.34	6.43	0.76	3.16
	Former LEP student - monitoring year 2	98	52	30.87	6.25	0.73	3.22
	LEP: All Other Students	42,432	52	30.28	8.59	0.87	3.12
	Students with an IEP	6,753	52	20.37	7.57	0.84	3.00
	IEP: All Other Students	36,980	52	31.77	7.71	0.84	3.09
	Economically Disadvantaged Students	16,715	52	26.55	8.56	0.87	3.14
	SES: All Other Students	27,018	52	32.15	8.12	0.86	3.09
	Migrant Students	13	52	22.08	13.48	0.95	3.08
	Migrant: All Other Students	43,720	52	30.01	8.72	0.87	3.13
	Students receiving Title 1 Services	4,419	52	26.00	8.69	0.87	3.17
	Title 1: All Other Students	39,314	52	30.46	8.61	0.87	3.12
	Plan 504	786	52	28.91	7.31	0.83	3.06
	Plan 504: All Other Students	42,947	52	30.03	8.75	0.87	3.13
11	All Students	29,817	52	32.71	8.87	0.89	3.01
	Male	15,115	52	31.32	8.88	0.89	2.94
	Female	14,660	52	34.17	8.60	0.88	3.00
	Gender Not Reported	42	52	22.60	9.27	0.89	3.05
	Hispanic or Latino	2,720	52	29.08	8.98	0.88	3.14
	American Indian or Alaskan Native	125	52	29.45	9.77	0.89	3.25
	Asian	805	52	32.86	9.98	0.91	3.06
	Black or African American	1,243	52	28.69	9.13	0.88	3.18
	Native Hawaiian or Pacific Islander	62	52	32.08	7.33	0.84	2.93
	White (non-Hispanic)	24,213	52	33.36	8.64	0.88	2.97
	Two or More Races (non-Hispanic)	528	52	32.78	8.45	0.87	2.99
	No Primary Race/Ethnicity Reported	121	52	28.02	9.56	0.90	2.97
	Currently receiving LEP services	611	52	18.94	7.32	0.81	3.21
	Former LEP student - monitoring year 1	106	52	26.35	7.42	0.81	3.19
	Former LEP student - monitoring year 2	105	52	27.31	6.88	0.80	3.10
	LEP: All Other Students	28,995	52	33.04	8.66	0.88	2.99
	Students with an IEP	4,240	52	23.15	8.64	0.88	3.04
	IEP: All Other Students	25,577	52	34.29	7.85	0.86	2.94
	Economically Disadvantaged Students	9,148	52	29.30	9.08	0.88	3.10
	SES: All Other Students	20,669	52	34.21	8.34	0.88	2.94
	Migrant Students	3	52				
	Migrant: All Other Students	29,814	52	32.71	8.87	0.89	3.01
	Students receiving Title 1 Services	2,326	52	29.20	8.91	0.87	3.15
	Title 1: All Other Students	27,491	52	33.00	8.80	0.88	2.99
	Plan 504	255	52	35.04	7.04	0.83	2.88
	Plan 504: All Other Students	29,562	52	32.69	8.88	0.89	3.01

Table O-3. 2013–14 NECAP: Subgroup Reliabilities
Writing

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
5	All Students	42,795	34	18.86	5.45	0.70	2.97
	Male	22,032	34	17.41	5.34	0.70	2.92
	Female	20,745	34	20.40	5.14	0.68	2.91
	Gender Not Reported	18	34	16.89	5.29	0.66	3.10
	Hispanic or Latino	3,332	34	17.48	5.84	0.72	3.07
	American Indian or Alaskan Native	227	34	17.02	5.68	0.68	3.19
	Asian	1,052	34	20.48	5.54	0.71	2.97
	Black or African American	1,593	34	17.45	5.79	0.71	3.11
	Native Hawaiian or Pacific Islander	38	34	19.79	5.67	0.67	3.25
	White (non-Hispanic)	35,492	34	19.02	5.36	0.70	2.95
	Two or More Races (non-Hispanic)	951	34	18.66	5.45	0.68	3.08
	No Primary Race/Ethnicity Reported	110	34	18.21	5.73	0.73	3.00
	Currently receiving LEP services	1,250	34	13.91	6.07	0.70	3.35
	Former LEP student - monitoring year 1	358	34	18.66	4.46	0.62	2.73
	Former LEP student - monitoring year 2	387	34	19.19	4.24	0.57	2.77
	LEP: All Other Students	40,800	34	19.01	5.38	0.70	2.95
	Students with an IEP	6,304	34	12.81	5.23	0.66	3.06
	IEP: All Other Students	36,491	34	19.90	4.77	0.65	2.82
	Economically Disadvantaged Students	17,067	34	17.01	5.56	0.70	3.06
	SES: All Other Students	25,728	34	20.08	5.02	0.68	2.85
	Migrant Students	20	34	15.35	4.22	0.50	2.99
	Migrant: All Other Students	42,775	34	18.86	5.45	0.70	2.97
	Students receiving Title 1 Services	10,163	34	17.31	5.44	0.69	3.02
	Title 1: All Other Students	32,632	34	19.34	5.37	0.70	2.95
	Plan 504	550	34	17.59	5.14	0.66	3.01
	Plan 504: All Other Students	42,245	34	18.88	5.46	0.70	2.97
8	All Students	43,568	34	20.36	5.65	0.77	2.68
	Male	22,624	34	18.83	5.71	0.77	2.71
	Female	20,926	34	22.02	5.08	0.75	2.54
	Gender Not Reported	18	34	14.67	9.73	0.86	3.66
	Hispanic or Latino	3,130	34	18.12	5.70	0.76	2.77
	American Indian or Alaskan Native	232	34	18.22	5.80	0.76	2.83
	Asian	959	34	22.12	5.85	0.79	2.71
	Black or African American	1,569	34	18.14	5.75	0.77	2.79
	Native Hawaiian or Pacific Islander	41	34	19.37	5.70	0.72	3.00
	White (non-Hispanic)	36,729	34	20.63	5.55	0.77	2.66
	Two or More Races (non-Hispanic)	790	34	19.94	5.95	0.78	2.77
	No Primary Race/Ethnicity Reported	118	34	18.82	6.40	0.81	2.82
	Currently receiving LEP services	1,123	34	14.38	5.64	0.72	3.01
	Former LEP student - monitoring year 1	79	34	20.34	3.99	0.63	2.43
	Former LEP student - monitoring year 2	98	34	21.37	4.00	0.66	2.34
	LEP: All Other Students	42,268	34	20.52	5.57	0.77	2.66
	Students with an IEP	6,684	34	14.01	5.15	0.71	2.78
	IEP: All Other Students	36,884	34	21.51	4.93	0.74	2.53
	Economically Disadvantaged Students	16,637	34	18.19	5.66	0.76	2.76
	SES: All Other Students	26,931	34	21.71	5.20	0.76	2.57

continued

Grade	Description	Number of Students	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
8	Migrant Students	14	34	16.21	7.94	0.80	3.52
	Migrant: All Other Students	43,554	34	20.37	5.65	0.77	2.68
	Students receiving Title 1 Services	4,396	34	18.03	5.62	0.75	2.79
	Title 1: All Other Students	39,172	34	20.63	5.59	0.77	2.66
	Plan 504	781	34	19.19	4.99	0.71	2.67
	Plan 504: All Other Students	42,787	34	20.39	5.66	0.78	2.68
11	All Students	29,731	12	6.93	1.95		
	Male	15,070	12	6.56	2.01		
	Female	14,623	12	7.33	1.81		
	Gender Not Reported	38	12	4.55	2.00		
	Hispanic or Latino	2,702	12	6.47	1.89		
	American Indian or Alaskan Native	123	12	6.46	2.08		
	Asian	802	12	7.29	1.96		
	Black or African American	1,227	12	6.38	1.90		
	Native Hawaiian or Pacific Islander	62	12	6.89	1.73		
	White (non-Hispanic)	24,168	12	7.01	1.94		
	Two or More Races (non-Hispanic)	528	12	6.99	2.02		
	No Primary Race/Ethnicity Reported	119	12	5.83	2.14		
	Currently receiving LEP services	595	12	4.91	1.84		
	Former LEP student - monitoring year 1	106	12	6.43	1.37		
	Former LEP student - monitoring year 2	105	12	6.64	1.75		
	LEP: All Other Students	28,925	12	6.98	1.93		
	Students with an IEP	4,208	12	5.07	1.90		
	IEP: All Other Students	25,523	12	7.24	1.78		
	Economically Disadvantaged Students	9,119	12	6.33	1.95		
	SES: All Other Students	20,612	12	7.20	1.89		
	Migrant Students	3	12				
	Migrant: All Other Students	29,728	12	6.93	1.95		
	Students receiving Title 1 Services	2,309	12	6.60	1.90		
	Title 1: All Other Students	27,422	12	6.96	1.95		
	Plan 504	256	12	7.35	1.58		
	Plan 504: All Other Students	29,475	12	6.93	1.95		

Table O-4. 2013–14 NECAP Reliabilities by Reporting Category—Mathematics

Grade	Reporting Category	Number of Items	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
3	DP	9	10	6.54	2.54	0.77	1.23
	FA	8	10	5.96	2.39	0.64	1.44
	GM	8	10	5.74	2.16	0.56	1.43
	NO	30	35	22.19	7.15	0.88	2.43
4	DP	8	10	4.78	2.51	0.69	1.40
	FA	9	10	6.31	2.46	0.68	1.39
	GM	11	13	8.13	2.92	0.70	1.60
	NO	27	32	20.87	6.58	0.87	2.34

continued

Grade	Reporting Category	Number of Items	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
5	DP	6	10	5.05	2.42	0.58	1.58
	FA	11	13	7.82	2.97	0.71	1.60
	GM	9	13	6.48	2.89	0.65	1.71
	NO	22	30	16.16	6.71	0.86	2.54
6	DP	6	10	4.26	2.50	0.58	1.62
	FA	8	13	7.15	3.22	0.68	1.84
	GM	13	17	7.87	3.59	0.72	1.90
	NO	21	26	14.20	6.14	0.86	2.28
7	DP	6	10	3.60	2.58	0.65	1.54
	FA	15	20	9.99	4.90	0.80	2.19
	GM	12	16	6.84	3.77	0.73	1.97
	NO	15	20	10.34	4.61	0.78	2.15
8	DP	6	10	4.68	2.54	0.60	1.60
	FA	20	26	14.37	6.39	0.86	2.35
	GM	13	17	6.94	4.23	0.75	2.10
	NO	9	13	6.17	3.64	0.76	1.79
11	DP	6	10	4.40	2.42	0.67	1.39
	FA	20	25	10.27	5.74	0.83	2.39
	GM	14	19	6.14	4.53	0.82	1.91
	NO	6	10	3.89	2.95	0.71	1.58

Table O-5. 2013–14 NECAP Reliabilities by Reporting Category—Reading

Grade	Reporting Category	Number of Items	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
3	LA	8	11	5.93	2.23	0.60	1.42
	LI	12	21	11.46	4.88	0.79	2.21
	TI	10	16	8.02	3.26	0.73	1.69
	TL	10	16	9.37	3.85	0.72	2.03
	WV	14	20	14.25	4.13	0.76	2.02
4	LA	8	14	7.57	2.68	0.71	1.46
	LI	14	20	11.96	3.73	0.73	1.95
	TI	12	18	10.03	3.49	0.70	1.90
	TL	10	16	9.50	2.95	0.73	1.53
	WV	12	18	13.49	3.38	0.73	1.75
5	LA	10	22	10.89	3.91	0.75	1.97
	LI	14	20	12.38	3.69	0.78	1.73
	TI	12	21	11.27	3.63	0.71	1.96
	TL	12	21	12.00	3.92	0.80	1.77
	WV	10	10	7.70	2.01	0.67	1.15
6	LA	12	21	11.59	3.53	0.73	1.85
	LI	12	21	11.79	3.57	0.73	1.85
	TI	12	21	11.64	3.63	0.73	1.88
	TL	12	21	11.74	3.55	0.74	1.81
	WV	10	10	8.05	1.94	0.68	1.10

continued

Grade	Reporting Category	Number of Items	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
7	LA	14	23	12.36	4.33	0.77	2.08
	LI	10	19	10.03	3.49	0.73	1.82
	TI	12	21	11.29	4.02	0.75	2.01
	TL	12	21	11.10	3.91	0.77	1.88
	WV	10	10	7.60	2.23	0.72	1.19
8	LA	11	20	10.16	3.50	0.67	1.99
	LI	13	22	13.06	4.01	0.75	2.01
	TI	12	21	10.77	3.79	0.71	2.04
	TL	12	21	12.45	3.77	0.73	1.95
	WV	10	10	6.79	2.23	0.66	1.31
11	LA	16	25	15.43	4.50	0.77	2.17
	LI	8	17	10.08	3.08	0.71	1.65
	TI	12	21	12.50	3.92	0.76	1.91
	TL	12	21	13.01	3.72	0.73	1.94
	WV	10	10	7.20	2.21	0.69	1.22

Table O-6. 2013–14 NECAP Reliabilities by Reporting Category—Writing

Grade	Reporting Category	Number of Items	Raw Score			Alpha	Standard Error
			Maximum	Mean	Standard Deviation		
5	ER	1	12	5.85	2.52		
	MC	10	10	7.45	2.12	0.68	1.20
	SR	3	12	5.56	2.11	0.75	1.05
8	ER	1	12	6.03	2.10		
	MC	10	10	6.94	2.22	0.66	1.29
	SR	3	12	7.40	2.38	0.82	1.00
11	IR	1	12	6.93	1.95		

APPENDIX P—INTERRATER AGREEMENT

Table P-1. 2013–14 Item-Level Interrater Agreement Statistics—Mathematics

Grade	Item	Number of		Percent		Correlation	Percent of Third Scores
		Score Categories	Responses Scored Twice	Exact	Adjacent		
3	119760	2	863	98.73	1.27	0.97	0.00
	119775	2	849	98.47	1.53	0.96	0.00
	119829	2	841	98.22	1.78	0.88	0.00
	119873	2	845	88.05	11.95	0.75	0.00
	119905	2	870	98.28	1.72	0.94	0.00
	119907	3	845	91.72	8.05	0.94	0.24
	119918	3	845	97.28	2.37	0.98	0.36
	139603	3	852	93.43	6.46	0.94	0.12
	139647	2	860	98.95	1.05	0.98	0.00
	139673	3	849	96.58	3.42	0.96	0.00
	144611	2	849	95.52	4.48	0.90	0.00
	144617	2	854	98.13	1.87	0.93	0.00
	145259	3	855	95.91	4.09	0.97	0.00
	145503	3	853	88.75	10.32	0.91	0.94
	145532	3	860	92.56	7.44	0.90	0.00
	145691	3	840	93.10	6.79	0.94	0.12
	168412	3	845	89.47	10.30	0.88	0.24
	168613	3	853	95.55	4.34	0.96	0.12
	252028	2	864	98.84	1.16	0.98	0.00
	252091	2	843	95.02	4.98	0.84	0.00
4	120197	2	863	98.61	1.39	0.97	0.00
	120240	2	867	99.31	0.69	0.99	0.00
	120280	2	864	99.31	0.69	0.98	0.00
	124545	3	872	95.30	4.01	0.94	0.69
	124700	3	872	98.17	1.83	0.97	0.00
	139449	2	868	99.42	0.58	0.99	0.00
	139482	3	867	99.08	0.92	0.99	0.00
	144645	3	867	94.23	5.31	0.96	0.46
	145073	2	865	98.73	1.27	0.96	0.00
	145545	2	866	98.85	1.15	0.96	0.00
	145814	2	877	99.43	0.57	0.99	0.00
	168410	2	866	99.42	0.58	0.99	0.00
	168419	3	868	96.66	3.34	0.97	0.00
	169113	3	850	95.41	4.59	0.96	0.00
	201350	3	878	93.85	6.04	0.95	0.11
	201423	3	860	93.95	5.23	0.94	0.81
	252013	2	844	97.87	2.13	0.95	0.00
	252019	2	874	98.97	1.03	0.97	0.00
	252048	3	869	93.33	6.44	0.92	0.23
	252060	3	867	97.46	2.54	0.98	0.00
5	120822	2	869	97.24	2.76	0.93	0.00
	121647	3	859	89.29	10.48	0.91	0.23
	124895	2	866	98.15	1.85	0.94	0.00
	124951	3	846	88.89	10.87	0.93	0.24
	139136	2	861	98.61	1.39	0.97	0.00

continued

Grade	Item	Number of		Percent		Correlation	Percent of Third Scores
		Score Categories	Responses Scored Twice	Exact	Adjacent		
5	139346	2	841	96.67	3.33	0.93	0.00
	139429	5	899	84.20	14.46	0.93	1.33
	145297	2	865	98.61	1.39	0.94	0.00
	145576	5	882	80.95	15.42	0.92	3.63
	145888	3	870	90.69	8.85	0.93	0.46
	167778	5	915	82.08	16.72	0.92	1.20
	204848	3	844	95.50	4.15	0.94	0.36
	206553	3	858	91.38	8.51	0.93	0.12
	217424	3	840	89.05	10.83	0.90	0.12
	252619	2	862	99.30	0.70	0.98	0.00
	252627	5	878	92.26	6.72	0.96	1.03
6	119200	2	868	98.62	1.38	0.97	0.00
	119267	3	860	92.44	7.33	0.94	0.23
	119339	3	899	78.20	21.36	0.80	0.44
	122089	5	901	76.36	21.31	0.92	2.55
	124994	2	880	97.73	2.27	0.95	0.00
	125150	5	872	78.56	20.30	0.87	1.15
	139380	3	879	77.82	20.14	0.69	2.05
	145627	2	887	97.97	2.03	0.94	0.00
	145629	2	868	97.70	2.30	0.94	0.00
	145995	2	871	96.79	3.21	0.94	0.00
	167819	3	867	83.97	15.34	0.88	0.69
	202561	3	862	87.01	11.48	0.90	1.51
	202701	3	876	91.67	8.22	0.92	0.11
	252321	2	875	97.60	2.40	0.95	0.00
	252364	5	876	87.44	8.68	0.91	3.88
	252400	5	903	85.38	13.07	0.95	1.55
7	119398	3	851	98.47	1.41	0.98	0.12
	120336	3	876	93.95	5.94	0.95	0.11
	139980	3	870	93.91	5.75	0.94	0.34
	140223	5	882	84.58	13.61	0.94	1.81
	145365	2	887	97.86	2.14	0.96	0.00
	146128	3	863	88.64	10.78	0.88	0.58
	146965	2	879	99.66	0.34	0.99	0.00
	169225	2	890	96.85	3.15	0.93	0.00
	169401	2	878	97.95	2.05	0.95	0.00
	177604	5	883	71.91	23.56	0.91	4.42
	177608	3	868	95.39	4.38	0.93	0.23
	204397	5	899	76.08	19.91	0.91	3.78
	204705	5	888	86.15	13.18	0.95	0.68
	205005	2	875	98.06	1.94	0.96	0.00
	252147	2	869	98.62	1.38	0.97	0.00
	252263	3	882	95.01	4.42	0.95	0.57
8	120890	3	864	88.19	10.65	0.89	1.16
	120933	2	875	97.83	2.17	0.94	0.00
	120936	3	854	95.90	3.98	0.97	0.12
	120959	3	848	93.75	6.13	0.95	0.12
	121083	2	885	96.16	3.84	0.92	0.00

continued

Grade	Item	Number of		Percent		Correlation	Percent of Third Scores
		Score Categories	Responses Scored Twice	Exact	Adjacent		
8	122583	3	869	93.44	6.44	0.84	0.12
	139813	3	848	93.99	5.78	0.94	0.24
	144763	5	863	85.40	12.28	0.95	2.32
	145390	2	865	99.42	0.58	0.99	0.00
	169228	5	905	84.53	11.71	0.93	3.54
	169266	2	874	99.08	0.92	0.98	0.00
	169286	5	850	87.18	11.88	0.96	0.94
	205123	2	855	93.57	6.43	0.84	0.00
	252292	2	865	98.27	1.73	0.96	0.00
	252432	3	864	98.73	1.04	0.99	0.23
	252540	5	870	88.39	9.66	0.95	1.95
11	119479	3	561	93.94	5.53	0.93	0.53
	119498	2	566	98.76	1.24	0.97	0.00
	119582	2	566	98.76	1.24	0.97	0.00
	140189	2	535	96.45	3.55	0.91	0.00
	141291	5	572	89.51	9.09	0.96	1.40
	145212	2	588	98.30	1.70	0.97	0.00
	169705	2	571	98.07	1.93	0.96	0.00
	169794	3	563	97.87	1.95	0.97	0.18
	169800	5	577	89.77	9.88	0.95	0.35
	178054	2	563	99.47	0.53	0.98	0.00
	205813	3	540	95.37	4.63	0.94	0.00
	205844	2	561	96.26	3.74	0.93	0.00
	205985	2	576	98.96	1.04	0.98	0.00
	206086	2	572	98.60	1.40	0.97	0.00
	206318	2	575	99.13	0.87	0.98	0.00
	210417	2	588	98.30	1.70	0.97	0.00
	252431	3	534	95.13	4.87	0.96	0.00
	252442	3	545	88.62	10.64	0.89	0.73
	252464	5	548	83.39	14.42	0.92	2.19
	252506	5	580	88.45	10.52	0.96	1.03
	252699	2	601	80.70	19.30	0.58	0.00
	252712	3	570	94.39	5.61	0.93	0.00

