

# *Wisconsin Knowledge and Concepts Examinations–CRT*

## **Fall 2005 WKCE–CRT Technical Manual**



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CTB/McGraw-Hill  
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Monterey, California 93940

## **Foreword**

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The technical information herein is intended for use by those who evaluate tests, interpret scores, or use test results in making educational decisions. It is assumed that the reader has technical knowledge of test construction and measurement procedures, as stated in Standards for Educational and Psychological Testing (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 1999).

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## Acknowledgments

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## Part 1: Executive Summary

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The *Improving America's Schools Act* of 1994 required that states establish challenging academic standards and aligned annual assessments to evaluate them. The *Goals 2000: Educate America Act* and the *Elementary and Secondary Education Act* spell out additional requirements to ensure that citizens receive coherent information about whether and to what degree students are meeting rigorous academic standards.

Wisconsin Students in grades 4, 8, and 10 began taking Wisconsin Knowledge and Concepts Criterion Referenced Test (WKCE-CRT) assessments in the 1997 school year. These tests were the *TerraNova* battery of tests developed by CTB/McGraw-Hill. The selection of those tests was partly predicated upon awareness of the content of the standards being developed. The tests measured student performance in the same subjects as the subsequent *Model Academic Standards*.

In January 1998 the Wisconsin Model Academic Standards were adopted. These standards were the work of the *Governor's Commission on Model Academic Standards*, chaired by then current Lieutenant Governor McCallum and the Wisconsin Department of Public Instruction (DPI).

In December 2001, an alignment study of the Wisconsin Model Academic Standards in English language arts, mathematics, science, and social studies for grades 4 and 8 was conducted. The study was conducted as part of an agreement between the U.S. Department of Education and the Wisconsin DPI that resulted in a time waiver for requirements under the 1994 *Improving America's Schools Act* (U.S. Department of Education, 1994).

The 2005 Fall WKCE-CRT assessments are designed to measure Wisconsin students' performance on the Wisconsin Model Academic Standards adopted by the state. The WKCE-CRT assessments are designed to evaluate students' knowledge and to measure achievement in the basic skills taught in schools at grades 3-8 and 10.

This document provides information regarding processes and procedures implemented in the 2005 Fall WKCE-CRT assessments for the development of tests, analysis of data, calibration, scoring, scaling, and standard setting. This document also describes the results of the 2005 Fall WKCE-CRT assessments. The technical information in this report is intended for those who evaluate tests, interpret scores, or use test results in making educational decisions.

Each test consists of criterion-referenced items written by Wisconsin teachers and items from CTB/McGraw-Hill's norm-referenced test, *TerraNova, The Second Edition*® (TerraNova; CTB/McGraw-Hill, 2001). The WKCE-CRT tests include criterion-referenced tests in Mathematics and Reading at grades 3-8 and 10. At grades 4, 8 and 10 students are also tested in Science, Social Studies and Language Arts (including Writing). The Writing tests are single prompt essay tests scored using a holistic rubric for composition and an analytic rubric for convention.

A short content summary for each part in this manual is summarized below:

### Design

- Educators were involved in design at every step to insure the appropriateness of the test to the standards.
- Test Design started in August 2003 with the convention of approximately 35 educators per content area for grades 3–8 and 10 to establish the grade-level content frameworks based on the Wisconsin Model Academic Standards, establish assessment limits, create the test blueprint, and to review reading passage and page specifications. The test specifications documents created and later approved by DPI serve as a foundation for item and test development through 2007-2008.
- Wisconsin Model Academic Standards were translated into the grade-level Content Frameworks, which in turn, formed the basis for test blueprints and item specifications.

### Item and Form Development

- Item development was based on the approved test blueprints with sufficient quantity of items written with overage to develop three unique operational test forms.
- Items were edited, reviewed, and re-reviewed at sessions involving Wisconsin educators.
- The resulting items underwent field testing in May and December 2004 and embedded field testing in fall 2005. A committee of educators met in October 2004 to review items field tested in May 2004 that were flagged for differential item functioning.
- As of the end of 2005, a total of 5,248 SR and 797 CR items (6,045 total) have been developed, and as of fall 2005 3,266 SR and 299 CR (3,565 total) items have been field tested. By fall 2006, 3,726 SR and 339 CR (4,065 total) will be field tested.
- Selection of the fall 2005 operational forms was done using the ITEMWIN software for all grades and content areas with the exception of Social Studies grades 4 and 8, which were intact forms of *TerraNova* Second Edition, Complete Battery. For the Reading and Mathematics tests, adjustments were made to form D04, which was calibrated in December 2004, in order to ensure that test characteristic curves showed an appropriate progression of increasing difficulty across the grades.

### Administration

- Test Administration Window was October 24 - November 25, 2005. Delivery of materials were handled through the district and school assessment coordinators.
- Minor issues occurred during administration, but these issues were minor. Booklet design was altered (Perfect Bound Books at Grades 4, 8 and 10). These issues were presented to the Wisconsin Technical Advisory Committee and were determined to be within a reasonable range of defects.

### Scoring

- Multiple-choice (MC) machine-scored
- Constructed response (CR) Hand-scored
- Inter-rater reliability for CR items and Writing prompt was estimated.

### Data and Item Analysis

- Characteristics of 14 calibration districts were compared to those of WI population.
- Summary descriptive statistics for raw score
- Classical item analysis

### Calibration and Scaling

- Item parameters were estimated based on item response theory (IRT).
- Item fit based on the IRT model was estimated.
- A new Wisconsin scale was constructed

### Test Results

- Summary descriptive statistics for scale score were reported for census, and 5 NCLB groups (gender, ethnicity, disabled, English Language Proficiency, Socioeconomic status).
- Percent at each performance level was analyzed.
- Summary descriptive statistics for SPI were reported.

### Reliability and Validity

- Four different types of reliability evidence were presented.
- Differential item function analysis was performed by census, and 5 NCLB groups
- Factor analysis, and correlation among content standards were presented as construct validity
- Eraser analysis was performed to identify high erasure rates

### Linking Study and Descriptor Writing

- Cut scores were estimated using the equipercentile linking procedure.
- Committees of Wisconsin educators developed performance level descriptors.

### Summary and Recommendation

- Key findings/recommendations of the 2005 administration were presented.

## **Part 2: Involvement of Wisconsin Educators**

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### **2.1 Establishing Test Content**

Wisconsin educators have been involved throughout the process of developing the Wisconsin Knowledge and Concepts Examinations—Criterion-Referenced Tests (WKCE-CRT), beginning in August 2003 with the establishment of the content framework and eligible test content. At this workshop facilitated by CTB and DPI staff, educators examined the Wisconsin Model Academic Standards at grades 4, 8, and 12 and considered what summative test information would be useful on a test report and what test reporting categories and subskills would be most informative. Because content standards exist only for grades 4, 8, and 12, the committees carefully considered what knowledge and skills students should have by the fall of each school year by extrapolating and interpolating the standards for 4, 8, and 12. The committees then defined the eligible test content and assessment limits, ensuring that the test framework they designed incorporated the content and performance standards enumerated in the Wisconsin Model Academic Standards. Together, CTB, DPI, and Wisconsin educators created draft test blueprints that were later refined by CTB, reviewed by CTB researchers, and approved by the DPI.

### **2.2 Writing and Developing Assessment Materials**

Each year, Wisconsin educators have been involved in selecting reading passages and reviewing test items prior to field testing. Reading passage review meetings were held in December 2004 and in August 2005. The December 2004 meeting was to select passages to develop and field test in fall 2005, and the August 2005 meeting was to select passages to be developed in 2005 and field tested in fall 2006. In preparation for the meetings, CTB staff examined the pool of passages and identified types of passages to target for the passage search so that, eventually, a fourth operational form could be built. Tables 2-1 and 2-2 present information about the number of passages presented for review at the December 2004 and August 2005 passage review meetings and the results of the committee recommendations.

Committee members discussed the passages and recommended which passages should or should not be used for the development of new items. Committee comments addressed the interest level of the topic, grade appropriateness of vocabulary and graphics, and accessibility of the text to a diverse student population. Occasionally, the committee recommended that a passage be used at a different grade level than the grade for which it was submitted for review. CTB made final recommendations to DPI regarding which two passages at each grade level should be developed for the fall 2005 field test based on the number and type of passages already in the item pool and what types of passages were needed to build a fourth or fifth operational form.

Wisconsin educators participated in a Science frameworks meeting January 18, 19, 20, 2005. The purpose of this meeting was to identify the eligible content based on the Wisconsin Model Academic Standards (WMAS) for grades 4, 8, and 12. Because the WKCE-CRT is

administered in the fall but the WMAS are end-of-year standards, the educators needed to identify the specific assessment limits that would be appropriate for a fall test. For grade 10, the committee needed to determine what content knowledge students should have by the beginning of grade 10 by interpolating the grade 8 and grade 12 Model Academic Standards. The Reading and Mathematics content frameworks had been established by 2005; only the Science frameworks for grades 4, 8, and 10 were being developed during 2005.