Table P-2. 2013–14 Item-Level Interrater Agreement Statistics—Reading

Grade	Item	Number of		Percent		Correlation	Percent of Third Scores
		Score Categories	Responses Scored Twice	Exact	Adjacent		
3	117650	5	850	91.29	6.82	0.96	1.88
	117669	5	876	66.10	32.19	0.82	1.71
	117705	5	847	98.47	1.30	0.98	0.24
	117706	5	856	90.30	9.11	0.98	0.58
	117745	5	901	75.92	22.64	0.82	1.44
	252074	5	848	72.29	26.77	0.80	0.83
4	171519	5	939	68.16	29.82	0.78	2.02
	208272	5	875	98.63	1.37	0.99	0.00

continued

Grade	Item	Number of		Percent		Correlation	Percent of Third Scores
		Score Categories	Responses Scored Twice	Exact	Adjacent		
4	208276	5	881	64.36	34.39	0.77	1.14
	208498	5	877	59.52	36.83	0.69	3.65
	208807	5	871	98.85	1.15	0.99	0.00
	208827	5	862	68.56	29.23	0.86	1.86
5	148680	5	865	67.05	30.98	0.77	1.97
	148698	5	893	71.44	27.77	0.78	0.78
	171371	5	856	65.19	33.18	0.78	1.29
	171930	5	850	66.00	31.41	0.76	2.12
	171934	5	857	65.69	32.44	0.79	1.63
	209679	5	875	61.94	29.71	0.63	7.20
6	171823	5	916	67.25	31.33	0.75	1.31
	171889	5	870	66.55	33.22	0.75	0.23
	171893	5	908	68.83	30.07	0.82	1.10
	209093	5	877	59.86	37.29	0.74	2.85
	209094	5	864	67.13	31.13	0.74	1.74
	252669	5	881	72.30	26.67	0.85	0.91
7	147149	5	882	56.58	40.14	0.71	3.17
	147153	5	868	65.32	32.72	0.80	1.96
	207827	5	882	62.24	34.92	0.77	2.72
	252533	5	863	61.65	34.65	0.71	3.24
	252686	5	865	64.51	31.79	0.72	3.24
	252725	5	870	58.51	35.29	0.73	5.52
8	207600	5	873	56.13	36.88	0.72	5.84
	252857	5	927	62.89	34.30	0.75	2.70
	252878	5	893	65.73	32.25	0.75	2.02
	252970	5	893	63.27	33.82	0.78	2.80
	253046	5	948	64.56	33.23	0.83	2.11
	253087	5	875	69.37	28.00	0.83	2.40
11	208474	5	591	69.54	29.10	0.78	1.35
	208476	5	567	63.84	33.86	0.77	1.76
	252794	5	661	59.46	33.59	0.68	9.23
	252801	5	600	58.50	36.50	0.75	4.67
	252964	5	583	62.78	33.62	0.78	3.09
	253021	5	585	66.15	32.82	0.79	1.03

Table P-3. 2013–14 Item-Level Interrater Agreement Statistics by Grade—Writing

Grade	Item	Number of		Percent		Correlation	Percent of Third Scores
		Score Categories	Responses Scored Twice	Exact	Adjacent		
5	150136	5	863	57.01	38.12	0.59	4.87
	150140	5	846	60.99	35.34	0.63	3.66
	150209	7	40,117	56.14	35.66	0.68	7.07
	150239	5	885	69.27	29.15	0.73	1.58
8	150441	7	41,977	54.39	40.49	0.73	4.92
	150771	5	880	65.34	33.86	0.76	0.80
	150810	5	865	66.01	32.72	0.74	1.27
	150834	5	859	59.37	38.30	0.74	2.33
11	248813	7	27,683	60.81	36.78	0.77	1.99

APPENDIX Q—DECISION ACCURACY AND CONSISTENCY RESULTS

Table Q-1. 2013–14 NECAP: Summary of Decision Accuracy (and Consistency) Results by Content Area and Grade—Overall and Conditional on Performance Level

Content Area	*Grade*	*Overall*	*Kappa*	*Conditional on Level*			
				Substantially Below Proficient	*Partially Proficient*	*Proficient*	*Proficient with Distinction*
Mathematics	3	0.81 (0.73)	0.62	0.86 (0.80)	0.71 (0.62)	0.81 (0.75)	0.87 (0.76)
	4	0.81 (0.74)	0.63	0.84 (0.77)	0.68 (0.58)	0.82 (0.77)	0.89 (0.80)
	5	0.80 (0.73)	0.6	0.83 (0.76)	0.60 (0.49)	0.84 (0.80)	0.88 (0.76)
	6	0.79 (0.72)	0.61	0.82 (0.76)	0.59 (0.48)	0.82 (0.76)	0.89 (0.79)
	7	0.79 (0.71)	0.59	0.79 (0.72)	0.59 (0.48)	0.82 (0.75)	0.90 (0.81)
	8	0.80 (0.73)	0.62	0.80 (0.74)	0.66 (0.55)	0.84 (0.78)	0.89 (0.81)
	11	0.83 (0.76)	0.65	0.86 (0.83)	0.73 (0.62)	0.88 (0.82)	0.84 (0.66)
Reading	3	0.77 (0.69)	0.52	0.81 (0.72)	0.66 (0.56)	0.80 (0.74)	0.77 (0.63)
	4	0.77 (0.68)	0.53	0.78 (0.66)	0.66 (0.56)	0.78 (0.72)	0.86 (0.74)
	5	0.80 (0.72)	0.58	0.76 (0.62)	0.75 (0.66)	0.81 (0.76)	0.86 (0.74)
	6	0.78 (0.70)	0.54	0.77 (0.64)	0.69 (0.59)	0.79 (0.74)	0.86 (0.73)
	7	0.79 (0.71)	0.56	0.77 (0.64)	0.71 (0.61)	0.81 (0.76)	0.86 (0.73)
	8	0.78 (0.69)	0.53	0.75 (0.60)	0.66 (0.55)	0.78 (0.73)	0.86 (0.75)
	11	0.78 (0.70)	0.56	0.78 (0.65)	0.63 (0.51)	0.74 (0.67)	0.89 (0.82)
Writing	5	0.62 (0.52)	0.31	0.67 (0.49)	0.58 (0.50)	0.60 (0.52)	0.79 (0.55)
	8	0.71 (0.60)	0.39	0.70 (0.54)	0.65 (0.57)	0.75 (0.67)	0.79 (0.48)

Table Q-2. 2013–14 NECAP: Summary of Decision Accuracy (and Consistency) Results by Content Area and Grade—Conditional on Cutpoint

Content Area	*Grade*	*Substantially Below Proficient / Partially Proficient*			*Partially Proficient / Proficient*			*Proficient / Proficient with Distinction*		
		Accuracy (consistency)	*False*		*Accuracy (consistency)*	*False*		*Accuracy (consistency)*	*False*	
			Positive	*Negative*		*Positive*	*Negative*		*Positive*	*Negative*
Mathematics	3	0.95 (0.94)	0.02	0.02	0.93 (0.90)	0.04	0.03	0.93 (0.90)	0.05	0.03
	4	0.95 (0.93)	0.02	0.02	0.92 (0.90)	0.04	0.03	0.93 (0.91)	0.05	0.02
	5	0.94 (0.92)	0.03	0.03	0.92 (0.89)	0.04	0.04	0.94 (0.91)	0.04	0.02
	6	0.94 (0.91)	0.03	0.03	0.92 (0.89)	0.04	0.03	0.93 (0.91)	0.04	0.02
	7	0.93 (0.90)	0.04	0.03	0.92 (0.88)	0.05	0.04	0.94 (0.91)	0.04	0.02
	8	0.93 (0.91)	0.04	0.03	0.93 (0.90)	0.04	0.03	0.94 (0.92)	0.04	0.02
	11	0.91 (0.88)	0.05	0.03	0.93 (0.91)	0.04	0.03	0.98 (0.98)	0.01	0
Reading	3	0.96 (0.94)	0.02	0.02	0.93 (0.90)	0.04	0.03	0.89 (0.85)	0.07	0.04
	4	0.95 (0.93)	0.02	0.03	0.90 (0.86)	0.05	0.05	0.91 (0.88)	0.06	0.03
	5	0.97 (0.96)	0.01	0.02	0.91 (0.87)	0.05	0.04	0.92 (0.89)	0.06	0.03
	6	0.96 (0.94)	0.02	0.02	0.90 (0.87)	0.05	0.05	0.91 (0.88)	0.06	0.03
	7	0.96 (0.95)	0.02	0.02	0.91 (0.87)	0.05	0.04	0.92 (0.89)	0.05	0.02
	8	0.96 (0.95)	0.01	0.02	0.91 (0.87)	0.05	0.05	0.90 (0.87)	0.07	0.03
	11	0.96 (0.95)	0.02	0.02	0.92 (0.89)	0.04	0.04	0.90 (0.86)	0.06	0.04
Writing	5	0.92 (0.89)	0.03	0.05	0.82 (0.76)	0.11	0.07	0.88 (0.83)	0.1	0.02
	8	0.93 (0.90)	0.03	0.04	0.84 (0.78)	0.1	0.06	0.94 (0.91)	0.06	0.01

APPENDIX R—SAMPLE REPORTS

About The New England Common Assessment Program

This report highlights results from the Fall 2013 Beginning of Grade New England Common Assessment Program (NECAP) tests. The NECAP tests are administered to students in Maine, New Hampshire, Rhode Island, and Vermont as part of each state's statewide assessment program. NECAP test results are used primarily for school improvement and accountability. Achievement level results are used in the state accountability system required under No Child Left Behind (NCLB). More detailed school and district results are used by schools to help improve curriculum and instruction. Individual student results are used to support information gathered through classroom instruction and assessments.

NECAP tests in reading and mathematics are administered to students in grades 3 through 8 and writing tests are administered to students in grades 5 and 8. The NECAP tests are designed to measure student performance on grade level expectations (GLE) developed and adopted by the four states. Specifically, the tests are designed to measure the content and skills that students are expected to have as they begin the school year in their current grade — in other words, the content and skills that students have learned through the end of the previous grade.

Each test contains a mix of multiple-choice and constructed-response questions. Constructed-response questions require students to develop their own answers to questions. On the mathematics test, students may be required to provide the correct answer to a computation or word problem, draw or interpret a chart or graph, or explain how they solved a problem. On the reading test, students may be required to make a list or write a few paragraphs to answer a question related to a literary or informational passage. On the writing test, students are required to provide a single extended response of 1-3 pages and three shorter responses to questions measuring different types of writing.

This report contains a variety of school- and/or district-, and state-level assessment results for the NECAP tests administered at a grade level. Achievement level distributions and mean scaled scores are provided for all students tested as well as for subgroups of students classified by demographics or program participation. The report also contains comparative information on school and district performance on subtopics within each content area tested.

In addition to this report of grade level results, schools and districts will also receive Summary Reports, Item Analysis Reports, Released Item support materials, and student-level data files containing NECAP results. Together, these reports and data constitute a rich source of information to support local decisions in curriculum, instruction, assessment, and professional development. Over time, this information can also strengthen schools' and districts' evaluation of their ongoing improvement efforts.

Fall 2013
Beginning of Grade 8
NECAP Tests

Grade 7 Students in 2012-2013

District Results

District: Demonstration District A

Code: DEMA

Fall 2013 - Beginning of Grade 8 NECAP Tests
Grade 7 Students in 2012-2013
Grade Level Summary Report

District: Demonstration District A
State: Maine
Code: DEMA

PARTICIPATION in NECAP	Number									Percentage								
	School			District			State			School			District			State		
Students enrolled on or after October 1																		
	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing
Students tested																		
With an approved accommodation																		
Current LEP Students																		
With an approved accommodation																		
IEP Students																		
With an approved accommodation																		
Students not tested in NECAP																		
State Approved																		
Alternate Assessment																		
First Year LEP																		
Withdrew After October 1																		
Enrolled After October 1																		
Special Consideration																		
Other																		

NECAP RESULTS

	District													State												
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
READING				57	4	7	39	68	10	18	4	7	845	13,545	20	52	20	8	847						
MATH				58	5	9	25	43	13	22	15	26	840	13,553	16	40	22	21	841						
WRITING				56	2	4	23	41	25	45	6	11	838	13,494	4	43	38	15	838						

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient
Note: Throughout this report, percentages may not total 100 since each percentage is rounded to the nearest whole number.
Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Reading Results

District: Demonstration District A
State: Maine
Code: DEMA

Proficient with Distinction (Level 4)
Student's performance demonstrates an ability to read and comprehend grade-appropriate text. Student is able to analyze and interpret literary and informational text. Student offers insightful observations/assertions that are well supported by references to the text. Student uses range of vocabulary strategies and breadth of vocabulary knowledge to read and comprehend a wide variety of texts.
(Scaled Score 859–880)

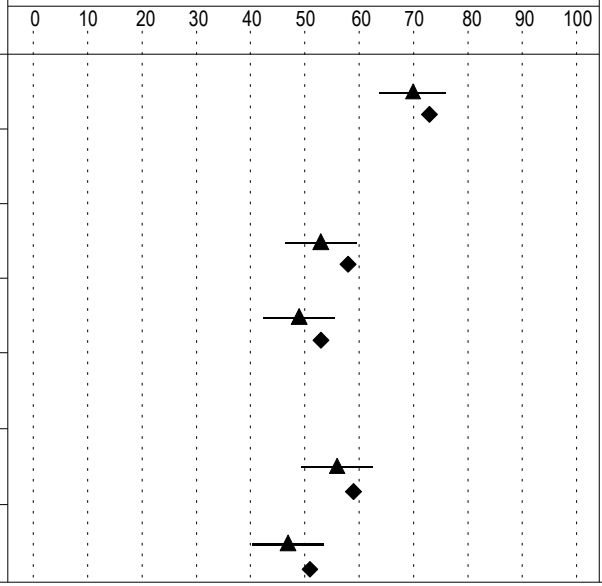
Proficient (Level 3)
Student's performance demonstrates an ability to read and comprehend grade-appropriate text. Student is able to analyze and interpret literary and informational text. Student makes and supports relevant assertions by referencing text. Student uses vocabulary strategies and breadth of vocabulary knowledge to read and comprehend text.
(Scaled Score 840–858)

Partially Proficient (Level 2)
Student's performance demonstrates an inconsistent ability to read and comprehend grade-appropriate text. Student attempts to analyze and interpret literary and informational text. Student may make and/or support assertions by referencing text. Student's vocabulary knowledge and use of strategies may be limited and may impact the ability to read and comprehend text.
(Scaled Score 828–839)

Substantially Below Proficient (Level 1)
Student's performance demonstrates minimal ability to derive/construct meaning from grade-appropriate text. Student may be able to recognize story elements and text features. Student's limited vocabulary knowledge and use of strategies impacts the ability to read and comprehend text.
(Scaled Score 800–827)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12													
2012-13													
2013-14													
Cumulative Total													
District													
2011-12				66	16	24	30	45	12	18	8	12	846
2012-13				68	8	12	41	60	12	18	7	10	846
2013-14				**57**	**4**	**7**	**39**	**68**	**10**	**18**	**4**	**7**	**845**
Cumulative Total				191	28	15	110	58	34	18	19	10	846
State													
2011-12				14,031	2,933	21	7,864	56	2,380	17	854	6	848
2012-13				13,745	2,653	19	7,877	57	2,380	17	835	6	848
2013-14				**13,545**	**2,671**	**20**	**6,990**	**52**	**2,770**	**20**	**1,114**	**8**	**847**
Cumulative Total				41,321	8,257	20	22,731	55	7,530	18	2,803	7	848

Subtopic	Total Possible Points
Word ID/Vocabulary	30
Type of Text	
Literary	55
Informational	59
Level of Comprehension	
Initial Understanding	55
Analysis & Interpretation	59



Fall 2013 - Beginning of Grade 8 NECAP Tests
Grade 7 Students in 2012-2013
Disaggregated Reading Results