An item review meeting was held in March 2005 for Reading, Mathematics, Language, Science, and Social Studies. Tables 2-3 and 2-4 show item content review results. The committees for Reading and Mathematics reviewed newly-developed items for embedding as field test items on the Fall 2005 operational test. Committees for Language, Science, and Social Studies for grades 4 and 8 met to review *TerraNova* items and to align them to the WMAS. Each content area committee reviewed and aligned items from *TerraNova* Complete Battery, Second Edition, levels 13, 14, 17, and 18. The Grade 10 committees reviewed custom items that were previously developed for the Wisconsin High School Graduation Test and to identify which items would be appropriate for use on a fall test. The Science committees also finalized test blueprints. Based on the results of the alignment of *TerraNova* items to the Science standards and the finalization of the test blueprint, development needs for new Science items were identified. Wisconsin does not conduct a separate review for bias and sensitivity; however, as part of the training for the item content review, the Wisconsin educators are provided with guidelines for reviewing items for sensitivity issues. The review checklists are presented below. However, a committee of Wisconsin educators was assembled in October 2004 to review the differential item functioning of items administered on the May 2004 field test administration. The results of this meeting were previously reported to the DPI and are not within the scope of this technical report.

## Checklist for the Content Reviewer

### For All Items:

#### Check to ensure that the content of each item:

- is targeted to assess only one objective or skill (unless specifications indicate otherwise)
- deals with material that is important in testing the targeted objective or skill
- uses grade-appropriate content and thinking skills
- is presented at a reading level suitable for the grade level being tested
- is accurate and documented against reliable, up-to-date sources

### For Multiple-Choice Items:

#### Check to ensure that the content of each item:

- has a stem that facilitates answering the question or completing the statement without looking at the answer choices
- has a stem that does not present clues to the correct answer choice
- has answer choices that are plausible and attractive to the student who has not mastered the objective or skill
- is conceptually, grammatically, and syntactically consistent—between the stem and answer choices, and among the answer choices
- has mutually exclusive distractors
- has one and only one correct answer choice

### For Constructed-Response Items:

#### Check to ensure that the content of each item:

- is written so that a student possessing the knowledge or skill being tested can construct a response that is scorable with the specified rubric or scoring tool; that is, the range of possible correct responses must be wide enough to allow for diversity of responses, but narrow enough so that students who do not clearly show their grasp of the objective or skill being assessed cannot obtain the maximum score
- is presented without clue to the correct response
- has precise and unambiguous directions for the desired response
- is free of extraneous words or expressions
- is appropriate for the question being asked and the intended response (For example, the item does not ask students to draw pictures of abstract ideas.)
- is conceptually, grammatically, and syntactically consistent

## Checklist for the Sensitivity Reviewer

*To have confidence in test results, it is important to ensure that students are given a reasonable chance to do their best on the test. Test items must be accessible to a diverse student population with respect to gender, race, ethnicity, geographic region, socioeconomic status, and other factors.*

Check to ensure that the content of each item is free of explicit references to or descriptions of:

- events involving extreme sadness or adversity
- acts of physical or psychological violence
- alcohol or drug abuse
- vulgar language
- sex

Check to ensure that if any religious, political, social, or philosophical issues are addressed:

- more than one point of view is expressed
- beliefs or biases do not interfere with factual accuracy
- contemporary issues that have already been proven to be controversial are absent
- stereotypic descriptions of beliefs or customs are absent

Test items must:

- be free of offensive, disturbing, or inappropriate language or content
- be free of stereotyping based on:
  - gender
  - race
  - ethnicity
  - religion
  - socioeconomic status
  - age
  - regional or geographic area
  - disability
  - occupation
- demonstrate sensitivity to historical representation of groups
- be free of differential familiarity for any group based on:
  - language
  - socioeconomic status
  - regional or geographic area
  - prior knowledge or experiences unrelated to the subject matter being tested

## 2.3 Descriptor Writing

In February 2003, Wisconsin educators participated in setting standards for Reading, Language Arts, Science, and Social Studies for the Grade 4, 8, and 10 tests. Following the administration of the Fall 2005 WKCE-CRT, CTB researchers used a linear interpolation process to set cut scores for Grades 3, 5, 6, and 7. Committees of Wisconsin educators were convened June 20–22, 2006 in order to develop performance level descriptors to accompany the performance standards. Descriptor writing provides plain-language description of the content that students must know at each grade level to be *Proficient*. This information may be used by teachers and the public to fully understand the performance levels on the WKCE-CRT. The descriptor writing is described in detail in Part 11.

## Part 3: Test Design

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### 3.1 Content Standards

#### 3.1.1 Development

Wisconsin has state standards at grades 4, 8, and 12. These standards, called the Model Academic Standards, are benchmark, end-of-year standards. Because the WKCE-CRT are administered in the fall at grades 3–8 and 10, it was first necessary for CTB and DPI to collaborate to establish the grade-level Reading and Mathematics content to be assessed at each grade. The Model Academic Standards for Language Arts, Science, and Social Studies provide the content framework for these tests at grades 4, 8, and 10.

The following principles guided the test development process to establish the content for WKCE-CRT tests:

- provide valid, equitable measurement of achievement;
- offer multiple ways of measuring student progress;
- give information useful for improving student’s understanding of key concepts;
- engage and motivate students so they will perform their best work; and
- reflect current curricula and state standards.

Establishing the content framework and eligible test content for Reading and Mathematics began in August 2003 with a workshop with Wisconsin educators. At this workshop facilitated by CTB and DPI staff, educators considered what summative test information would be useful on a test report and then designed the test reporting categories and subskills backward. Because content standards exist only for grades 4, 8, and 12, the committees carefully considered what knowledge and skills students should have by the fall of each school year by extrapolating and interpolating the standards for 4, 8, and 12. Committees then defined the eligible test content and assessment limits, ensuring that the test framework they designed incorporated the content and performance standards enumerated in the Wisconsin Model Academic Standards. The Wisconsin Model Academic Standards for grades 4, 8, and 12 were used as the starting point and foundation for establishing the grade-specific content frameworks. Professional judgment was paramount in making decisions about what content knowledge and skills students at each grade level should have mastered at the beginning of the school year in order to be successful with the content taught at each grade. Throughout the process, the committee members referred to the Model Academic Standards to verify that there was a clear connection between the content frameworks they were creating and the Model Academic Standards.

During the August 2003 workshop, the Wisconsin educators reviewed the assessment limits to determine which could be efficiently and effectively measured using multiple-choice items and which were best measured using constructed-response items and made recommendations regarding how much emphasis should be given to each content standard on any given test form. The WKCE-CRT tests sample commonly taught processes, skills, and knowledge. They do not

measure all of the skills that make up an educational domain. The outcomes of the workshops were the test framework for each grade and content area. Following the workshop, the DPI conducted follow-up meetings with educators to refine and articulate the content and subskills in the test framework across grade levels. The content frameworks established at the August 2003 meeting were then used to create the test blueprints. CTB researchers provided guidelines regarding the number of items needed to achieve reliable tests. The result was a draft test blueprint that specified the amount of testing time required for each content area, how many score points for each test, how many score points for each content standard, and how many MC and CR test items would be on a form. CTB and DPI then reviewed the draft blueprints to ensure that the tests would provide a balanced measure of the eligible performance standards and yield highly reliable and valid scores; modifications were made as necessary to achieve appropriate content coverage and balance. Together, the Wisconsin educators, DPI, and CTB reviewed a variety of sample test items and discussed the characteristics of the types of items that would be best suited for inclusion on the WKCE-CRT field test. The test blueprints were then used to construct the May and December 2004 field tests and the fall 2005 operational test.

### **3.1.2 Alignment of items and adjustments made**

A staff of professional item writers—many of them experienced teachers—researched, collected, and wrote the WKCE-CRT test items that appeared as operational items in fall 2005. The operational items were field tested in May 2004 and December 2004. All assessment materials were carefully reviewed for content and editorial accuracy by test development specialists and the content specialists at the Wisconsin Department of Public Instruction and Wisconsin classroom teachers. The items that were included as embedded field test items in fall 2005 were written by the CTB content editors, as they have become very familiar with the content frameworks and the preferences of DPI staff and Wisconsin educators. All items were reviewed internally by CTB supervisors who are familiar with the Wisconsin content frameworks and item specifications. During all item reviews, careful attention was paid on verifying that the item measured the intended objective, subskill, and assessment limit. If there was any misalignment, the item was edited to achieve greater alignment or a different subskill or assessment limit was assigned.

Item development for the WKCE-CRT operational test forms began with selecting a variety of literary, informational, and everyday text reading passages. The emphasis was on selecting reading passages that are engaging to students and contain appropriate subject matter, but are not familiar to the students (which would create a potential source of bias). Materials were reviewed and approved by committees of Wisconsin educators. See Part 2 for additional information about the participation of Wisconsin educators in the test development process and the results of passage and item review meetings.

## **3.2 Test Blueprints**

The following tables show the blueprint for the operational portion of the fall 2005 tests. In order to report reliable subscores for a reporting category, a guideline of at least six score points

per reporting category was used. In addition to the operational Reading and Mathematics items, there were embedded field test items. Section 3.3 provides greater detail about each test.