District: Demonstration District A
State: Maine
Code: DEMA

REPORTING CATEGORIES	District													State											
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students				**57**	**4**	**7**	**39**	**68**	**10**	**18**	**4**	**7**	**845**	**13,545**	**20**	**52**	**20**	**8**	**847**						
Gender																									
Male				30	1	3	22	73	5	17	2	7	843	6,917	12	52	25	11	844						
Female				27	3	11	17	63	5	19	2	7	846	6,628	27	51	16	5	850						
Not Reported				0										0											
Race/Ethnicity																									
Hispanic or Latino				4										211	14	55	20	10	845						
Not Hispanic or Latino																									
American Indian or Alaskan Native				2										100	14	58	15	13	845						
Asian				3										202	28	53	13	6	851						
Black or African American				1										382	9	41	31	19	840						
Native Hawaiian or Pacific Islander				1										17	6	76	18	0	846						
White				45	4	9	28	62	10	22	3	7	843	12,434	20	52	20	8	848						
Two or more races				1										199	14	54	23	10	845						
No Race/Ethnicity Reported				0										0											
LEP Status																									
Current LEP student				3										389	4	41	33	22	838						
Former LEP student - monitoring year 1				1										9											
Former LEP student - monitoring year 2				1										41	27	66	5	2	852						
All Other Students				52	4	8	34	65	10	19	4	8	844	13,106	20	52	20	8	848						
IEP																									
Students with an IEP				7										2,196	1	24	41	34	833						
All Other Students				50	4	8	39	78	6	12	1	2	847	11,349	23	57	16	3	850						
SES																									
Economically Disadvantaged Students				27	1	4	16	59	7	26	3	11	842	5,737	11	49	27	13	843						
All Other Students				30	3	10	23	77	3	10	1	3	847	7,808	26	54	15	5	850						
Migrant																									
Migrant Students				1										2											
All Other Students				56	4	7	38	68	10	18	4	7	845	13,543	20	52	20	8	847						
Title I																									
Students Receiving Title I Services				7										1,644	14	48	28	9	845						
All Other Students				50	3	6	34	68	9	18	4	8	844	11,901	21	52	19	8	848						
504 Plan																									
Students with a 504 Plan				4										562	13	57	25	6	846						
All Other Students				53	4	8	35	66	10	19	4	8	844	12,983	20	51	20	8	847						

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Mathematics Results

District: Demonstration District A
State: Maine
Code: DEMA

Proficient with Distinction (Level 4)
Student's problem solving demonstrates logical reasoning with strong explanations that include both words and proper mathematical notation. Student's work exhibits a high level of accuracy, effective use of a variety of strategies, and an understanding of mathematical concepts within and across grade level expectations. Student demonstrates the ability to move from concrete to abstract representations.
(Scaled Score 852–880)

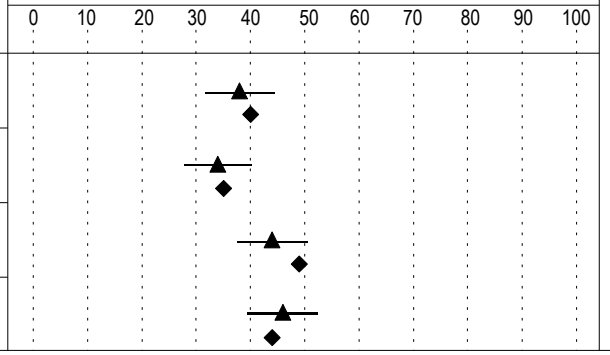
Proficient (Level 3)
Student's problem solving demonstrates logical reasoning with appropriate explanations that include both words and proper mathematical notation. Student uses a variety of strategies that are often systematic. Computational errors do not interfere with communicating understanding. Student demonstrates conceptual understanding of most aspects of the grade level expectations.
(Scaled Score 840–851)

Partially Proficient (Level 2)
Student's problem solving demonstrates logical reasoning and conceptual understanding in some, but not all, aspects of the grade level expectations. Many problems are started correctly, but computational errors may get in the way of completing some aspects of the problem. Student uses some effective strategies. Student's work demonstrates that he or she is generally stronger with concrete than abstract situations.
(Scaled Score 834–839)

Substantially Below Proficient (Level 1)
Student's problem solving is often incomplete, lacks logical reasoning and accuracy, and shows little conceptual understanding in most aspects of the grade level expectations. Student is able to start some problems but computational errors and lack of conceptual understanding interfere with solving problems successfully.
(Scaled Score 800–833)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12													
2012-13													
2013-14													
Cumulative Total													
District													
2011-12				64	7	11	25	39	19	30	13	20	841
2012-13				69	7	10	33	48	11	16	18	26	839
2013-14				**58**	**5**	**9**	**25**	**43**	**13**	**22**	**15**	**26**	**840**
Cumulative Total				191	19	10	83	43	43	23	46	24	840
State													
2011-12				14,013	2,374	17	6,035	43	3,002	21	2,602	19	842
2012-13				13,743	2,174	16	6,209	45	2,635	19	2,725	20	842
2013-14				**13,553**	**2,193**	**16**	**5,423**	**40**	**3,026**	**22**	**2,911**	**21**	**841**
Cumulative Total				41,309	6,741	16	17,667	43	8,663	21	8,238	20	842

Subtopic	Total Possible Points
Numbers & Operations	34
Geometry & Measurement	43
Functions & Algebra	67
Data, Statistics, & Probability	26



Fall 2013 - Beginning of Grade 8 NECAP Tests
Grade 7 Students in 2012-2013
Disaggregated Mathematics Results

District: Demonstration District A
State: Maine
Code: DEMA

REPORTING CATEGORIES	District													State											
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students				**58**	**5**	**9**	**25**	**43**	**13**	**22**	**15**	**26**	**840**	**13,553**	**16**	**40**	**22**	**21**	**841**						
Gender																									
Male				30	3	10	13	43	8	27	6	20	841	6,923	16	38	22	24	841						
Female				28	2	7	12	43	5	18	9	32	838	6,630	16	42	23	19	842						
Not Reported				0										0											
Race/Ethnicity																									
Hispanic or Latino				5										216	7	34	24	35	838						
Not Hispanic or Latino																									
American Indian or Alaskan Native				2										100	9	40	22	29	838						
Asian				3										202	32	40	17	12	846						
Black or African American				1										391	3	24	28	45	834						
Native Hawaiian or Pacific Islander				1										19	11	63	21	5	843						
White				45	4	9	20	44	11	24	10	22	839	12,427	17	41	22	21	842						
Two or more races				1										198	15	31	28	27	839						
No Race/Ethnicity Reported				0										0											
LEP Status																									
Current LEP student				4										406	3	20	29	47	833						
Former LEP student - monitoring year 1				1										9											
Former LEP student - monitoring year 2				1										41	17	61	17	5	845						
All Other Students				52	5	10	21	40	13	25	13	25	839	13,097	17	41	22	21	842						
IEP																									
Students with an IEP				7										2,195	1	12	21	66	830						
All Other Students				51	5	10	25	49	12	24	9	18	841	11,358	19	45	23	13	844						
SES																									
Economically Disadvantaged Students				28	1	4	7	25	7	25	13	46	834	5,745	7	33	28	32	837						
All Other Students				30	4	13	18	60	6	20	2	7	844	7,808	23	45	18	14	844						
Migrant																									
Migrant Students				1										2											
All Other Students				57	5	9	25	44	13	23	14	25	840	13,551	16	40	22	21	841						
Title I																									
Students Receiving Title I Services				7										1,647	8	30	31	31	838						
All Other Students				51	5	10	22	43	12	24	12	24	840	11,906	17	41	21	20	842						
504 Plan																									
Students with a 504 Plan				4										561	13	41	28	18	841						
All Other Students				54	5	9	23	43	12	22	14	26	840	12,992	16	40	22	22	841						

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Writing Results

District: Demonstration District A
State: Maine
Code: DEMA

Proficient with Distinction (Level 4)
Student's writing demonstrates an ability to respond to prompt/task with clarity and insight. Focus is well developed and maintained throughout response. Response demonstrates use of strong organizational structures. A variety of elaboration strategies is evident. Sentence structures and language choices are varied and used effectively. Response demonstrates control of conventions; minor errors may occur.
(Scaled Score 854–880)

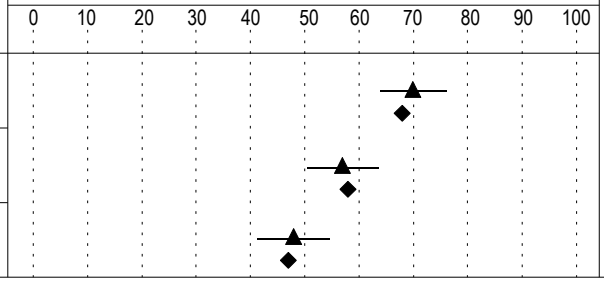
Proficient (Level 3)
Student's writing demonstrates an ability to respond to prompt/task. Focus is clear and maintained throughout the response. Response is organized with a beginning, middle, and end with appropriate transitions. Details are sufficiently elaborated to support focus. Sentence structures and language use are varied. Response demonstrates control of conventions; errors may occur but do not interfere with meaning.
(Scaled Score 840–853)

Partially Proficient (Level 2)
Student's writing demonstrates an attempt to respond to prompt/task. Focus may be present but not maintained. Organizational structure is inconsistent with limited use of transitions. Details may be listed and lack elaboration. Sentence structures and language use are unsophisticated and may be repetitive. Response demonstrates inconsistent control of conventions.
(Scaled Score 827–839)

Substantially Below Proficient (Level 1)
Student's writing demonstrates a minimal response to prompt/task. Focus is unclear or lacking. Little or no organizational structure is evident. Details are minimal and/or random. Sentence structures and language use are minimal or absent. Frequent errors in conventions may interfere with meaning.
(Scaled Score 800–826)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12													
2012-13													
2013-14													
Cumulative Total													
District													
2011-12				65	7	11	22	34	22	34	14	22	837
2012-13				68	5	7	29	43	17	25	17	25	837
2013-14				**56**	**2**	**4**	**23**	**41**	**25**	**45**	**6**	**11**	**838**
Cumulative Total				189	14	7	74	39	64	34	37	20	837
State													
2011-12				13,967	963	7	6,116	44	5,175	37	1,713	12	839
2012-13				13,696	1,613	12	6,248	46	4,198	31	1,637	12	841
2013-14				**13,494**	**486**	**4**	**5,808**	**43**	**5,163**	**38**	**2,037**	**15**	**838**
Cumulative Total				41,157	3,062	7	18,172	44	14,536	35	5,387	13	839

Subtopic	Total Possible Points
Multiple Choice	10
Short Responses	12
Extended Response	12



Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Disaggregated Writing Results

District: Demonstration District A
State: Maine
Code: DEMA

REPORTING CATEGORIES	District													State											
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students				**56**	**2**	**4**	**23**	**41**	**25**	**45**	**6**	**11**	**838**	**13,494**	**4**	**43**	**38**	**15**	**838**						
Gender																									
Male				30	0	0	14	47	11	37	5	17	836	6,892	2	32	44	22	835						
Female				26	2	8	9	35	14	54	1	4	840	6,602	6	55	32	8	841						
Not Reported				0										0											
Race/Ethnicity																									
Hispanic or Latino				4										210	0	39	46	15	837						
Not Hispanic or Latino																									
American Indian or Alaskan Native				2										98	4	33	47	16	836						
Asian				3										202	9	56	26	8	842						
Black or African American				1										380	1	29	45	25	834						
Native Hawaiian or Pacific Islander				1										17	0	41	41	18	838						
White				44	1	2	17	39	21	48	5	11	837	12,389	4	44	38	15	838						
Two or more races				1										198	4	37	38	21	836						
No Race/Ethnicity Reported				0										0											
LEP Status																									
Current LEP student				3										389	0	22	50	28	832						
Former LEP student - monitoring year 1				1										9											
Former LEP student - monitoring year 2				1										41	2	73	20	5	843						
All Other Students				51	2	4	20	39	23	45	6	12	838	13,055	4	44	38	15	838						
IEP																									
Students with an IEP				7										2,175	<1	6	42	52	827						
All Other Students				49	2	4	23	47	22	45	2	4	840	11,319	4	50	38	8	840						
SES																									
Economically Disadvantaged Students				26	1	4	9	35	11	42	5	19	836	5,710	1	32	44	23	835						
All Other Students				30	1	3	14	47	14	47	1	3	840	7,784	5	51	34	9	840						
Migrant																									
Migrant Students				1										2											
All Other Students				55	2	4	23	42	24	44	6	11	838	13,492	4	43	38	15	838						
Title I																									
Students Receiving Title I Services				7										1,636	2	32	47	19	836						
All Other Students				49	2	4	19	39	24	49	4	8	838	11,858	4	45	37	15	838						
504 Plan																									
Students with a 504 Plan				4										559	2	34	47	17	836						
All Other Students				52	2	4	22	42	22	42	6	12	838	12,935	4	43	38	15	838						

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Student	Grade	School	District	State
Kaylee L Bauder	8	Demonstration School 1	Demonstration District A	ME

Fall 2013 - Beginning of Grade 8 NECAP Test Results

Content Area	Achievement Level	Scaled Score
Reading	Proficient	853

This Student's Achievement Level and Scaled Score

Below | Partial | Proficient | Distinction

800 | 828 | 840 | 859 | 880

Content Area	Achievement Level	Scaled Score
Mathematics	Substantially Below Proficient	831

This Student's Achievement Level and Scaled Score

Below | Partial | Proficient | Distinction

800 | 834 | 840 | 852 | 880

Content Area	Achievement Level	Scaled Score
Writing	Proficient	844

This Student's Achievement Level and Scaled Score

Below | Partial | Proficient | Distinction

800 | 827 | 840 | 854 | 880

Interpretation of Graphic Display

The line (**I**) represents the student's score. The bar (▬) surrounding the score represents the probable range of scores for the student if he or she were to be tested many times. This statistic is called the standard error of measurement. See the reverse side for the achievement level descriptions.

This Student's Achievement Level Compared to Other Beginning of Grade 8 Students by School, District, and State

	Reading				Mathematics				Writing			
	Student	School	District	State	Student	School	District	State	Student	School	District	State
Proficient with Distinction		7%	7%	20%		13%	9%	16%		3%	4%	4%
Proficient	✓	70%	68%	52%		42%	43%	40%	✓	48%	41%	43%
Partially Proficient		20%	18%	20%		26%	22%	22%		41%	45%	38%
Substantially Below Proficient		3%	7%	8%	✓	19%	26%	21%		7%	11%	15%

This Student's Performance in Content Area Subcategories

Reading		Possible Points	Student	Average Points Earned: School	District	State	Students at Beginning of Proficient
Word ID/ Vocabulary		10	**6**	6.8	6.5	6.7	4.5-7.1
Type of Text*	Literary	21	**14**	11.8	11.4	12.0	8.6-12.5
	Informational	21	**13**	10.1	9.7	10.4	6.6-10.7
Level of Comprehension*	Initial Understanding	22	**15**	12.4	12.2	12.6	9.0-13.0
	Analysis and Interpretation	20	**12**	9.5	8.9	9.8	6.2-10.2

Mathematics	Possible Points	Student	Average Points Earned: School	District	State	Students at Beginning of Proficient
Numbers and Operations	13	**2**	6.0	5.6	5.9	3.2-6.8
Geometry and Measurement	17	**3**	6.4	5.8	6.6	3.2-7.4
Functions and Algebra	26	**8**	13.7	13.2	13.9	10.6-15.4
Data, Statistics, and Probability	10	**1**	4.1	4.0	4.5	2.6-5.8

Writing	Possible Points	Student	Average Points Earned: School	District	State	Students at Beginning of Proficient
Multiple Choice	10	**9**	7.1	7.0	6.8	6.0-8.5
Short Responses	12	**8**	7.1	6.9	7.0	6.6-8.6
Extended Response	12	**6**	6.0	5.7	5.7	6.1-6.2

*With the exception of Word ID/Vocabulary items, reading items are reported in two ways - Type of Text and Level of Comprehension.

About The New England Common Assessment Program

This report highlights results from the Fall 2013 Beginning of Grade New England Common Assessment Program (NECAP) tests. The NECAP tests are administered to students in Maine, New Hampshire, Rhode Island, and Vermont as part of each state's statewide assessment program. NECAP test results are used primarily for school improvement and accountability. Achievement level results are used in the state accountability system required under No Child Left Behind (NCLB). More detailed school and district results are used by schools to help improve curriculum and instruction. Individual student results are used to support information gathered through classroom instruction and assessments.

NECAP tests in reading and mathematics are administered to students in grades 3 through 8 and writing tests are administered to students in grades 5 and 8. The NECAP tests are designed to measure student performance on grade level expectations (GLE) developed and adopted by the four states. Specifically, the tests are designed to measure the content and skills that students are expected to have as they begin the school year in their current grade — in other words, the content and skills that students have learned through the end of the previous grade.

Each test contains a mix of multiple-choice and constructed-response questions. Constructed-response questions require students to develop their own answers to questions. On the mathematics test, students may be required to provide the correct answer to a computation or word problem, draw or interpret a chart or graph, or explain how they solved a problem. On the reading test, students may be required to make a list or write a few paragraphs to answer a question related to a literary or informational passage. On the writing test, students are required to provide a single extended response of 1-3 pages and three shorter responses to questions measuring different types of writing.

This report contains a variety of school- and/or district-, and state-level assessment results for the NECAP tests administered at a grade level. Achievement level distributions and mean scaled scores are provided for all students tested as well as for subgroups of students classified by demographics or program participation. The report also contains comparative information on school and district performance on subtopics within each content area tested.

In addition to this report of grade level results, schools and districts will also receive Summary Reports, Item Analysis Reports, Released Item support materials, and student-level data files containing NECAP results. Together, these reports and data constitute a rich source of information to support local decisions in curriculum, instruction, assessment, and professional development. Over time, this information can also strengthen schools' and districts' evaluation of their ongoing improvement efforts.