### **3.3 Description of the WKCE-CRT 2005 Tests**

The 2005 test books contained all content areas administered at that grade. Tables 3-1 through 3-5 provide the test design for the fall 2005 tests, including the number of operational and embedded field test (EFT) items and the amount of testing time allotted.

The Reading and Mathematics tests for grades 3–8 and 10 consist of custom items developed specifically for the WKCE-CRT. Language Arts, Science, and Social Studies at grades 4 and 8 consist primarily of *TerraNova* items; a few custom multiple-choice items were added for Content Standards not adequately covered by *TerraNova* items. The Grade 10 Language Arts, Science, and Social Studies test consist of custom items previously developed for Wisconsin. Wisconsin educators reviewed the Grade 10 item pools in March 2005 and identified which items were appropriate for a test administered at the beginning of Grade 10; the items were originally developed for a test to be administered during the spring of grade 11. Only items that were vetted for use on the WKCE-CRT were included on the Fall 2005 test.

#### **3.3.1 Reading**

Table 3-6 presents Reading test structure. The Reading test for grades 3–8 have six operational reading passages, one each for six types of passages: short literary, long literary, short informational, long informational, poetry, everyday text. The embedded field test session had two passages, which could be any combination of the six types of passages. There are four test sessions—three containing operational items and the fourth containing the field test items. Each grade has at least one pair of paired reading passages with a few items that require analyzing or synthesizing ideas in both passages. Each of the three sessions with operational items has approximately 20 multiple-choice and one constructed response (with the exception of grades 3 and 4, where two of the three sessions have a CR item). Each session is allotted 40 minutes of testing time, with the exception of Grade 4 session 3, which is allotted 35 minutes because the session does not include a CR item. The field test session for each grade is allotted 45 minutes.

The Grade 10 test consists of three sessions, with 50, 45, and 40 minutes respectively. Session 1 has 20 SR and 2 CR items; session 2 has 21 SR and 1 CR, and session 3 has 14 SR and 1 CR.

#### **3.3.2 Mathematics**

Table 3-7 shows Mathematics test structure. The Mathematics test for grades 3, 4, and 5 has three sessions with operational items and one session for field test items. Grades 6, 7, and 8

have five sessions—four with operational items and one with field test items. The Grade 10 test has four operational sessions.

The first session at each grade and the first part of the field test session at grades 3–8 is a “non-calculator” session. Grades 3 and 4 do not permit the use of calculators for any session. For these grades, if a student is provided an accommodation that allows the use of a calculator, the calculator may not be used to answer the items in session 1 or the first part of the field test session.

For each grade, there are three different forms. The operational items in all forms are the same, but the embedded field test items differ by form.

### **3.3.3 Language Arts**

Table 3-8 presents Language Arts test structure. The Grade 4 and 8 Language Arts tests consist of *TerraNova* items and six custom items that measure content standard F, Research and Inquiry. Each of the six test forms at Grade 4 and 8 tests include two or three embedded field test items measuring Research and Inquiry. The items were previously field tested in May 2004 and placed on the temporary WKCE-CRT Reading scale. The items are re-field tested in 2005 in order to place them on the language scale. The embedded field test items are the last items in the session. The entire session is allotted 40 minutes of testing time.

New writing prompts for grades 4 and 8 are field tested in 2005. There are six forms, each of which contains a different field test prompt and different embedded field test SR items. The operational writing prompt and the field test writing prompt are in separate sessions, each is allotted 30 minutes.

The Grade 10 test consists entirely of custom items developed for Wisconsin. The test is administered in two sessions; the first session contains the 30 SR items, and the second session contains the writing prompt.

### **3.3.4 Social Studies**

Table 3-9 presents Social Studies test structure. The Social Studies test at grades 4 and 8 consists almost entirely of *TerraNova* items, but also include a few custom items previously developed for the WKCE test. There is one test session at these grades.

The Grade 10 test consists entirely of custom items developed for Wisconsin. The test is administered in two sessions. Session 1 contains 30 SR and 3 CR and is timed at 45 minutes, and session 2 contains 30 SR and 2 CR and is timed at 40 minutes.

### 3.3.5 Science

Table 3-10 presents Science test structure. The Science test at grades 4 and 8 consists almost entirely of *TerraNova* items, but also include a few custom items previously developed for the WKCE test. There is one test session at these grades.

At the March 2005 meeting to review and align the *TerraNova* Science items to the Wisconsin Model Academic Standards, one outcome was that there were no Grade 8 items aligned to Standard A, Science Connections. New item development will correct this void for future years.

The Grade 10 test consists entirely of custom items developed for Wisconsin. The test is administered in two sessions with each session containing 30 SR and 2 CR items and timed at 40 minutes each.