Fall 2013
Beginning of Grade 8
NECAP Tests

Grade 7 Students in 2012-2013

School Results

School: Demonstration School 1

District: Demonstration District A

Code: DEMA-DEM1

Fall 2013 - Beginning of Grade 8 NECAP Tests
Grade 7 Students in 2012-2013
Grade Level Summary Report

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

PARTICIPATION in NECAP	Number									Percentage								
	School			District			State			School			District			State		
Students enrolled on or after October 1																		
	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing
Students tested																		
With an approved accommodation																		
Current LEP Students																		
With an approved accommodation																		
IEP Students																		
With an approved accommodation																		
Students not tested in NECAP																		
State Approved																		
Alternate Assessment																		
First Year LEP																		
Withdrew After October 1																		
Enrolled After October 1																		
Special Consideration																		
Other																		

NECAP RESULTS

	School													District						State					
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
READING				30	2	7	21	70	6	20	1	3	846	57	7	68	18	7	845	13,545	20	52	20	8	847
MATH				31	4	13	13	42	8	26	6	19	840	58	9	43	22	26	840	13,553	16	40	22	21	841
WRITING				29	1	3	14	48	12	41	2	7	839	56	4	41	45	11	838	13,494	4	43	38	15	838

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient
Note: Throughout this report, percentages may not total 100 since each percentage is rounded to the nearest whole number.
Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Reading Results

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

Proficient with Distinction (Level 4)
Student's performance demonstrates an ability to read and comprehend grade-appropriate text. Student is able to analyze and interpret literary and informational text. Student offers insightful observations/assertions that are well supported by references to the text. Student uses range of vocabulary strategies and breadth of vocabulary knowledge to read and comprehend a wide variety of texts.
(Scaled Score 859–880)

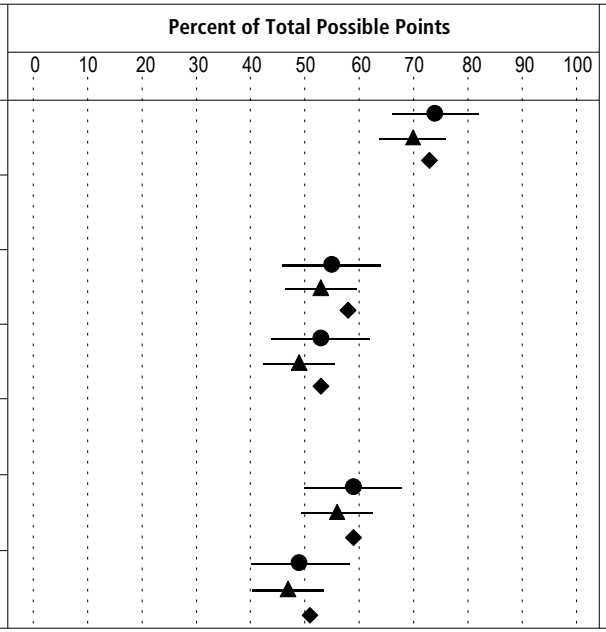
Proficient (Level 3)
Student's performance demonstrates an ability to read and comprehend grade-appropriate text. Student is able to analyze and interpret literary and informational text. Student makes and supports relevant assertions by referencing text. Student uses vocabulary strategies and breadth of vocabulary knowledge to read and comprehend text.
(Scaled Score 840–858)

Partially Proficient (Level 2)
Student's performance demonstrates an inconsistent ability to read and comprehend grade-appropriate text. Student attempts to analyze and interpret literary and informational text. Student may make and/or support assertions by referencing text. Student's vocabulary knowledge and use of strategies may be limited and may impact the ability to read and comprehend text.
(Scaled Score 828–839)

Substantially Below Proficient (Level 1)
Student's performance demonstrates minimal ability to derive/construct meaning from grade-appropriate text. Student may be able to recognize story elements and text features. Student's limited vocabulary knowledge and use of strategies impacts the ability to read and comprehend text.
(Scaled Score 800–827)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12				34	8	24	19	56	5	15	2	6	849
2012-13				35	5	14	23	66	4	11	3	9	849
2013-14				**30**	**2**	**7**	**21**	**70**	**6**	**20**	**1**	**3**	**846**
Cumulative Total				99	15	15	63	64	15	15	6	6	848
District													
2011-12				66	16	24	30	45	12	18	8	12	846
2012-13				68	8	12	41	60	12	18	7	10	846
2013-14				**57**	**4**	**7**	**39**	**68**	**10**	**18**	**4**	**7**	**845**
Cumulative Total				191	28	15	110	58	34	18	19	10	846
State													
2011-12				14,031	2,933	21	7,864	56	2,380	17	854	6	848
2012-13				13,745	2,653	19	7,877	57	2,380	17	835	6	848
2013-14				**13,545**	**2,671**	**20**	**6,990**	**52**	**2,770**	**20**	**1,114**	**8**	**847**
Cumulative Total				41,321	8,257	20	22,731	55	7,530	18	2,803	7	848

Subtopic	Total Possible Points
Word ID/Vocabulary	30
Type of Text	
Literary	55
Informational	59
Level of Comprehension	
Initial Understanding	55
Analysis & Interpretation	59



Fall 2013 - Beginning of Grade 8 NECAP Tests
Grade 7 Students in 2012-2013
Disaggregated Reading Results

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

REPORTING CATEGORIES	School													District						State					
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students				**30**	**2**	**7**	**21**	**70**	**6**	**20**	**1**	**3**	**846**	**57**	**7**	**68**	**18**	**7**	**845**	**13,545**	**20**	**52**	**20**	**8**	**847**
Gender																									
Male				14	1	7	10	71	3	21	0	0	847	30	3	73	17	7	843	6,917	12	52	25	11	844
Female				16	1	6	11	69	3	19	1	6	845	27	11	63	19	7	846	6,628	27	51	16	5	850
Not Reported				0										0						0					
Race/Ethnicity																									
Hispanic or Latino				1										4						211	14	55	20	10	845
Not Hispanic or Latino																									
American Indian or Alaskan Native				2										2						100	14	58	15	13	845
Asian				2										3						202	28	53	13	6	851
Black or African American				0										1						382	9	41	31	19	840
Native Hawaiian or Pacific Islander				1										1						17	6	76	18	0	846
White				23	2	9	14	61	6	26	1	4	845	45	9	62	22	7	843	12,434	20	52	20	8	848
Two or more races				1										1						199	14	54	23	10	845
No Race/Ethnicity Reported				0										0						0					
LEP Status																									
Current LEP student				1										3						389	4	41	33	22	838
Former LEP student - monitoring year 1				1										1						9					
Former LEP student - monitoring year 2				1										1						41	27	66	5	2	852
All Other Students				27	2	7	18	67	6	22	1	4	846	52	8	65	19	8	844	13,106	20	52	20	8	848
IEP																									
Students with an IEP				2										7						2,196	1	24	41	34	833
All Other Students				28	2	7	21	75	4	14	1	4	847	50	8	78	12	2	847	11,349	23	57	16	3	850
SES																									
Economically Disadvantaged Students				12	1	8	7	58	3	25	1	8	843	27	4	59	26	11	842	5,737	11	49	27	13	843
All Other Students				18	1	6	14	78	3	17	0	0	848	30	10	77	10	3	847	7,808	26	54	15	5	850
Migrant																									
Migrant Students				1										1						2					
All Other Students				29	2	7	20	69	6	21	1	3	846	56	7	68	18	7	845	13,543	20	52	20	8	847
Title I																									
Students Receiving Title I Services				2										7						1,644	14	48	28	9	845
All Other Students				28	1	4	20	71	6	21	1	4	846	50	6	68	18	8	844	11,901	21	52	19	8	848
504 Plan																									
Students with a 504 Plan				1										4						562	13	57	25	6	846
All Other Students				29	2	7	20	69	6	21	1	3	846	53	8	66	19	8	844	12,983	20	51	20	8	847

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Mathematics Results

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

Proficient with Distinction (Level 4)
Student's problem solving demonstrates logical reasoning with strong explanations that include both words and proper mathematical notation. Student's work exhibits a high level of accuracy, effective use of a variety of strategies, and an understanding of mathematical concepts within and across grade level expectations. Student demonstrates the ability to move from concrete to abstract representations.
(Scaled Score 852–880)

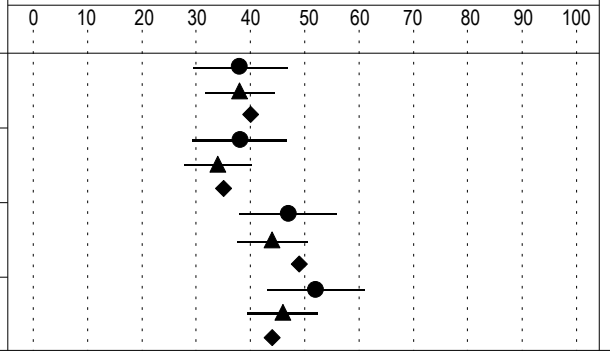
Proficient (Level 3)
Student's problem solving demonstrates logical reasoning with appropriate explanations that include both words and proper mathematical notation. Student uses a variety of strategies that are often systematic. Computational errors do not interfere with communicating understanding. Student demonstrates conceptual understanding of most aspects of the grade level expectations.
(Scaled Score 840–851)

Partially Proficient (Level 2)
Student's problem solving demonstrates logical reasoning and conceptual understanding in some, but not all, aspects of the grade level expectations. Many problems are started correctly, but computational errors may get in the way of completing some aspects of the problem. Student uses some effective strategies. Student's work demonstrates that he or she is generally stronger with concrete than abstract situations.
(Scaled Score 834–839)

Substantially Below Proficient (Level 1)
Student's problem solving is often incomplete, lacks logical reasoning and accuracy, and shows little conceptual understanding in most aspects of the grade level expectations. Student is able to start some problems but computational errors and lack of conceptual understanding interfere with solving problems successfully.
(Scaled Score 800–833)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12				33	3	9	14	42	9	27	7	21	841
2012-13				35	6	17	16	46	5	14	8	23	841
2013-14				**31**	**4**	**13**	**13**	**42**	**8**	**26**	**6**	**19**	**840**
Cumulative Total				99	13	13	43	43	22	22	21	21	841
District													
2011-12				64	7	11	25	39	19	30	13	20	841
2012-13				69	7	10	33	48	11	16	18	26	839
2013-14				**58**	**5**	**9**	**25**	**43**	**13**	**22**	**15**	**26**	**840**
Cumulative Total				191	19	10	83	43	43	23	46	24	840
State													
2011-12				14,013	2,374	17	6,035	43	3,002	21	2,602	19	842
2012-13				13,743	2,174	16	6,209	45	2,635	19	2,725	20	842
2013-14				**13,553**	**2,193**	**16**	**5,423**	**40**	**3,026**	**22**	**2,911**	**21**	**841**
Cumulative Total				41,309	6,741	16	17,667	43	8,663	21	8,238	20	842

Subtopic	Total Possible Points
Numbers & Operations	34
Geometry & Measurement	43
Functions & Algebra	67
Data, Statistics, & Probability	26



Fall 2013 - Beginning of Grade 8 NECAP Tests
Grade 7 Students in 2012-2013
Disaggregated Mathematics Results

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

REPORTING CATEGORIES	School													District						State					
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students				**31**	**4**	**13**	**13**	**42**	**8**	**26**	**6**	**19**	**840**	**58**	**9**	**43**	**22**	**26**	**840**	**13,553**	**16**	**40**	**22**	**21**	**841**
Gender																									
Male				14	3	21	6	43	4	29	1	7	844	30	10	43	27	20	841	6,923	16	38	22	24	841
Female				17	1	6	7	41	4	24	5	29	837	28	7	43	18	32	838	6,630	16	42	23	19	842
Not Reported				0										0						0					
Race/Ethnicity																									
Hispanic or Latino				2										5						216	7	34	24	35	838
Not Hispanic or Latino																									
American Indian or Alaskan Native				2										2						100	9	40	22	29	838
Asian				2										3						202	32	40	17	12	846
Black or African American				0										1						391	3	24	28	45	834
Native Hawaiian or Pacific Islander				1										1						19	11	63	21	5	843
White				23	3	13	10	43	7	30	3	13	840	45	9	44	24	22	839	12,427	17	41	22	21	842
Two or more races				1										1						198	15	31	28	27	839
No Race/Ethnicity Reported				0										0						0					
LEP Status																									
Current LEP student				2										4						406	3	20	29	47	833
Former LEP student - monitoring year 1				1										1						9					
Former LEP student - monitoring year 2				1										1						41	17	61	17	5	845
All Other Students				27	4	15	11	41	8	30	4	15	840	52	10	40	25	25	839	13,097	17	41	22	21	842
IEP																									
Students with an IEP				2										7						2,195	1	12	21	66	830
All Other Students				29	4	14	13	45	7	24	5	17	841	51	10	49	24	18	841	11,358	19	45	23	13	844
SES																									
Economically Disadvantaged Students				13	1	8	3	23	3	23	6	46	833	28	4	25	25	46	834	5,745	7	33	28	32	837
All Other Students				18	3	17	10	56	5	28	0	0	845	30	13	60	20	7	844	7,808	23	45	18	14	844
Migrant																									
Migrant Students				1										1						2					
All Other Students				30	4	13	13	43	8	27	5	17	841	57	9	44	23	25	840	13,551	16	40	22	21	841
Title I																									
Students Receiving Title I Services				2										7						1,647	8	30	31	31	838
All Other Students				29	4	14	12	41	7	24	6	21	840	51	10	43	24	24	840	11,906	17	41	21	20	842
504 Plan																									
Students with a 504 Plan				1										4						561	13	41	28	18	841
All Other Students				30	4	13	12	40	8	27	6	20	840	54	9	43	22	26	840	12,992	16	40	22	22	841

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Writing Results

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

Proficient with Distinction (Level 4)
Student's writing demonstrates an ability to respond to prompt/task with clarity and insight. Focus is well developed and maintained throughout response. Response demonstrates use of strong organizational structures. A variety of elaboration strategies is evident. Sentence structures and language choices are varied and used effectively. Response demonstrates control of conventions; minor errors may occur.
(Scaled Score 854–880)

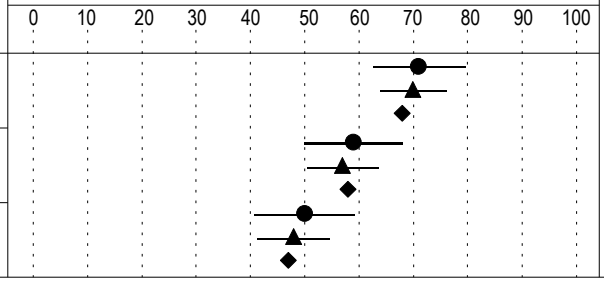
Proficient (Level 3)
Student's writing demonstrates an ability to respond to prompt/task. Focus is clear and maintained throughout the response. Response is organized with a beginning, middle, and end with appropriate transitions. Details are sufficiently elaborated to support focus. Sentence structures and language use are varied. Response demonstrates control of conventions; errors may occur but do not interfere with meaning.
(Scaled Score 840–853)

Partially Proficient (Level 2)
Student's writing demonstrates an attempt to respond to prompt/task. Focus may be present but not maintained. Organizational structure is inconsistent with limited use of transitions. Details may be listed and lack elaboration. Sentence structures and language use are unsophisticated and may be repetitive. Response demonstrates inconsistent control of conventions.
(Scaled Score 827–839)

Substantially Below Proficient (Level 1)
Student's writing demonstrates a minimal response to prompt/task. Focus is unclear or lacking. Little or no organizational structure is evident. Details are minimal and/or random. Sentence structures and language use are minimal or absent. Frequent errors in conventions may interfere with meaning.
(Scaled Score 800–826)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12				33	5	15	10	30	13	39	5	15	839
2012-13				35	4	11	15	43	11	31	5	14	840
2013-14				**29**	**1**	**3**	**14**	**48**	**12**	**41**	**2**	**7**	**839**
Cumulative Total				97	10	10	39	40	36	37	12	12	839
District													
2011-12				65	7	11	22	34	22	34	14	22	837
2012-13				68	5	7	29	43	17	25	17	25	837
2013-14				**56**	**2**	**4**	**23**	**41**	**25**	**45**	**6**	**11**	**838**
Cumulative Total				189	14	7	74	39	64	34	37	20	837
State													
2011-12				13,967	963	7	6,116	44	5,175	37	1,713	12	839
2012-13				13,696	1,613	12	6,248	46	4,198	31	1,637	12	841
2013-14				**13,494**	**486**	**4**	**5,808**	**43**	**5,163**	**38**	**2,037**	**15**	**838**
Cumulative Total				41,157	3,062	7	18,172	44	14,536	35	5,387	13	839

Subtopic	Total Possible Points
Multiple Choice	10
Short Responses	12
Extended Response	12



Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 7 Students in 2012-2013

Disaggregated Writing Results

School: Demonstration School 1
District: Demonstration District A
State: Maine
Code: DEMA-DEM1

REPORTING CATEGORIES	School													District						State					
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students				**29**	**1**	**3**	**14**	**48**	**12**	**41**	**2**	**7**	**839**	**56**	**4**	**41**	**45**	**11**	**838**	**13,494**	**4**	**43**	**38**	**15**	**838**
Gender																									
Male				14	0	0	7	50	5	36	2	14	837	30	0	47	37	17	836	6,892	2	32	44	22	835
Female				15	1	7	7	47	7	47	0	0	841	26	8	35	54	4	840	6,602	6	55	32	8	841
Not Reported				0										0						0					
Race/Ethnicity																									
Hispanic or Latino				1										4						210	0	39	46	15	837
Not Hispanic or Latino																									
American Indian or Alaskan Native				2										2						98	4	33	47	16	836
Asian				2										3						202	9	56	26	8	842
Black or African American				0										1						380	1	29	45	25	834
Native Hawaiian or Pacific Islander				1										1						17	0	41	41	18	838
White				22	0	0	9	41	11	50	2	9	837	44	2	39	48	11	837	12,389	4	44	38	15	838
Two or more races				1										1						198	4	37	38	21	836
No Race/Ethnicity Reported				0										0						0					
LEP Status																									
Current LEP student				1										3						389	0	22	50	28	832
Former LEP student - monitoring year 1				1										1						9					
Former LEP student - monitoring year 2				1										1						41	2	73	20	5	843
All Other Students				26	1	4	12	46	11	42	2	8	839	51	4	39	45	12	838	13,055	4	44	38	15	838
IEP																									
Students with an IEP				2										7						2,175	<1	6	42	52	827
All Other Students				27	1	4	14	52	11	41	1	4	841	49	4	47	45	4	840	11,319	4	50	38	8	840
SES																									
Economically Disadvantaged Students				11	1	9	5	45	3	27	2	18	839	26	4	35	42	19	836	5,710	1	32	44	23	835
All Other Students				18	0	0	9	50	9	50	0	0	839	30	3	47	47	3	840	7,784	5	51	34	9	840
Migrant																									
Migrant Students				1										1						2					
All Other Students				28	1	4	14	50	11	39	2	7	840	55	4	42	44	11	838	13,492	4	43	38	15	838
Title I																									
Students Receiving Title I Services				2										7						1,636	2	32	47	19	836
All Other Students				27	1	4	12	44	12	44	2	7	839	49	4	39	49	8	838	11,858	4	45	37	15	838
504 Plan																									
Students with a 504 Plan				1										4						559	2	34	47	17	836
All Other Students				28	1	4	13	46	12	43	2	7	839	52	4	42	42	12	838	12,935	4	43	38	15	838

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

About The New England Common Assessment Program

This report highlights results from the Fall 2013 Beginning of Grade New England Common Assessment Program (NECAP) tests. The NECAP tests are administered to students in Maine, New Hampshire, Rhode Island, and Vermont as part of each state's statewide assessment program. NECAP test results are used primarily for school improvement and accountability. Achievement level results are used in the state accountability system required under No Child Left Behind (NCLB). More detailed school and district results are used by schools to help improve curriculum and instruction. Individual student results are used to support information gathered through classroom instruction and assessments.

NECAP tests in reading and mathematics are administered to students in grades 3 through 8 and writing tests are administered to students in grades 5 and 8. The NECAP tests are designed to measure student performance on grade level expectations (GLE) developed and adopted by the four states. Specifically, the tests are designed to measure the content and skills that students are expected to have as they begin the school year in their current grade — in other words, the content and skills that students have learned through the end of the previous grade.

Each test contains a mix of multiple-choice and constructed-response questions. Constructed-response questions require students to develop their own answers to questions. On the mathematics test, students may be required to provide the correct answer to a computation or word problem, draw or interpret a chart or graph, or explain how they solved a problem. On the reading test, students may be required to make a list or write a few paragraphs to answer a question related to a literary or informational passage. On the writing test, students are required to provide a single extended response of 1-3 pages and three shorter responses to questions measuring different types of writing.