## **Part 4: Test Development**

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Part 4 of the Technical Report provides a summary of the test development activities that occurred in preparation for the Fall 2005 test administration. Information is provided relating to the following topics:

- a general discussion of CTB’s test book creation and editing process;
- a description of the item development process for embedded field test items;
- the process of selecting operational test items;
- the process of developing and selecting field test items;
- the resolution of style and formatting concerns; and
- process of obtaining customer approvals.

A comprehensive, multi-segment development process guides the development of assessment materials. The following section outlines this process in general terms. The remainder of Part 4 provides details of how these processes were implemented in Wisconsin. This section of the technical report addresses the following AERA/APA/ NCME standards: 1.6, 3.1, 3.5, 3.6, 3.7, 3.9, 3.11, 3.16, 6.4, 6.15, 7.3, 7.4, 7.7, 13.3, and 13.5.

### **4.1 Overall Test Book Creation and Editing Process**

#### **4.1.1 Solution Management**

The first segment of test development is Solution Management. During this phase of the development process, the test design documents (item specifications, style guide, blueprints) created at the beginning of the contract are reviewed to determine in any adjustments are needed.

#### **4.1.2 Documents and Materials Development**

During the first year of the contract, the test specifications documents were developed through an extended, collaborative process with the DPI and based on the contributions of Wisconsin educators during the August 2003 frameworks meeting. Test specifications include the test blueprint, passage specifications, item specifications, page specifications, and style guide. Prior to the development of the new field test items, CTB content editors reviewed the item specifications documents and added any additional details or sample item stems based on clarifying discussions with the DPI staff that occurred throughout the previous year. In Mathematics, DPI collapsed two subskills in two areas; this change resulted in a cosmetic change to the test blueprint documents to reflect the change to the content framework. The DPI requested some minor changes to the page layout specifications, which were incorporated. The revised specifications documents were submitted to the DPI.

### **4.1.3 Item Development and Editing**

The development of quality test items requires content and assessment expertise and the ability to be creative while adhering to the test blueprint, detailed item specifications, and content limits. The test blueprint and item specifications provide clear direction as items for content framework assessment limits are written and edited. The test blueprint identifies how many multiple-choice and constructed-response items for each reporting category and subskill. The item specifications are detailed prescriptions for how items are to be written and include sample stems or sample items in order to provide item writers with clear models for acceptable test items. During the first year of the contract, the DPI reviewed and approved all test specifications documents.

Test items were developed using a template designed to capture all item attribute information and supporting information such as objective, subskill, assessment limit, score points, and content reference documentation. Test items were edited and revised by in-house content editors, content supervisors, style editors, and art specialists before being presented to teachers and state-level administrators for review and approval.

Item development and subsequent test material development are guided by a detailed, multi-module Publishing Process. The Publishing Process provides all publishing staff with a detailed, common set of strategies, procedures, and documentation that governs the production of all test materials. The publishing work modules address test specifications, item development, item reviews, manuscript creation and submission, page production cycles, quality assurance, release to manufacturing, and post-production tasks such as documentation of item attributes and hand scoring support. The result is that, regardless of content area or grade level, all materials are prepared in accordance with the same stringent and exacting standards.

### **4.1.4 Quality Reviews**

A smooth test administration requires that all test materials, including test books, manipulatives, and test administration manuals align with each other. All items, page numbers, and administration times must be accurate in all components of the test program. When materials are not in alignment, not only can rework and additional costs be incurred, but there is also the possibility of jeopardizing the validity of test results and creating poor publicity. Therefore, to help ensure that all documents required for the administration of a test are in alignment with each other, a materials integration review (MIR) is conducted prior to moving the materials on to the Quality Assurance (QA) Department.

During a MIR, a proctor simulates the test administration experience by administering the test to two test takers for each grade and content area using the examiner's manual developed for the project. The purpose of this review is twofold: to ensure that the test materials are in alignment with each other and to verify that the answer keys are correct. A side benefit of this review is the possible revision of any unclear items prior to submission to Quality Assurance and the creation of camera copy, thus reducing the number of blue line changes required. The goal of this work module is to ensure that all test components are precisely coordinated and free of errors

and ambiguities. Clear and error-free materials ensure a smooth test administration and reflect the high professional quality of CTB products and staff.

The purpose of the QA review is to ensure that all publishable products meet the high quality standards and expectations of CTB's customers. The QA review includes, but is not limited to, the review for: page number location/order, header/footer information, go on and stop signs, item sequence numbering, accuracy of directions, vertical and horizontal alignment, conventions of written English, clarity/accuracy of art, accuracy of cross references, and that there is only one clearly correct answer to each item. This QA review comes at the end of the process to augment the excellent work that takes place at each stage of the publishing cycle. It is QA's job to find any problems that may have been overlooked by the project team. This review is an important and irreplaceable step in the publishing process.