This report contains a variety of school- and/or district-, and state-level assessment results for the NECAP tests administered at a grade level. Achievement level distributions and mean scaled scores are provided for all students tested as well as for subgroups of students classified by demographics or program participation. The report also contains comparative information on school and district performance on subtopics within each content area tested.

In addition to this report of grade level results, schools and districts will also receive Summary Reports, Item Analysis Reports, Released Item support materials, and student-level data files containing NECAP results. Together, these reports and data constitute a rich source of information to support local decisions in curriculum, instruction, assessment, and professional development. Over time, this information can also strengthen schools' and districts' evaluation of their ongoing improvement efforts.

Fall 2013
Beginning of Grade 8
NECAP Tests

Grade 8 Students in 2013-2014

State Results

State: Maine

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Grade Level Summary Report

State: Maine

PARTICIPATION in NECAP	Number									Percentage								
	School			District			State			School			District			State		
Students enrolled on or after October 1							13,953									100		
	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing	Reading	Math	Writing
Students tested							**13,545**	**13,553**	**13,494**							**97**	**97**	**97**
With an approved accommodation							2,193	2,210	2,093							16	16	16
Current LEP Students							389	406	389							3	3	3
With an approved accommodation							129	145	114							33	36	29
IEP Students							2,196	2,195	2,175							16	16	16
With an approved accommodation							1,769	1,768	1,681							81	81	77
Students not tested in NECAP							**408**	**400**	**459**							**3**	**3**	**3**
State Approved							295	282	299							72	71	65
Alternate Assessment							235	234	234							80	83	78
First Year LEP							14	0	14							5	0	5
Withdrew After October 1							0	0	0							0	0	0
Enrolled After October 1							0	0	0							0	0	0
Special Consideration							46	48	51							16	17	17
Other							113	118	160							28	30	35

NECAP RESULTS

	State																									
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
READING	13,953	295	113	13,545	2,671	20	6,990	52	2,770	20	1,114	8	847												
MATH	13,953	282	118	13,553	2,193	16	5,423	40	3,026	22	2,911	21	841												
WRITING	13,953	299	160	13,494	486	4	5,808	43	5,163	38	2,037	15	838												

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Throughout this report, percentages may not total 100 since each percentage is rounded to the nearest whole number.

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Reading Results

State: Maine

Proficient with Distinction (Level 4)
Student's performance demonstrates an ability to read and comprehend grade-appropriate text. Student is able to analyze and interpret literary and informational text. Student offers insightful observations/assertions that are well supported by references to the text. Student uses range of vocabulary strategies and breadth of vocabulary knowledge to read and comprehend a wide variety of texts.
(Scaled Score 859–880)

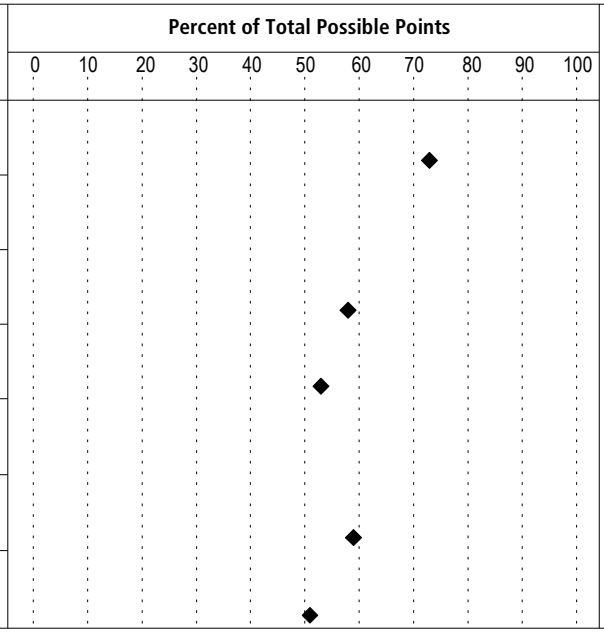
Proficient (Level 3)
Student's performance demonstrates an ability to read and comprehend grade-appropriate text. Student is able to analyze and interpret literary and informational text. Student makes and supports relevant assertions by referencing text. Student uses vocabulary strategies and breadth of vocabulary knowledge to read and comprehend text.
(Scaled Score 840–858)

Partially Proficient (Level 2)
Student's performance demonstrates an inconsistent ability to read and comprehend grade-appropriate text. Student attempts to analyze and interpret literary and informational text. Student may make and/or support assertions by referencing text. Student's vocabulary knowledge and use of strategies may be limited and may impact the ability to read and comprehend text.
(Scaled Score 828–839)

Substantially Below Proficient (Level 1)
Student's performance demonstrates minimal ability to derive/construct meaning from grade-appropriate text. Student may be able to recognize story elements and text features. Student's limited vocabulary knowledge and use of strategies impacts the ability to read and comprehend text.
(Scaled Score 800–827)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12													
2012-13													
2013-14													
Cumulative Total													
District													
2011-12													
2012-13													
2013-14													
Cumulative Total													
State													
2011-12	14,397	251	115	14,031	2,933	21	7,864	56	2,380	17	854	6	848
2012-13	14,085	244	96	13,745	2,653	19	7,877	57	2,380	17	835	6	848
2013-14	**13,953**	**295**	**113**	**13,545**	**2,671**	**20**	**6,990**	**52**	**2,770**	**20**	**1,114**	**8**	**847**
Cumulative Total	42,435	790	324	41,321	8,257	20	22,731	55	7,530	18	2,803	7	848

Subtopic	Total Possible Points
Word ID/Vocabulary	30
Type of Text	
Literary	55
Informational	59
Level of Comprehension	
Initial Understanding	55
Analysis & Interpretation	59



Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Disaggregated Reading Results

State: Maine

REPORTING CATEGORIES	State																								
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students	**13,953**	**295**	**113**	**13,545**	**2,671**	**20**	**6,990**	**52**	**2,770**	**20**	**1,114**	**8**	**847**												
Gender																									
Male	7,175	195	63	6,917	853	12	3,591	52	1,712	25	761	11	844												
Female	6,778	100	50	6,628	1,818	27	3,399	51	1,058	16	353	5	850												
Not Reported	0	0	0	0																					
Race/Ethnicity																									
Hispanic or Latino	223	8	4	211	29	14	117	55	43	20	22	10	845												
Not Hispanic or Latino																									
American Indian or Alaskan Native	104	2	2	100	14	14	58	58	15	15	13	13	845												
Asian	203	1	0	202	57	28	107	53	26	13	12	6	851												
Black or African American	408	20	6	382	33	9	155	41	120	31	74	19	840												
Native Hawaiian or Pacific Islander	19	2	0	17	1	6	13	76	3	18	0	0	846												
White	12,794	261	99	12,434	2,510	20	6,433	52	2,517	20	974	8	848												
Two or more races	202	1	2	199	27	14	107	54	46	23	19	10	845												
No Race/Ethnicity Reported	0	0	0	0																					
LEP Status																									
Current LEP student	414	19	6	389	16	4	161	41	128	33	84	22	838												
Former LEP student - monitoring year 1	11	2	0	9																					
Former LEP student - monitoring year 2	47	5	1	41	11	27	27	66	2	5	1	2	852												
All Other Students	13,481	269	106	13,106	2,642	20	6,797	52	2,638	20	1,029	8	848												
IEP																									
Students with an IEP	2,505	248	61	2,196	26	1	524	24	898	41	748	34	833												
All Other Students	11,448	47	52	11,349	2,645	23	6,466	57	1,872	16	366	3	850												
SES																									
Economically Disadvantaged Students	5,970	168	65	5,737	623	11	2,803	49	1,564	27	747	13	843												
All Other Students	7,983	127	48	7,808	2,048	26	4,187	54	1,206	15	367	5	850												
Migrant																									
Migrant Students	2	0	0	2																					
All Other Students	13,951	295	113	13,543	2,671	20	6,988	52	2,770	20	1,114	8	847												
Title I																									
Students Receiving Title I Services	1,683	20	19	1,644	228	14	793	48	467	28	156	9	845												
All Other Students	12,270	275	94	11,901	2,443	21	6,197	52	2,303	19	958	8	848												
504 Plan																									
Students with a 504 Plan	574	8	4	562	74	13	319	57	138	25	31	6	846												
All Other Students	13,379	287	109	12,983	2,597	20	6,671	51	2,632	20	1,083	8	847												

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Mathematics Results

State: Maine

Proficient with Distinction (Level 4)
Student's problem solving demonstrates logical reasoning with strong explanations that include both words and proper mathematical notation. Student's work exhibits a high level of accuracy, effective use of a variety of strategies, and an understanding of mathematical concepts within and across grade level expectations. Student demonstrates the ability to move from concrete to abstract representations.
(Scaled Score 852–880)

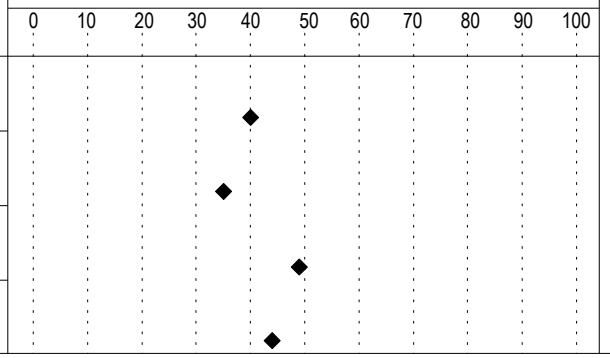
Proficient (Level 3)
Student's problem solving demonstrates logical reasoning with appropriate explanations that include both words and proper mathematical notation. Student uses a variety of strategies that are often systematic. Computational errors do not interfere with communicating understanding. Student demonstrates conceptual understanding of most aspects of the grade level expectations.
(Scaled Score 840–851)

Partially Proficient (Level 2)
Student's problem solving demonstrates logical reasoning and conceptual understanding in some, but not all, aspects of the grade level expectations. Many problems are started correctly, but computational errors may get in the way of completing some aspects of the problem. Student uses some effective strategies. Student's work demonstrates that he or she is generally stronger with concrete than abstract situations.
(Scaled Score 834–839)

Substantially Below Proficient (Level 1)
Student's problem solving is often incomplete, lacks logical reasoning and accuracy, and shows little conceptual understanding in most aspects of the grade level expectations. Student is able to start some problems but computational errors and lack of conceptual understanding interfere with solving problems successfully.
(Scaled Score 800–833)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12													
2012-13													
2013-14													
Cumulative Total													
District													
2011-12													
2012-13													
2013-14													
Cumulative Total													
State													
2011-12	14,397	258	126	14,013	2,374	17	6,035	43	3,002	21	2,602	19	842
2012-13	14,085	239	103	13,743	2,174	16	6,209	45	2,635	19	2,725	20	842
2013-14	**13,953**	**282**	**118**	**13,553**	**2,193**	**16**	**5,423**	**40**	**3,026**	**22**	**2,911**	**21**	**841**
Cumulative Total	42,435	779	347	41,309	6,741	16	17,667	43	8,663	21	8,238	20	842

Subtopic	Total Possible Points
Numbers & Operations	34
Geometry & Measurement	43
Functions & Algebra	67
Data, Statistics, & Probability	26



Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Disaggregated Mathematics Results

State: Maine

REPORTING CATEGORIES	State																								
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students	**13,953**	**282**	**118**	**13,553**	**2,193**	**16**	**5,423**	**40**	**3,026**	**22**	**2,911**	**21**	**841**												
Gender																									
Male	7,175	188	64	6,923	1,116	16	2,618	38	1,534	22	1,655	24	841												
Female	6,778	94	54	6,630	1,077	16	2,805	42	1,492	23	1,256	19	842												
Not Reported	0	0	0	0																					
Race/Ethnicity																									
Hispanic or Latino	223	5	2	216	16	7	73	34	52	24	75	35	838												
Not Hispanic or Latino																									
American Indian or Alaskan Native	104	2	2	100	9	9	40	40	22	22	29	29	838												
Asian	203	1	0	202	64	32	80	40	34	17	24	12	846												
Black or African American	408	11	6	391	13	3	93	24	111	28	174	45	834												
Native Hawaiian or Pacific Islander	19	0	0	19	2	11	12	63	4	21	1	5	843												
White	12,794	262	105	12,427	2,060	17	5,064	41	2,748	22	2,555	21	842												
Two or more races	202	1	3	198	29	15	61	31	55	28	53	27	839												
No Race/Ethnicity Reported	0	0	0	0																					
LEP Status																									
Current LEP student	414	5	3	406	14	3	83	20	118	29	191	47	833												
Former LEP student - monitoring year 1	11	2	0	9																					
Former LEP student - monitoring year 2	47	5	1	41	7	17	25	61	7	17	2	5	845												
All Other Students	13,481	270	114	13,097	2,170	17	5,311	41	2,899	22	2,717	21	842												
IEP																									
Students with an IEP	2,505	247	63	2,195	21	1	271	12	460	21	1,443	66	830												
All Other Students	11,448	35	55	11,358	2,172	19	5,152	45	2,566	23	1,468	13	844												
SES																									
Economically Disadvantaged Students	5,970	156	69	5,745	399	7	1,903	33	1,598	28	1,845	32	837												
All Other Students	7,983	126	49	7,808	1,794	23	3,520	45	1,428	18	1,066	14	844												
Migrant																									
Migrant Students	2	0	0	2																					
All Other Students	13,951	282	118	13,551	2,193	16	5,422	40	3,026	22	2,910	21	841												
Title I																									
Students Receiving Title I Services	1,683	18	18	1,647	132	8	490	30	508	31	517	31	838												
All Other Students	12,270	264	100	11,906	2,061	17	4,933	41	2,518	21	2,394	20	842												
504 Plan																									
Students with a 504 Plan	574	8	5	561	74	13	231	41	155	28	101	18	841												
All Other Students	13,379	274	113	12,992	2,119	16	5,192	40	2,871	22	2,810	22	841												

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Writing Results

State: Maine

Proficient with Distinction (Level 4)
Student's writing demonstrates an ability to respond to prompt/task with clarity and insight. Focus is well developed and maintained throughout response. Response demonstrates use of strong organizational structures. A variety of elaboration strategies is evident. Sentence structures and language choices are varied and used effectively. Response demonstrates control of conventions; minor errors may occur.
(Scaled Score 854–880)

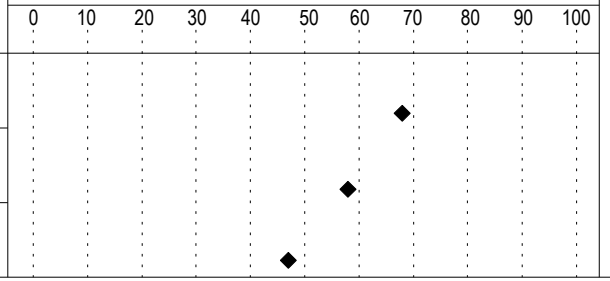
Proficient (Level 3)
Student's writing demonstrates an ability to respond to prompt/task. Focus is clear and maintained throughout the response. Response is organized with a beginning, middle, and end with appropriate transitions. Details are sufficiently elaborated to support focus. Sentence structures and language use are varied. Response demonstrates control of conventions; errors may occur but do not interfere with meaning.
(Scaled Score 840–853)

Partially Proficient (Level 2)
Student's writing demonstrates an attempt to respond to prompt/task. Focus may be present but not maintained. Organizational structure is inconsistent with limited use of transitions. Details may be listed and lack elaboration. Sentence structures and language use are unsophisticated and may be repetitive. Response demonstrates inconsistent control of conventions.
(Scaled Score 827–839)

Substantially Below Proficient (Level 1)
Student's writing demonstrates a minimal response to prompt/task. Focus is unclear or lacking. Little or no organizational structure is evident. Details are minimal and/or random. Sentence structures and language use are minimal or absent. Frequent errors in conventions may interfere with meaning.
(Scaled Score 800–826)

	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%	
School													
2011-12													
2012-13													
2013-14													
Cumulative Total													
District													
2011-12													
2012-13													
2013-14													
Cumulative Total													
State													
2011-12	14,397	265	165	13,967	963	7	6,116	44	5,175	37	1,713	12	839
2012-13	14,085	243	146	13,696	1,613	12	6,248	46	4,198	31	1,637	12	841
2013-14	**13,953**	**299**	**160**	**13,494**	**486**	**4**	**5,808**	**43**	**5,163**	**38**	**2,037**	**15**	**838**
Cumulative Total	42,435	807	471	41,157	3,062	7	18,172	44	14,536	35	5,387	13	839

Subtopic	Total Possible Points
Multiple Choice	10
Short Responses	12
Extended Response	12



Fall 2013 - Beginning of Grade 8 NECAP Tests

Grade 8 Students in 2013-2014

Disaggregated Writing Results

State: Maine

REPORTING CATEGORIES	State																								
	Enrolled	NT Approved	NT Other	Tested	Level 4		Level 3		Level 2		Level 1		Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score	Tested	Level 4	Level 3	Level 2	Level 1	Mean Scaled Score
	N	N	N	N	N	%	N	%	N	%	N	%		N	%	%	%	%		N	%	%	%	%	
All Students	**13,953**	**299**	**160**	**13,494**	**486**	**4**	**5,808**	**43**	**5,163**	**38**	**2,037**	**15**	**838**												
Gender																									
Male	7,175	197	86	6,892	114	2	2,185	32	3,064	44	1,529	22	835												
Female	6,778	102	74	6,602	372	6	3,623	55	2,099	32	508	8	841												
Not Reported	0	0	0	0																					
Race/Ethnicity																									
Hispanic or Latino	223	8	5	210	0	0	82	39	97	46	31	15	837												
Not Hispanic or Latino																									
American Indian or Alaskan Native	104	2	4	98	4	4	32	33	46	47	16	16	836												
Asian	203	1	0	202	19	9	113	56	53	26	17	8	842												
Black or African American	408	20	8	380	5	1	109	29	172	45	94	25	834												
Native Hawaiian or Pacific Islander	19	2	0	17	0	0	7	41	7	41	3	18	838												
White	12,794	265	140	12,389	451	4	5,392	44	4,712	38	1,834	15	838												
Two or more races	202	1	3	198	7	4	73	37	76	38	42	21	836												
No Race/Ethnicity Reported	0	0	0	0																					
LEP Status																									
Current LEP student	414	19	6	389	0	0	85	22	194	50	110	28	832												
Former LEP student - monitoring year 1	11	2	0	9																					
Former LEP student - monitoring year 2	47	5	1	41	1	2	30	73	8	20	2	5	843												
All Other Students	13,481	273	153	13,055	484	4	5,686	44	4,961	38	1,924	15	838												
IEP																									
Students with an IEP	2,505	248	82	2,175	1	<1	137	6	913	42	1,124	52	827												
All Other Students	11,448	51	78	11,319	485	4	5,671	50	4,250	38	913	8	840												
SES																									
Economically Disadvantaged Students	5,970	167	93	5,710	76	1	1,824	32	2,512	44	1,298	23	835												
All Other Students	7,983	132	67	7,784	410	5	3,984	51	2,651	34	739	9	840												
Migrant																									
Migrant Students	2	0	0	2																					
All Other Students	13,951	299	160	13,492	486	4	5,807	43	5,162	38	2,037	15	838												
Title I																									
Students Receiving Title I Services	1,683	20	27	1,636	34	2	530	32	763	47	309	19	836												
All Other Students	12,270	279	133	11,858	452	4	5,278	45	4,400	37	1,728	15	838												
504 Plan																									
Students with a 504 Plan	574	8	7	559	12	2	188	34	263	47	96	17	836												
All Other Students	13,379	291	153	12,935	474	4	5,620	43	4,900	38	1,941	15	838												

Level 4 = Proficient with Distinction; Level 3 = Proficient; Level 2 = Partially Proficient; Level 1 = Substantially Below Proficient

Note: Some numbers may have been left blank because fewer than ten (10) students were tested.

APPENDIX S—DECISION RULES

Data Analysis and Static Reporting Decision Rules
NECAP
Fall 13-14 Administration

This document specifies rules for data analysis and static reporting requirements. The final student level data set used for analysis and reporting is described in the "Data Processing Specifications." This document is considered a draft until the NECAP State Departments of Education (DOE) signs off. If there are rules that need to be added or modified after said sign-off, DOE sign off will be obtained for each rule. Details of these additions and modifications will be in the Addendum section.

I. General Information

NECAP is administered in the fall and spring. This document incorporates fall and spring rules so that changes are carried to future administrations. In the fall, students are reported based on the current year fall school /district (referred to as testing school/district) and prior year spring school/district (referred to as teaching school/district). In the spring, students are reported based on the spring school/district (referred to as testing school/district). In the spring, students are not reported based on the teaching school. Rules pertaining to the teaching school/district can be ignored for spring administrations. For more information regarding discode, schcode, sprdiscode, sprschcode, senddiscode, and sprsenddiscode, please refer to the data processing specifications and demographic data specification.

This document is the official rules for the current reporting administration.

A. Fall Tests Administered:

Grade	Subject	Test Type	Test items used for Scaling
03	Reading	Operational	Common
03	Math	Operational	Common
04	Reading	Operational	Common
04	Math	Operational	Common
05	Reading	Operational	Common
05	Math	Operational	Common
05	Writing	Operational	Common
06	Reading	Operational	Common
06	Math	Operational	Common
07	Reading	Operational	Common
07	Math	Operational	Common
08	Reading	Operational	Common
08	Math	Operational	Common
08	Writing	Operational	Common
11	Reading	Operational	Common
11	Math	Operational	Common
11	Writing	Operational	Common

B. Spring Tests Administered

Grade	Subject	Test items used for Scaling	Item Reporting Categories (Subtopic and Subcategory Source)
04	Science	Common	Cat3
08	Science	Common	Cat3
11	Science	Common	Cat3

C. Reports Produced:

1. Student Report

   a. Testing School District

I. Parent Copy

II. School Copy

2. Interactive Reporting (Only the data analysis requirements are outlined in this document)
   a. Item Analysis
   b. Achievement Level Summary
   c. Item Information
   d. Student Longitudinal
3. Grade Level School/District/State Results
   a. Testing School District
   b. Teaching School District – District and School Levels only (Fall Only)
4. School/District/State Summary (School Level is produced in the Fall Only)
   a. Testing School District
   b. Teaching School District – District and School Levels only (Fall Only)
5. Writing Prompt CDs

D. Files Produced*:*

1. Preliminary State Results
2. State Student Released Item Data
3. State Student Raw Data
4. State Student Scored Data
5. District Student Data
6. School Student Data
7. Common Item Information
8. Grade Level Results Report Disaggregated and Historical Data
9. State Standard Deviations and Average Scaled Scores
10. Grade Level Results Report Participation Category Data
11. Grade Level Results Report Subtopic Data
12. Summary Results Data
13. Released Item Percent Responses Data
14. Invalidated Students Original Score
15. Student Questionnaire Summary
16. TCTA Questionnaire Raw Data
17. TCTA Questionnaire Frequency Distribution
18. Scaled Score Lookup
19. Grade 11Writing Score Distribution Results
20. Grade 11Writing Historical Subtopic Results
21. Subtopic Average Points Earned (For Program Management)
22. Item Stats for Inquiry Task Items (For Program Management)

23. Memo Shipping files (For Program Management)
24. Released Item Info File (For Program Management)
25. CD print file.

E. School Type*:*

Testing School Type: SchType **Teaching School Type: sprSchType (Fall Only)**	**Source: ICORE SubTypeID**	**Description**	**States**
PUB	1,12,13	Public School	ME, NH, RI, VT
CHA	11	Charter School	NH, RI, ME
PSP	19	Public Special Purpose	ME
PSE	15	Public Special Education	ME
INS	7	Institution	VT
OTH	9	Other	VT
OOD	4	Out-of-District Private Providers	NH
OUT	8	Out Placement	RI
PSN	23	Private Special Purpose	ME
BIG	6	Private with >60% Publicly Funded	ME
PRI	3	Private School	RI, VT

School Type Impact on Data Analysis and Reporting				
Level	**Testing**		**Teaching (Fall Only)**	
	Impact on Analysis	**Impact on Reporting**	**Impact on Analysis**	**Impact on Reporting**
Student	n/a	Report students based on testing discode and schcode. District data will be blank for students tested at BIG, PSN, PRI, OOD, OUT, INS, or OTH schools. Always print tested year state data.	n/a	n/a
School	Do not exclude any students based on school type using testing school code for aggregations	Generate a report for each school with at least one student enrolled using the tested school aggregate denominator. District data will be blank for BIG, PSN, PRI, OOD, OUT, INS, or OTH schools. Always print tested year state data.	Exclude students who do not have a teaching school code.	Generate a report for each school with at least one student enrolled using the teaching school aggregate denominator. District data will be blank for BIG, PSN, PRI, OOD, OUT, INS, or OTH schools. Always print tested year state data.
District	For OUT, OOD,	Generate a report for each	For OUT, OOD,	Generate a report for each

	BIG, and PSN schools, aggregate using the sending district. If OUT, OOD, BIG, or PSN student does not have a sending district, do not include in aggregations. Do not include students tested at PRI, INS, or OTH schools	district with at least one student enrolled using the tested district aggregate denominator. Always report tested year state data.	BIG, and PSN teaching schools, aggregate using the spring sending district. If OUT, OOD, BIG, or PSN teaching school student does not have a teaching sending district, do not include in aggregations. Do not include students taught at PRI, INS, or OTH schools	district with at least one student enrolled using the teaching district aggregate denominator. Always report tested year state data.
State	Do not include students tested at PRI schools for NH and RI. Include all students for VT and ME.	Always report testing year state data.	n/a	n/a

F. Student Status

StuStatus	Description
1	Homeschooled
2	Privately Funded
3	Exchange Student
4	Excluded State
0	Publicly Funded

StuStatus impact on Data Analysis and Reporting		
Level	**Impact on Analysis**	**Impact on Reporting**
Student	n/a	School and District data will be blank for students with a StuStatus value of 1, 2, or 3. Always print tested year state data. For StuStatus values of 1, 2, and 3 print the description from the table above for the school and district names.
School	Exclude all students with a StuStatus value of 1, 2, or 3.	Students with a StuStatus value of 1, 2, or 3 are excluded from Interactive Reporting.
District	Exclude all students with a StuStatus value of 1, 2, or 3.	n/a
State	Exclude all students with a StuStatus value of 1, 2, 3 or 4.	n/a.

G. Requirements To Report Aggregate Data (Minimum N)

Calculation Description	**Rule**
Number and Percent at each achievement level, mean score by disaggregated category and aggregate level	If the number of tested students included in the denominator is less than 10, then do not report.
Content Area Subcategories Average Points Earned based on common items only by aggregate level	If the number of tested students included in the denominator is less than 10, then do not report.
Aggregate data on Item Analysis report	No required minimum number of students
Number and Percent of students in a participation category by aggregate level	No required minimum number of students
Content Area Subtopic Percent of Total Possible Points and Standard Error Bar and Grade 11 Writing Distribution of Score Points Across Prompts	If any item was not administered to at least one tested student included in the denominator or the number of tested students included in the denominator is less than 10, then do not report
Content Area Cumulative Total Enrollment, Not tested, Tested, Number and Percent at each achievement level, mean score	Suppress all cumulative total data if at least one reported year has fewer than 10 tested students. The reported years are 1112, 1213, and 1314.

H. Special Forms*:*

1. Form 00 is created for students whose matrix scores will be ignored for analysis. Such students include Braille or administration issues resolved by program management.

I. Other Information

1. NH, RI, and VT participate in NECAP testing for Grades 03-08 and 11. ME only participates in NECAP testing for Grades 03-08.
2. Grade 12 students are allowed to participate in the NECAP Grade 11 test under the following circumstances: RI students trying to improve prior NECAP score, and NH, RI, and VT students taking the NECAP Grade 11 test for the first time.
   a. RI students trying to improve are identified as StuGrade=12 and Grade=11. They only receive a student report. They are not listed on a roster or included in any aggregations. Do not print tested school and district aggregate data on the student report.
   b. For students taking NECAP for the first time the StuGrade in the student demographics file will be 11 and the remaining decision rules apply.
3. Plan504 data not available for NH and VT; therefore 504 Plan section will be suppressed for NH and VT.
4. To calculate Title1 data for writing using Title1rea variable.
5. Title 1 data are not available for VT; therefore Title 1 section will be suppressed for VT.
6. Title 1 Science data are not available for NH; therefore, Title 1 section will be suppressed for NH on Science specific reports. Title 1 Reading and Math data are available for NH and should not be suppressed.
7. Testing level is defined by the variables discode and schcode. Teaching level is defined by the variables sprdiscode and sprschcode. Every student will have testing district and school codes. In the fall, some students will have a teaching school code and some students will have a teaching district code. In the spring, no students will have a teaching school/district.
8. A non-public district code is a district code associated with a school that is type BIG, PSN, PRI, OOD, OUT, INS, or OTH. Non-public testing sending district codes will be ignored. . For example: For RI, senddiscode of 88 is ignored. For NH, senddiscode of 000 is ignored.

9. Only students with a testing school type of OUT, OOD, BIG, or PSN are allowed to have a testing sending district code. Testing sending district codes will be blanked for students at any other testing school types.

10. Only students with a teaching school type of OUT, OOD, BIG, or PSN are allowed to have a spring sending district code. Spring sending district codes will be blanked for students at any other teaching school types.

11. If students have a teaching district code and no teaching school, then ignore teaching district codes that are associated with schools that are BIG, PSN, PRI, OOD, OUT, INS, or OTH.

II. Student Participation / Exclusions

A. Test Attempt Rules by content area

1. Grade 11 writing was attempted if the common writing prompt is not scored blank 'B'. For all other grades and content areas test attempt can be determined as follows. A content area was attempted if any multiple choice item or non-field test open response item has been answered. (Use original item responses – see special circumstances section II.F)

2. A multiple choice item has been answered by a student if the response is A, B, C, D, or * (*=multiple responses)

3. An open response item has been answered if it is not scored blank 'B'

B. Session Attempt Rules by content area

1. A session was attempted if any multiple choice item or non-field test open response item has been answered in the session. (Use original item responses – see special circumstances section II.F)

2. Because of the test design for grade 11 writing, only determine if session 1 was attempted. Session 2 is ignored.

C. Not Tested Reasons by content area

1. Not Tested State Approved Alternate Assessment

   a. If a student links to the demographic file has content area not tested status of "Not Tested State Approved Alternate Assessment" is identified as "Not Tested State Approved Alternate Assessment" for the content area.

   b. If a student is identified as receiving an alternate assessment achievement level, then the student's record will be updated as outlined in the NECAP1314StudentDemographicFileDescription.doc.

2. Not Tested State Approved First Year LEP (reading and writing only)

   a. If a student links to the demographic file has content area not tested status of "Not Tested State Approved First Year LEP" or does not link to the demographic file has content area "First Year LEP blank or partially blank reason" marked, then the student is identified as "Not Tested State Approved First Year LEP".

3. Not Tested State Approved Special Consideration

   a. If a student links to the demographic data file has content area "Not Tested State Approved Special Consideration" indicated or does not link to the demographic data file and has content area "Special Consideration blank or partially blank reason" marked, then the student is identified as "Not Tested State Approved Special Consideration".

4. Not Tested State Approved Withdrew After

   a. If a student links to the demographic data file has content area not tested status of "Not Tested Withdrew After" and at least one content area session was not attempted or does not link to the demographic file has content area "Withdrew After blank or partially blank

reason" marked and at least one content area session was not attempted, then the student is identified as "Not Tested State Approved Withdrew After". For grade 11 writing, only use session 1 attempt status.

5. Not Tested State Approved Enrolled After

    a. If a student links to the demographic data file has content area not tested status of "Not Tested Enrolled After" and at least one content area session was not attempted or does not link to the demographic file has content area "Enrolled After blank or partially blank reason" marked and at least one content area session was not attempted, then the student is identified as "Not Tested State Approved Enrolled After". For grade 11 writing, only use session 1 attempt status.

6. Not Tested Other

    a. If content area test was not attempted, the student is identified as "Not Tested Other".

D. Not Tested Reasons Hierarchy by content area: if more than one reason for not testing at a content area is identified then select the first category indicated in the order of the list below.

1. Not Tested State Approved Alternate Assessment
2. Not Tested State Approved First Year LEP (reading and writing only)
3. Not Tested State Approved Special Consideration
4. Not Tested State Approved Enrolled After
5. Not Tested State Approved Withdrew After
6. Not Tested Other

E. Special Circumstances by content area

1. Item invalidation flags are provided to the DOE during data processing test clean up. The item invalidation flag variables are initially set using the rules below. The final values used for reporting are provided back to Measured Progress by the DOE and used in reporting.

    a. If reaaccomM2 is marked, then mark reaInvSes1, reaInvSes2, and reaInvSes3.
    b. If reaaccomM3 is marked, then mark reaInvSes1, reaInvSes2 and reaInvSes3.
    c. If mataccomM1 is marked then mark matInvSes1NC.
    d. If mataccomM3 is marked, then mark matInvSes1, matInvSes2, and matInvSes3.
    e. If wriaccomM3 is marked, then mark wriInvSes1 and wriInvSes2.
    f. If sciaccomM1 is marked, then mark sciInvSes3.
    g. If sciaccomM3 is marked, then mark sciInvSes1, sciInvSes2, and sciInvSes3.

2. A student is identified as content area tested if the student does not have any content area not tested reasons identified. Tested students are categorized in one of the four tested participation statuses: "Tested Damaged SRB", "Tested with Non-Standard Accommodations", "Tested Incomplete", and "Tested".

    a. Students with a common item response of 'X' are identified as "Tested Damaged SRB".
    b. Students identified as content area tested, are not identified as "Tested Damaged SRB", and have at least one of the content area invalidation session flags marked will be identified as "Tested with Non-Standard Accommodations". Grade 11 writing use only session 1 invalidation flag.
    c. Students identified as content area tested, are not identified as "Tested Damaged SRB", and not identified as "Tested with Non-Standard Accommodations" and did not attempt all sessions in the test are considered to be "Tested Incomplete."

d. All other tested students are identified as “Tested”.

3. For students identified as “Tested Damaged SRB”, the content area subcategories with at least one damaged item will not be reported. The school and district averages will be suppressed for the impacted subcategories on the student report. These students are excluded from all raw score aggregations (item, subcategory, and total raw score). They are included in participation, achievement level, and scaled score aggregations.

4. For students identified as “Tested with Non-Standard Accommodations” the content area sessions item responses which are marked for invalidation will be treated as a non-response

5. Students identified as tested in a content area will receive released item scores, scaled score, scale score bounds, achievement level, raw total score, subcategory scores, and writing annotations (where applicable).

6. Students identified as not tested in a content area will not receive a scaled score, scaled score bounds, achievement level, or writing annotations (where applicable). They will receive released item scores, raw total score, and subcategory scores.

7. Item scores for students that have an invalidation flag marked and a not tested status will be blanked out based on the invalidation flag. For example, if the student is identified as “Not Tested: State Approved Alternate Assessment” and has ReaInvSes1 marked, then all reading session 1 item responses will be reported as a blank.

F. Student Participation Status Hierarchy by content area

1. Not Tested: State Approved Alternate Assessment
2. Not Tested: State Approved First Year LEP (reading and writing only)
3. Not Tested: State Approved Special Consideration
4. Not Tested: State Approved Enrolled After
5. Not Tested: State Approved Withdrew After
6. Not Tested: Other
7. Tested Damaged SRB
8. Tested with Non-Standard Accommodations
9. Tested Incomplete
10. Tested

G. Student Participation Summary

Participation Status	**Description**	**Raw Score (*)**	**Scaled Score (&)**	**Ach. Level**	**Student Report Ach. Level Text**	**Roster Ach. Level Text**
Z	Tested Damaged SRB (**)	✓	✓	✓	Substantially Below Proficient, Partially Proficient, Proficient, or Proficient with Distinction	1, 2, 3, or 4
A	Tested	✓	✓	✓	Substantially Below Proficient, Partially Proficient, Proficient, or Proficient with Distinction	1, 2, 3, or 4
B	Tested Incomplete (%)	✓	✓	✓	Substantially Below Proficient, Partially Proficient, Proficient, or Proficient with Distinction	1, 2, 3, or 4

C	Tested with Non-Standard Accommodations (%%)	✓	✓	✓	Substantially Below Proficient, Partially Proficient, Proficient, or Proficient with Distinction	1, 2, 3, or 4
D	Not Tested State Approved Alternate Assessment	✓			Alternate Assessment	A
E	Not Tested State Approved First Year LEP (Reading and Writing only)	✓			First Year LEP	L
F	Not Tested State Approved Enrolled After	✓			Fall: Enrolled After October 1 Spring: Enrolled After May 11	E
G	Not Tested State Approved Withdrew After	✓			Fall: Withdrew After October 1 Spring: Withdrew After May 11	W
H	Not Tested State Approved Special Consideration	✓			Special Consideration	S
I	Not Tested Other	✓			Not Tested	N

If a student has a participation status of Alternate Assessment for all subjects assessed at the grade level, a Parent Letter is not produced.

(*) Raw scores are not printed on student report for students with a not tested status.

(**) Raw scores for Tested damaged SRB students will be reported based on the set of non-damaged items. Subcategory scores will not be reported if it includes a damaged item.

(%) Tested incomplete students will be identified on the student report with a footnote.

(%%) Tested with Non-standard accommodations students will be identified on student report with a footnote. The invalidated items will be stored as a '-' for item analysis.

(&) Grade 11 writing students do not receive a scaled score. The writing achievement level is determined by the total common writing prompt score.

III. Calculations

A. Rounding

1. All percents are rounded to the nearest whole number
2. All mean scaled scores are rounded to the nearest whole number
3. All mean raw scores are rounded to the nearest tenth.
4. Content Area Subcategories: Average Points Earned (student report): round to the nearest tenth.
5. Round non-multiple choice average item scores to the nearest tenth.

B. Students included in calculations based on participation status

1. For number and percent of students enrolled, tested, and not tested categories include all students not excluded by other decision rules.
2. For number and percent at each achievement level, average scaled score, subtopic percent of total possible points and standard error, subtopic distribution across writing prompts, subcategories average points earned, percent/correct average score for each released item include all tested students not excluded by other decision rules.