## **4.2 Item Pool**

### **4.2.1 Item Writing**

Items for the WKCE-CRT tests are written by trained, professional item writers familiar with the test blueprint and item specifications. The operational items on the Fall 2005 test were developed in the first year of the contract and field tested in May 2004 or December 2004. Items in the embedded field test sessions were developed in early 2005. A reading passage review meeting was held in December 2004 and facilitated by CTB content staff. Approximately 18 Wisconsin educators attended. Two groups were formed: grades 3–5 and grades 6–8. Each group reviewed approximately 6 passages for each grade level and made recommendations for which passages were grade appropriate and should be developed. Following the passage review meeting, item develop proceeded. Table 4-1 shows how many items were written in 2005 for field testing in fall 2005.

## **4.2.2 Content/Bias Review**

In May 2004, committees of reading and mathematics secondary educators were convened. They reviewed the existing secondary item pool and identified which items would be appropriate for use on the WKCE-CRT. The secondary item pool was originally developed for the High School Graduation Test, which was to be administered during the spring semester of grade 11. Because the item pool was repurposed, it was necessary to review the items and determine which items were appropriate for a test administered in the fall of grade 10.

Content and Bias Reviews of the new items to be included as embedded field test items were conducted in March 2005 by Wisconsin educators and facilitated by CTB content editors. In addition to committees for reading and mathematics, committees of educators were convened for Language, Science, and Social Studies. The committees reviewed *TerraNova* items for grades 4 and 8 and the existing secondary item bank. The purpose of this review was to align *TerraNova* items to the Wisconsin Model Academic Standards and to identify items that would be appropriate for use on the WKCE-CRT.

## **4.2.3 Item Alignment**

Throughout the item development and review process, the alignment between the item and the content standard/subskill/assessment limit was checked during each editing phase and again at the content and bias review. CTB made arrangements with Norm Webb of the University of Wisconsin, Madison to conduct an alignment study using the Fall 2005 test forms. At the time of the writing of this report, the alignment study had been conducted, but the final reports were not yet submitted.

## **4.3 Item Selection of 2005 WKCE-CRT**

### **4.3.1 WKCE-CRT Item Selection**

The original test design proposed called for administering the first of three forms calibrated during the December 2004 forms calibration administration. Because the contract was awarded late, the item development during the first year was, of necessity, divided into two phases. Half the items were developed and field tested in May 2004, whereas the May administration was originally planned to be for field testing all items developed during the first year of the contract. The December 2004 administration was to be a calibration of three operational forms. However, because the second half of the items developed during the first year needed to be field tested, forms E04 and F04 contained field test items in addition to items that had been field tested in May 2004. The first of the three main forms administered in December 2004, D04, consisted of items field tested in May 2004. The other two forms, E04 and F04, consisted of both previously-field tested items and new field test items. The details of the modification to the test design and the results of the May and December 2004 administrations are documented in previous technical reports. When form D04 was assembled for December 2004, item statistics from the May 2004 administration were not yet available. Therefore, form D04 was selected using professional judgment.

The primary goal for selecting the Fall 2005 operational test forms was to use form D04 administered in December 2004. When operational form A05 was selected, item statistics were available, and the CTB content experts used CTB's proprietary software ITEMWIN to examine the test characteristic curve and standard error curve of form D04 (administered in December 2004).

The ITEMWIN software (Burket, 2000) allows the content editor to make informed decisions regarding an item selection. This software monitors the impact of each decision made during the item selection process and offers a variety of options for grouping, classifying, sorting, and ranking items to highlight key information as it is needed.

The ITEMWIN program has three parts. The first part is used to select a working item pool of manageable size from the larger tryout pool; items clearly inappropriate to the target grade range are eliminated. There is information about each item in the pool, including the item format to which the item is assigned, a descriptive phrase about the item, the association of the item with a stimulus, a bias rating indicating whether the item shows DIF to a particular population of students, the item parameters, and a fit rating indicating how well the item fits the expectations based on the IRT model used.

The second part of the ITEMWIN program uses the working item pool created in the first step to perform the actual test selection. Typically, the developer begins by specifying the number of items to be included in the test and a target number of items for each item format. The program can then be prompted to select automatically a test that represents the best possible statistical combination of items. These automatic selections can then be used as a reference set to which other selections are compared. Successive selections are plotted on a graphic display that shows the test characteristic curve for each set of selected items. In the case of the WKCE-CRT, the test characteristic curve for form D04 (administered in December 2004) for each grade and content area was generated, since form D04 was designed to become the first operational form in Fall 2005.