3. Students identified as Tested Damaged SRB are excluded from all raw score aggregations (item, subcategory, and total raw score). They are included in participation, achievement level, and scaled score aggregations.

C. Raw scores

1. For all analyses, non-response for an item by a tested student is treated as a score of 0. Items identified as damaged (response of 'X') will be excluded for student identified as "Tested Damaged SRB".

2. Content Area Total Points: Sum the points earned by the student for the common items.

D. Item Scores

1. For all analysis, non-response for an item by a tested student is treated as a score of 0.

2. For multiple choice released item data store a '+' for correct response, or A,B,C,D,* or blank

3. For open response released items, store the student score. If the score is not numeric ('B'), then store it as blank.

4. For students identified as content area tested with non-standard accommodations, then store the released item score as '-' for invalidated items.

5. For all writing prompt scores, the final score of record is the sum of scorer 1 and scorer 2. If both scorers give the student a B, then the final score is B. If both scorers give the student an O or F, then the final score is 0.

E. Scaling

1. Scale Form creation

Scaling is accomplished by defining the unique set of test forms for the grade/subject. This is accomplished as follows:

a. Translate each form and position into the unique item number assigned to the form/position.

b. Order the items by

I. Type – multiple-choice, short-answer, constructed- response, extended-response, writing prompt.

II. Form – common, then by ascending form number.

III. Position

c. If an item number is on a form, then set the value for that item number to '1', otherwise set to '.'. Set the Exception field to '0' to indicate this is an original test form.

d. If an item number contains an 'X' (item is not included in scaling) then set the item number to '.'. Set the Exception field to '1' to indicate this is not an original test form.

e. Compress all of the item numbers together into one field in the order defined in step II to create the test for the student.

f. Select the distinct set of tests from the student data and order them by the exception field and the descending test field.

g. Check to see if the test has already been assigned a scale form by looking in the tblScaleForm table. If the test exists then assign the existing scale form. Otherwise assign the next available scale form number. All scale form numbering starts at 01 and increments by 1 up to 99.

2. Scaled Score assignment

a. Psychometrics provides data analysis with a lookup table for each scale form. The lookup table contains the raw score and the resulting scaled score.

F. SubTopic Item Scores

1. Identify the Subtopic

a. Fall:

I. The variable ContentFramework from the IABS export contains the data needed to calculate Content Strand, GLE code, subtopics, and subcategories.

i The Content Strand is stored as Standard. Except for Writing, Standard and RepCat are calculated using the third portion of ContentFramework and Reporting Category GLE Codes.doc provided by PM. For Grade 11 writing, Standard and RepCat are calculated using Writing Grade 11 by Form and Genre.doc provided by PM. For Grades 05 and 08 writing use Writing Content Strand Info.xls provided by PM.

ii The GLE Code is stored as TargetCode and is calculated by content area. For all content area remove leading zeros.

- Reading: Concatenate the second and third portions of ContentFramework separated by a dash.
- Math: Concatenate the second and fourth portions of ContentFramework separated by a dash.
- Writing: For Grades 05 and 08 concatenate the second and third portions of ContentFramework separated by a dash.
- Writing: For Grade 11 Writing PM provided a list of the appropriate target codes.

II. The variable Process Framework contains Depth of Knowledge code.

III. The variable type in IABS is the source for the Item Type, except the writing prompt item type is reported as "ER".

IV. PM provided Data Analysis with 2010NECAP_IABS_ReleasedItemsMAT.xls, 2010NECAP_IABS_ReleasedItemsREA.xls, and 2010NECAP_IABS_ReleasedItemsWRI which contain the released item orders for Math, Reading, and Writing respectively.

b. Spring: NECAP science item information is stored in IABS, except for inquiry items.

I. Program management provided Data Analysis with "UPDATED Copy of NECAP1112SInquiryIREF.xls" which contains the item order, domain, assessment target, DOK, item type, and maximum possible points for the inquiry items. Inquiry items are administered in session 3.

i Item numbers are created for inquiry items using the convention [2 Digit Grade][2 Digit Test Year][Inquiry Item Order] where 14 and 18 are the 2 digit grades for 4 and 8 respectively.

II. Program management provided Data Analysis with "IABS Export Codes for NECAP SCI Reporting.doc" which contains the crosswalk between IABS item information and reporting.

III. Program management provided Data Analysis with "2010 IABS_Released ItemsSCI for Tara.xls" which contains released item order. Inquiry items are listed at the end in the order they are in the test booklet.

2. Student Content Area Subcategories (student report): Subtopic item scores at the student level is the sum of the points earned by the student for the common items in the subtopic. For grade 11 writing, the subtopic score is the final score of record for the common writing prompt.

3. Content Area Subtopic (grade level results report): Subtopic scores are based on all unique common and matrix items.

   a. Percent of Total Possible Points:

      I. For each unique common and matrix item calculate the average student score as follows: (sum student item score/number of tested students administered the item).

      II. 100 * (Sum the average score for items in the subtopic)/(Total Possible Points for the subtopic) rounded to the nearest whole number.

   b. Standard Error Bar: Before multiplying by 100 and rounding the Percent of Total Possible points (ppe) calculate standard error for school, district and state: 100* (square root (((ppe)*(1-ppe))/(number of tested students)) rounded to the nearest tenth. For the lower bound and upper bound round the Percent of Total Possible Points +/- Rounded Standard Error to the nearest hundredth.

   c. For grade11writing calculate the mean and standard deviation of each writing prompt score. These averages and standard deviations will be linked historically to the prior year averages and standard deviations by writing type.

G. Grade 11 Writing prompt Score Distribution

1. Calculate number and percent of students at each score point by school, district, and state according to schtype and stustatus inclusion rules.

H. Cumulative Total

1. Include the yearly results where the number tested is greater than or equal to 10

2. Cumulative total N (Enrolled, Not Tested Approved, Not Tested Other, Tested, at each achievement level) is the sum of the yearly results for each category where the number tested is greater than or equal to 10.

3. Cumulative percent for each achievement level is 100*(Number of students at the achievement level cumulative total / number of students tested cumulative total) rounded to the nearest whole number.

4. Cumulative mean scaled score is a weighted average. For years where the number tested is greater than or equal to 10, (sum of (yearly number tested * yearly mean scaled score)) / (sum of yearly number tested) rounded to the nearest whole number.

I. Participation

1. For participation calculate the number and percent of students in each of the following categories by school, district, and state according to schtype and stustatus decision rules.

2. Note that a student is tested with approved accommodations if one is tested, has a non-M accommodation marked, and does not have the M2 or M3 accommodation marked for that subject.

   a. For Students Enrolled, Students Tested, and Students Not Tested the denominator will be the number of students enrolled

   b. For Students Tested with approved Accommodations, Current LEP Students Tested (LEP=1), and IEP Students Tested the denominator will be the number of students tested.

   c. For Current LEP Students Tested with approved accommodations (LEP=1) the denominator will be the number of current LEP students tested.

   d. For IEP Students Tested with approved accommodations the denominator will be the number of IEP students tested.

   e. For Students Not Tested State Approved and Not Tested Other the denominator will be the number of students not tested.

f. For Students Not Tested Alternate Assessment, First Year LEP, Withdrew After October 1, Enrolled After October 1, and Special Considerations the denominator will be the number of students not tested state approved.

J. Average Points Earned Students at Proficient Level (Range)

1. Select all students across the states with Y40 scaled score, where Y=grade. Average the content area subcategories across the students. Add and subtract one standard error of measurement to get the range and round to the nearest tenth.

2. Grade 11 writing Average Points Earned Students at Proficient Level will be reported as '7'.

3. For grades 05 and 08 writing prompt select all students across the states with the Y40 scaled score. Average the prompt scores across the students. Add and subtract one standard error to get the range and round to the nearest tenth.

K. Writing Annotations

1. Students with a writing prompt score of 2-12 receive at least one, but up to five statements based on decision rules for annotations as outlined in Final Statements & Decision Rules for NECAP Writing Annotations.doc. Students with the common writing prompt score of F or O will also receive annotations of FF and OO respectively.

IV. Report Specific Rules

A. *Student Report*

1. Student header Information

a. If "FNAME" or "LNAME" is not missing then print "FNAME MI LNAME". Otherwise, print "No Name Provided".

b. Print the student's single digit tested grade

c. For school and district name do the following.

I. For students with a stustatus value of 0 or 4, print the abbreviated tested school and district ICORE name based on school type decision rules.

II. Otherwise, for the school and district names print the "Description" in the StuStatus table presented earlier in this document.

d. Print "ME", "NH","RI", or "VT" for state.

2. Test Results by content area

a. Always display the cut scores in the graphic display.

a. For students identified as "Not Tested", print the not tested reason in the achievement level, leave scaled score and graphic display blank.

b. For students identified as tested for the content area then do the following

I. Print the complete achievement level name the student earned

II. Print the scaled score the student earned

III. Print a vertical black bar for the student scaled score with gray horizontal bounds in the graphic display

IV. For students identified as "Tested with a non-standard accommodation" for a content area, print '**' after the content area earned achievement level and after student points earned for each subcategory.

V. For students identified as "Tested Incomplete" for a content area, place a section symbol after content area earned scaled score.

VI. Grade 11 writing graphic display will not have standard error bars. Also, if a student's total points earned is 0 for writing, do not print the graphic display.

3. This Student's Achievement Compared to Other Students by content area

   a. For tested students, print a check mark in the appropriate achievement level in the content area student column. For not tested students leave student column blank

   b. For percent of students with achievement level by school, district, and state print aggregate data based on student status, StuGrade, school type and minimum N rules.

4. This Student's Performance in Content Area Subcategories by content area

   a. Always print total possible points and students at proficient average points earned range.

   b. For students identified as not tested then leave student scores blank

   c. For students identified as tested do the following

      I. Print school, district, and state aggregate data for subcategories based on student status, StuGrade, school type and minimum N rules.

      II. For students identified as "Tested Damaged SRB" do not report student, school, and district aggregate data for subcategories that have at least one damaged item. Print Points Possible and state aggregate data.

      III. Otherwise, always print student subcategory scores

      IV. If the student is identified as tested with a non-standard accommodation for the content area then place '**' after the student points earned for each subcategory.

5. Writing Annotations

   a. Since 1213, writing annotations do not print on the student reports.

6. Footer information

   a. Footnotes

      I. If the student received a participation status of "Tested with a non-standard accommodation" for any content area then print "**Student received no credit for parts of the test that were administered under non-standard conditions."

      II. If the student received a participations status of "Tested Incomplete" for any content area then print "§This score should be viewed with caution because the student did not complete all parts of the test."

      III. If both footnotes should appear, the print I. above II.

   b. For NH the SAU, district, and school codes should appear at the bottom right of the page separated by '-'.

   c. For ME, RI, and VT district and school codes should appear at the bottom right of the page separated by '-'.

B. Grade Level School/District/State Results

1. Reports are run by testing state, testing district, testing school using the aggregate school and district codes described in the school type table.

2. Fall Only: Reports are also run by teaching district, and teaching school using the aggregate school and district codes described in the school type table.

3. Exclude students based on stugrade=12, student status, school type and participation status decision rules for aggregations.

4. The reports will be collated as follows:

   a. Page 1 is the Title page.

b. Page 2 is the Participation Results

c. Page 3 is the Reading Historical and Subtopic Results

d. Page 4 is the Reading Disaggregated Results

e. Page 5 is the Math Historical and Subtopic Results

f. Page 6 is the Math Disaggregated Results

g. Page 7 is the Writing Historical and Subtopic Results (for Grades 05 and 08 only)

h. Page 8 is the Writing Disaggregated Results (for Grades 05 and 08 only)

i. Page 7 is the Writing Historical Results (for Grade 11only)

j. Page 8 is the Writing Subtopic Results Page (for Grade 11only)

k. Page 9 is the Writing Score Distribution Results (for Grade 11 only)

l. Page 10 is the Writing Disaggregated Results (for Grade 11 only)

5. Report Header Information

   a. "Fall YYYY Beginning of Grade XX NECAP Tests" where XX is the single digit grade level and YYYY is the year, will print as the title.

   b. Teaching level reports will have the following subtitle: "Grade XX-1 Students in (YYYY-1)-(YYYY)".

   c. Testing level reports will have the following subtitle: "Grade XX Students in (YYYY)-(YYYY+1)".

   d. Use abbreviated school and district name from ICORE based on school type decision rules.

   e. Print "Maine", "New Hampshire", "Rhode Island", or "Vermont" to reference the state. The state graphic is printed on the first page.

   f. For NH print SAU, district, and school codes separated by '-' for Code on first page for school level. Print SAU and district codes separated by '-' for the district level. Print the full state name for the state level.

   g. For ME, RI, and VT print district and school codes separated by '-' for Code on first page for the school level. Print the district code for the district level. Print the full state name for the state level.

6. For achievement level and participation category data if the number of students in an achievement level or participation category does not equal 0, and the percent of students is 0 then format the percent as <1.

7. Report Section: Participation in NECAP

   a. For testing level reports always print number and percent based on school type decision rules.

   b. For the teaching level reports leave the section blank.

8. Report Section: NECAP Results by content area

   a. For the testing level report always print based on minimum N-size and school type decision rules.

   b. For the teaching level report leave Enrolled, NT Approved, and NT Other blank. Print Tested, number and percent at each achievement level, mean scaled score based on minimum N-size and school type decision rules.

9. Report Section: Historical NECAP Results by content area

a. For tested level report always print current year, prior years, and cumulative total results based on minimum N-size and school type decision rules.

b. For teaching level report leave Enrolled, NT Approved, and NT Other blank. Print Tested, number and percent at each achievement level, mean scores based on minimum N-size and school type decision rules.

c. Bold current year data.

10. Report Section: Subtopic Results by content area

a. For testing and teaching level reports always print based on minimum N-size and school type decision rules

11. Report Section: Historical Score Comparison (Grade 11 Writing Only)

a. For testing and teaching level reports always print based on minimum N-size and school type decision rules

b. The subtopic associated with the current year common prompt will appear first. The other subtopics will appear in the following GE sort order.

I. Response to Literary Text

II. Response to Informational Text

III. Reflective Essay

IV. Report

V. Persuasive Essay

VI. Procedure

12. Report Section: Common Prompt Score Distribution (Grade 11 Writing Only)

b. For testing and teaching level reports always print based on minimum N-size and school type decision rules

13. Report Section: Disaggregated Results by content area

a. For testing level report always print based on minimum N-size and school type decision rules.

b. For teaching level report leave Enrolled, NT Approved, and NT Other blank. Print Tested, number and percent at each achievement level, mean scores based on minimum N-size and school type decision rules.

C. School/District/State Summary (School Level is run in the Fall Only)

1. Report Header Information

a. Use abbreviated school and district name from ICORE based on school type decision rules.

b. Print “Maine”, “New Hampshire”, “Rhode Island”, or “Vermont” to reference the state.

c. For NH print SAU, district, and school codes separated by ‘-’ for Code on first page for school level. Print SAU and district codes separated by ‘-’ for the district level. Print the full state name for the state level.

d. For ME, RI, and VT print district and school codes separated by ‘-’ for Code on first page for the school level. Print the district code for the district level. Print the full state name for the state level.

2. Reports are run by testing state, testing district, testing school (Fall Only) using the aggregate school and district codes described in the school type table

3. Fall Only: Reports are also run by teaching district, and teaching school using the aggregate school and district codes described in the school type table.

4. Exclude students based on StuGrade=12, student status, school type and participation status decision rules for aggregations.

5. For achievement level and participation category data if the number of students in an achievement level or participation category does not equal 0, and the percent of students is 0 then format the percent as <1.

6. For testing level report print entire aggregate group across grades tested and list grades tested results based on minimum N-size and school type decision rules. Mean scores across the grades is not calculated.

7. For the teaching level report leave Enrolled, NT Approved, and NT Other blank. Print Tested, number and percent at each achievement level, mean scaled score based on minimum N-size and school type decision rules. Mean scores across the grades is not calculated.

8. Printed Grade Column

   a. For the all grades row, display the school, district, or state name.

   b. For grades 3-8 and 11 rows print Beginning of Grade X.

D. Writing Prompt CD

1. The bookletnumber associated with the writing prompt score will be stored in tblStuDemo.

V. Data Requirements Interactive Reporting

A. Student Level

1. Refer to Sections II and III. D for decision rules on how student test data will be stored.

2. Students will be loaded into the Interactive System based off of the Interactive flag in tblStuDemo. Students with Interactive flag set to 0 will not be loaded into the system. Students with Interactive set to 1 will be loaded.

   a. Students with StuStatus value of 1, 2, or 3 or RI StuGrade=12 will have the Interactive flag set to 0.

   b. All others will have Interactive=1.

3. The Included flag will determine which students are included in school level aggregations. Students with Included=0 are excluded from all aggregations. Students with Included=2 will be included in Performance Level aggregations and excluded from raw score aggregations (item, subcategory, and total raw score). Students with Included=1 will be included in all school level aggregations.

   a. Students with a Not Tested Participation Status, StuStatus=1, 2, or 3, or RI StuGrade=12 will have their Included flag set to 0.

   b. Students who do fall into the above group and have Participation Status of Tested Damaged SRB will have their Included flag set to 2.

   c. All other students will have their Included flag set to 1.

4. Longitudinal Data

   a. Only students with a valid StudentID and Interactive flag=1 will be loaded.

   b. The complete achievement level name or not tested reason will be stored.

B. Aggregate Level

1. Data Analysis will compute Item Averages for the whole group only at the testing and teaching (Fall only) School and District Levels.

2. Data Analysis will compute Item Averages for all of the filter combinations that exist at the State Level.

3. Data Analysis will create a lookup table with all of the possible filter combinations. It will contain the variable Filter with length 5. Each position represents one of the filter variables. It will contain all the possible combinations of the values plus nulls for when variables are not selected. The first position will be Gender, second Ethnic, third IEP, fourth LEP, and fifth EconDis.

4. Data Analysis will compute Item Averages, Achievement Level Summary, and Item Summary data for the filter combinations for a sample of schools for quality assurance review.

   a. For this sample, percents will be rounded to the nearest whole number and open response average scores will be rounded to the nearest tenth.

   b. For the Item Summary data, item responses other than A, B, C, and D will be counted in the IR column.

C. Released Item Data

1. In 1314 there will be 22 items included in the released item document posted on the supporting documents tab for grade 11 reading. Only 17 of these will have data released on the on the interactive system and in the student level csv files posted on the web. The last 5 items will not have data included in the system or files.

VI. Data File Rules

In the file names GR refers to the two digit grade (03-08, 11), YYYY refers to the year, DDDDD refers to the district code, and SS refers to two letter state code. Refer to the tables at the end of this section for filenames and layouts. Teaching level data files will be produced in the Fall Only.

A. Preliminary State Results

1. A PDF file will be created for each state containing preliminary state results for each grade and subject and will list historical state data for comparison.

2. The file name will be SSPreliminaryResultsDATE.pdf

B. State Student Released Item Data

1. A CSV file will be created for each state for grades 3-8 and one for grade 11.

2. One CSV file will be created for each state in the Spring.

3. Accommodation Flags

   a. If the student has at least 1 standard accommodation marked (excluding M) for a given subject then set [sub]STDaccom flag to ‘1’. Otherwise set it to ‘0’.

   b. For each group of accommodations (S, T, P, R, and O) if a student has any accommodation in that group marked set [sub]Accom[group]=‘1’. Otherwise set it to ‘0’.

   c. If a student has the M2 accommodation marked, then set [sub]AccomM2=‘1’. Otherwise set it to ‘0’.

   d. If a student has the M3 accommodation marked, then set [sub]AccomM3=‘1’. Otherwise set it to ‘0’.

4. Exclusion Rules

   a. NH: If the student has a testing school type of ‘PRI’ or StuStatus is 1, 2, 3, or 4 then exclude the student

   b. RI: If testing school type is PRI and teaching school type is PRI or blank, then exclude the student.

c. VT: Do not exclude any students

d. ME: If the student has a StuStatus is 1, 2, 3, or 4 then exclude the student

C. State Student Raw Data

1. A CSV file will be created for each state by grade span. The grade spans are 3-4, 5-8, and 11. In the spring, all grades will be combined.

2. If the student has at least 1 standard accommodation marked (excluding M) for a given subject then set [sub]STDaccom flag to '1'. Otherwise set it to '0'.

3. Exclusion Rules

a. NH: If the student has a testing school type of 'PRI' or StuStatus is 1, 2, 3, or 4 then exclude the student

b. RI: If testing school type is PRI and teaching school type is PRI or blank, then exclude the student.

c. VT: Do not exclude any students

d. ME: If the student has a StuStatus is 1, 2, 3, or 4 then exclude the student.

D. State Student Scored Data

1. A CSV file will be created for each state including all grades.

2. Exclusion Rules

a. NH: If the student has a testing school type of 'PRI' or StuStatus is 1, 2, 3,or 4 then exclude the student

b. RI: If testing school type is PRI and teaching school type is PRI or blank, then exclude the student.

c. VT: Do not exclude any students

d. ME: If the student has a StuStatus is 1, 2, 3, or 4 then exclude the student.

E. District Student Data

1. Testing and teaching CSV files will be created for each state and grade and district.

2. Students with the Discode or SendDiscode will be in the district grade specific CSV file for the testing year.

3. Fall Only: Students with a sprDiscode or sprSendDiscode will be in the district grade specific CSV file for the teaching year.

4. For ME, NH, and RI only public school districts will receive district data files. (Districts with at least one school with schoolsubtypeID=1, 11, 19, or 15 in ICORE)

5. Accommodation Flags

a. If the student has at least 1 standard accommodation marked (excluding M) for a given subject then set [sub]STDaccom flag to '1'. Otherwise set it to '0'.

b. For each group of accommodations (S, T, P, R, and O) if a student has any accommodation in that group marked set [sub]Accom[group]='1'. Otherwise set it to '0'.

c. If a student has the M2 accommodation marked, then set [sub]AccomM2='1'. Otherwise set it to '0'.

d. If a student has the M3 accommodation marked, then set [sub]AccomM3='1'. Otherwise set it to '0'.

6. Exclusion Rules

a. NH & RI: If the student has a StuStatus value of 1, 2, or 3 then exclude the student

b. VT: If the student has a StuStatus value of 1, then exclude the student.

c. ME: If the student has a StuStatus is 1, 2, or 3 then exclude the student.

F. School Student Data

1. Testing and teaching CSV files will be created for each state and grade and school.

2. Students with the SchCode will be in the school grade specific CSV file for the testing year.

3. Fall Only: Students with the sprSchcode will be in the school grade specific CSV file for the teaching year.

4. Accommodation Flags

a. If the student has at least 1 standard accommodation marked (excluding M) for a given subject then set [sub]STDaccom flag to '1'. Otherwise set it to '0'.

b. For each group of accommodations (S, T, P, R, and O) if a student has any accommodation in that group marked set [sub]Accom[group]='1'. Otherwise set it to '0'.

c. If a student has the M2 accommodation marked, then set [sub]AccomM2='1'. Otherwise set it to '0'.

d. If a student has the M3 accommodation marked, then set [sub]AccomM3='1'. Otherwise set it to '0'.

5. Exclusion Rules

a. NH & RI: If the student has a StuStatus value of 1, 2, or 3, then exclude the student

b. VT: If the student has a StuStatus value of 1, then exclude the student.

c. ME: If the student has a StuStatus is 1, 2, or 3 then exclude the student.

G. Common Item Information

1. An excel file will be created containing item information for common items: grade, subject, released item number, item analysis heading data, raw data item name, item type, key, and point value.

H. State Standard Deviations and Averages Scaled Scores

1. A csv file will be created for each state containing the standard deviations and average scale scores for disaggregated subgroups by subject.

2. Exclude students based on state aggregation StuGrade, StuStatus, and SchType decision rules.

3. Data will be suppressed based on minimum N-size and report type decision rules.

4. Average scaled score will be rounded to the nearest whole number. Standard deviations will be rounded to the nearest tenth.

I. Grade Level Results Report Disaggregated and Historical Data

1. Teaching and testing CSV files will be created for each state containing the grade level results disaggregated and historical data.

2. Data will be suppressed based on minimum N-size and report type decision rules.

3. Private schools are excluded from NH & RI files.

J. Grade Level Results Report Participation Category Data

1. Testing CSV file will be created for each state containing the grade level results participation data.

2. Private schools are excluded from NH & RI files.

K. Grade Level Results Report Subtopic Data

1. Teaching and testing CSV files will be created for each state containing the grade level results subtopic.
2. Data will be suppressed based on minimum N-size and report type decision rules.
3. Private schools are excluded from NH & RI files.

L. Summary Results Data

1. Teaching and testing CSV files will be created for each state containing the school, district and state summary data.
2. Data will be suppressed based on minimum N-size and report type decision rules.
3. Private schools are excluded from NH & RI files.

M. Released Item Percent Responses Data

1. The CSV files will only contain state level aggregation for released items.
2. CSV files will be created for each state and grade containing the released item analysis report state data.

N. Invalidated Students Original Score

1. A CSV file will be created for each state including all grades.
2. Original raw scores for students whose responses were invalidated for reporting will be provided.
3. Exclusion Rules
    a. NH: If the student has a testing school type of 'PRI' or StuStatus is 1, 2, 3, or 4 then exclude the student
    b. RI: If testing school type is PRI and teaching school type is PRI or blank, then exclude the student.
    c. VT: Do not exclude any students
    d. ME: If the student has a StuStatus is 1, 2, 3, or 4 then exclude the student.

O. Student Questionnaire Summary

1. One CSV file will be created for each state containing percent of students at each response, percent of students at each achievement level, and average scaled score, by student questionnaire response.
2. Only include students who are included in state level aggregations.
3. Data will be suppressed based on minimum N-size and report type decision rules.

P. TCTA Questionnaire Raw Data

1. One CSV file will be created for each state containing raw TC Questionnaire data.
2. One CSV file will be created for each state containing raw TA Questionnaire data.

Q. TCTA Questionnaire Frequency Distribution

1. One CSV file will be created for each state containing the distribution of responses of TC Questionnaire raw data.
2. One CSV file will be created for each state containing the distribution of responses of TA Questionnaire raw data.

R. Scaled Score Lookup

1. One CSV file and one excel file will be created containing the scaled score lookup data.

S. Grade 11Writing Score Distribution Results

1. Testing CSV file will be created for each state containing the grade level results participation data.
2. Private schools are excluded from NH & RI files.

T. Grade 11Writing Historical Subtopic Results

1. Testing CSV file will be created for each state containing the grade level results participation data.
2. Private schools are excluded from NH & RI files.

U. Subtopic Average Points Earned (For Program Management)

1. One excel file will be created containing four worksheets. The first worksheet contains the total possible points for each subtopic as reported on the item analysis report and the range for students who are just proficient. The remaining three worksheets contain state average subtopic scores as reported on the item analysis report.
2. Program management uses this file to create a document which is provided to the schools.

V. Item Stats for Inquiry Task Items (For Program Management)

1. Since Inquiry Task Items are not stored in IABS, one CSV file will be created containing item stats for Inquiry Task items.
2. All three states are included in the calculations.

W. Memo Shipping Files (For Program Management)

1. Provide PM in excel list of schools and districts that tested regardless of grade.

X. CD Print File

Y. Fall Table Data File Deliverables

Data File	**Layout**	**File Name**
Preliminary State Results	N/A	Included in Equating Report
State Student Released Item Data	NECAP1314FallStudentReleasedItemLayout.xls (one worksheet for grade 11 and one worksheet for 03-08)	NECAP1314FallStateStudentReleasedItem[GS].csv GS=0308 or 11
State Student Raw Data	NECAP1314FallStateStudentRawLayout.xls (one worksheet for each of the 4 unique test designs)	NECAP1314FallStateStudentRaw[GS].csv Gs=0304, 0508, or11
State Student Scored Data	NECAP1314FallStateStudentScoredLayout.xls	NECAP1314FallStateStudentScored.csv
District Student Data	NECAP1314FallStudentReleasedItemLayout.xls (one worksheet for grade 11 and one worksheet for 03-08)	NECAP1314FallTestingDistrictSlice[GR]_[District Code].csv NECAP1314FallTeachingDistrictSlice[GR]_[District Code].csv
School Student Data	NECAP1314FallStudentReleasedItemLayout.xls (one worksheet for grade 11 and one worksheet for 03-08)	NECAP1314FallTestingSchoolSlice[GR]_[District Code][School Code NECAP1314FallTeachingSchoolSlice[GR]_[District Code][School Coc
Common Item Information	NECAP1314FallCommonItemInformationLayout.xls	NECAP1314FallCommonItemInformation.xls
Grade Level Results Report Disaggregated and Historical Data	NECAP1314FallResultsReport DisaggregatedandHistoricaLayout.xls	NECAP1314FallResultsReportTestingDisaggregatedandHistoricalcsv NECAP1314FallResultsReportTeachingDisaggregatedandHistorical.csv

State Standard Deviations and Average Scaled Scores	NECAP1314FallStateStandardDeviationsLayout.xls	NECAP1314FallStateStandardDeviations.csv
Grade Level Results Report Participation Category Data	NECAP1314FallResultsReportParticipationLayout.xls	NECAP1314FallResultsReportTestingParticipation.csv
Grade Level Results Report Subtopic Data	NECAP1314FallResultsReport SubtopicLayout.xls	NECAP1314FallResultsReportTestingSubtopic.csv NECAP1314FallResultsReportTeachingSubtopic.csv
Summary Results Data	NECAP1314FallSummaryResultsLayout.xls	NECAP1314FallSummaryResultsTesting.csv NECAP1314FallSummaryResultsTeaching.csv
Released Item Percent Responses Data	NECAP1314FallReleasedItemPercentResponsesLayout.xls	NECAP1314FallReleasedItemPercentResponses.csv
Invalidated Students Original Score	NECAP1314FallStateInvalidatedStudent OriginalScoredLayout.xls	NECAP1314FallStateInvalidatedStudent OriginalScored.csv
Student Questionnaire Summary	NECAP1314FallStudentQuestionnaireSummaryLayout.xls	NECAP1314FallStudentQuestionnaireSummary.csv
TCTA Questionnaire Raw Data	NECAP1314FallTCQuestionnaireRawLayout.xls NECAP1314FallTAQuestionnaireRawLayout.xls	NECAP1314FallTCQuestionnaireRaw.csv NECAP1314FallTAQuestionnaireRaw.csv
TCTA Questionnaire Frequency Distribution	NECAP1314FallTCTAQuestionnaireFreqLayout.xls	NECAP1314FallTCTAQuestionnaireFreq.csv
Scaled Score Lookup	NECAP1314FallScaleScoreLookupLayout.xls	NECAP1314FallScaleScoreLookup.xls NECAP1314FallScaleScoreLookup.csv
Grade 11Writing Score Distribution Results	NECAP1314FallResultsReportGrade11WriScoreDistributionLayout.xls	NECAP1314FallResultsReportGrade11WriScoreDistributionTesting.xls NECAP1314FallResultsReportGrade11WriScoreDistributionTeaching.x
Grade 11Writing Historical Subtopic Results	NECAP1314FallResultsReportGrade11WriHisoricalSubtopicLayout.xls	NECAP1314FallResultsReportGrade11WriHisoricalSubtopicTesting.xl NECAP1314FallResultsReportGrade11WriHisoricalSubtopicTeaching.

Subtopic Average Points Earned (For Project Management)	N/A	NECAP1314FallSubtopicAvgPointsEarned.xls
Memo Shipping Files (For Program Management)	N/A	TBD
CD Print File	N/A	TBD

A. Spring Table Data File Deliverables

Data File	**Layout**	**File Name**
Preliminary State Results	N/A	Included in Equating Report
State Student Released Item Data	NECAP1314SpringStudentReleasedItemLayout.xls	NECAP1314SpringStateStudentReleasedItem.csv
State Student Raw Data	NECAP1314SpringStateStudentRawLayout.xls	NECAP1314SpringStateStudentRaw.csv
State Student Scored Data	NECAP1314SpringStateStudentScoredLayout.xls	NECAP1314SpringStateStudentScored.csv
District Student Data	NECAP1314SpringStudentReleasedItemLayout.xls	NECAP1314SpringDistrictSlice[GR]_[District Code].csv
School Student Data	NECAP1314SpingStudentReleasedItemLayout.xls	NECAP1314SpringSchoolSlice[GR]_[District Code][School Code].csv
Common Item Information	NECAP1314SpringCommonItemInformationLayout.xls	NECAP1314SpringCommonItemInformation.csv
State Standard Deviations and Average Scaled Scores	NECAP1314SpingStateStandardDeviationsLayout.xls	NECAP1314SpringStateStandardDeviations.csv
Grade Level Results Report Disaggregated and Historical Data	NECAP1314SpringResultsReport DisaggregatedandHistoricaLayout.xls	NECAP1314SpringResultsReportDisaggregatedandHistorical.csv
Grade Level Results Report Participation Category Data	NECAP1314SpringResultsReport ParticipationLayout.xls	NECAP1314SpringResultsReportParticipation.csv
Grade Level Results Report Subtopic Data	NECAP1314SpringResultsReport SubtopicLayout.xls	NECAP1314SpringResultsReportSubtopic.csv
Summary Results Data	NECAP1314SpringSummaryResultsLayout.xls	NECAP1314SpringSummaryResults.csv
Released Item Percent Responses Data	NECAP1314SpringReleasedItemPercentResponsesLayout.xls	NECAP1314SpringReleasedItemPercentResponses.csv

Invalidated Students Original Score	NECAP1314SpringStateInvalidatedStudent OriginalScoredLayout.xls	NECAP1314SpringStateInvalidatedStudent OriginalScored.csv
Student Questionnaire Summary	NECAP1314SpringStudentQuestionnaireSummaryLayout.xls	NECAP1314SpringStudentQuestionnaireSummary.csv
TCTA Questionnaire Raw Data	NECAP1314SpringTCQuestionnaireRawLayout.xls NECAP1314SpringTAQuestionnaireRawLayout.xls	NECAP1314SpringTCQuestionnaireRaw.csv NECAP1314SpringTAQuestionnaireRaw.csv
TCTA Questionnaire Frequency Distribution	NECAP1314SpringTCTAQuestionnaireFreqLayout.xls	NECAP1314SpringTCTAQuestionnaireFreq.csv
Scaled Score Lookup	NECAP1314SpringScaleScoreLookupLayout.xls	NECAP1314SpringScaleScoreLookup.xls NECAP1314SpringScaleScoreLookup.csv
Subtopic Average Points Earned (For Project Management)	N/A	NECAP1314SpringSubtopicAvgPointsEarned.xls
Item Stats for Inquiry Task Items (For Program Management)	N/A	NECAP1314SpringInquiryItemStats.csv
Memo Shipping Files (For Program Management)	N/A	TBD

Addenda:

Due to changes in the test design modifications need to be made to the analysis and reporting programs.

This year there are no embedded field test items. Each form consists of common and matrix items only. A sample of answer documents by grade/subject/form will be selected for matrix OR items to be scored. Not all matrix OR items will have scores. Some matrix items will not be scored at all. This impacts equating and grade level results report.

Matrix OR items that will not be scored at all are reading grades 03-08 form 04 and reading grade 11 forms 03 and 04. These items will be treated like embedded field test items. All remaining OR matrix items will have only a sample of scores.

IABS Data: For Reading, Grades 03-08 form 04 matrix items are not equating items

For Reading, Grade 11 forms 03 and 04 matrix items are not equating items

For Grade Level Results:

1. Content Area Subtopic (grade level results report): Subtopic scores are based on all unique common items and matrix items except the OR items excluded from scoring
    a. Percent of Total Possible Points:

I. For each unique common and matrix item calculate the average student score as follows: (sum student item score/number of tested students administered the item. If it is the matrix OR item – number of students scored).

II. 100 * (Sum the average score for items in the subtopic)/(Total Possible Points for the subtopic) rounded to the nearest whole number.

b. Standard Error Bar: Before multiplying by 100 and rounding the Percent of Total Possible points (ppe) calculate standard error for school, district and state: 100* (square root (((ppe)*(1-ppe))/(number of tested students)) rounded to the nearest tenth. For the lower bound and upper bound round the Percent of Total Possible Points +/- Rounded Standard Error to the nearest hundredth.

c. For grade11writing calculate the mean and standard deviation of each writing prompt score. These averages and standard deviations will be linked historically to the prior year averages and standard deviations by writing type.

Addenda 12/13/2013

To support RI Grade 11 Retest/Census Reporting, a new partstatus is being created for Not Tested First Year LEP students who actually tested. The intention is that these students will receive raw scores, scaled scores, and achievement levels which will be included in all student level reports and datafiles; however, they are aggregated following the Not Tested First Year LEP rules.

After applying the PartStatus hierarchy, students who are from Rhode Island, Attempted the Grade 11 Reading Test, and identified as Not Tested First Year LEP for Reading the following applies

Participation Status

Participation Status	**Description**	**Raw Score (*)**	**Scaled Score (&)**	**Ach. Level**	**Student Report Ach. Level Text**	**Roster Ach. Level Text**
J (Reading Only)	Tested First Year LEP	✓	✓	✓	Substantially Below Proficient, Partially Proficient, Proficient, or Proficient with Distinction	1, 2, 3, or 4

Student Report

Student Results: Print students Scaled Score, Achievement Level and Graphic

Comparison to School/District State: Print Student, School, District, and State Results, following minimum N-size and school type rules

Content Area Subtopic: Print Student, School, or District Results , following minimum-N size and school type rules

Interactive Reporting

These students are loaded into the interactive system with their scores and excluded from aggregations. Included should be set to 0 in tblScoredItem Reading.

Student Released Item Data

ReaTestStatus is ReaPartStatus for Tested Students. This field will be "J" for these students.

The datafile will contain the earned scaled score and achievement level.

Aggregations on Reports and Datafiles

Aggregate Students as if they were assigned the Not Tested First Year LEP Part Status