In the third part of the program, a table shows both expected number correct and standard error of measurement as functions of scale score, as well as statistical and graphical summaries on bias, fit, and the average standard error of the test as selected. Any fault in the selection—whether the test is too easy or too difficult for the target grade, contains biased items, or does not adequately cover part of the range—becomes immediately apparent as the final statistics are generated. Content editors and research staff examined these statistics for each of the WKCE-CRT selections to confirm that they each had an appropriate scale score range for the grade level and that when the test characteristic curves for all grades were compared side-by-side, that there was an appropriate progression in difficulty.

Initially, the Grade 4 reading TCC was similar to the TCC of the Grade 6 test. Therefore, it was necessary to replace difficult items with easier items in order to move the curve to the left of the grade 5 TCC. This meant that the Grade 4 test for Fall 2005 was a composite of form D04 and E04. For the mathematics tests, some items on form D04 needed to be replaced in order to create the operational form for Fall 2005 because they did not perform well in December 2004 or because the TCC needed to be adjusted.

The Language and Science tests for grades 4, 8, and 10 and Social Studies at grade 10 were selected using ITEMWIN. The Social Studies test at grade 4 and 8 were an intact form of *TerraNova* Complete Battery.

### **4.3.2 WKCE-CRT Field Test Item Selection**

In addition to the operational items, a set of new field test items were to be included in the test books. Table 4-2 presents unique items field tested each year and total to date.

In order to contribute to a bank of items that measure and support the curriculum and state content frameworks, development of the field test items was guided by the test blueprints (See Tables 3.2.1 and 3.2.2.). The number of field test items developed for each objective or subskill was proportional to the number of items indicated on the blueprint. For future item development, consideration is given to the distribution of items that survive field testing and in the entire item pool across objectives and subskills. Following the Fall 2005 administration, the test design used beginning fall 2006 and thereafter was changed; the number of items was reduced and a year-to-year anchor item design was used to ensure year-to-year equating. Other than anchor items, which are used in two successive years, the multiple-choice items should not be used more than once in two years and constructed-response items should be used once in four years.

### **4.4 Style and Format Decisions**

A detailed Wisconsin Style Guide is used when style editing WKCE-CRT items and test book pages. The Style Guide includes capitalization and punctuation conventions, abbreviations, wording and formatting preferences, use of symbols, and other specific and general editing guidelines. This guide was initially developed for the Wisconsin High School Graduation Test and was then augmented and revised to reflect the DPI's preferences for the WKCE-CRT. The Style Guide was developed during the first year of the contract prior to the development of test materials, and it continued to evolve as the project progressed and style issues were addressed. Additional updates were done based on editorial decisions made during the editing of the field test materials for May and December 2005. The Style Guide is a "living" document, and the revisions serve the purpose of bringing clarity and consistency to the test items and test materials.

The psychometric properties of the items need to remain stable across successive administrations. In order to achieve this stability, items should not be changed between successive administrations (e.g., field test and operational administration; operational and anchor administration). Furthermore, there should be no changes in the broader context in which the item is administered. Any editing or art change that may affect the statistical characteristics of an item should be avoided. Ideally, there should be no change in the wording of the stem or answer options, position of key, or formatting of answer choices. Any cosmetic changes to the items were reviewed and approved by CTB Research.

## **4.5 Customer Approvals**

Approvals from the DPI staff were obtained during several phases of development:

- item content and bias review results
- item selections for the fall 2005 operational forms
- manuscripts
- second pages
- final pages (prior to release to manufacturing)

### **4.5.1 Item Content and Bias Review**

Following the review of items each day, CTB and DPI staff reviewed the edits recommended by the educator committees. The DPI staff initialed each item in the review books to indicate acceptance of the item accepted, accepted with revisions, or rejected. DPI and CTB each kept a copy of the item review book with the edits marked.

### **4.5.2 Item Selection Approval**

ITEMWIN selection summary reports were submitted to the DPI, which included graphics of the test characteristic and standard error curves, lists of items selected, summary test statistics. DPI approval was obtained using a sign-off form.

### **4.5.3 Manuscript Approvals**

CTB content editors submitted a copy of the test book manuscript as submitted to Production. The manuscripts show the items as sequenced with test sessions. The manuscripts for the test administration manuals were also submitted to DPI for review, and many content changes were addressed at this stage. DPI approval was obtained using a sign-off form.

### **4.5.4 Second Pages Approvals**

The second pages represent the DPI's first review of the composited test book or test administration manual pages. By this point, all content issues had been resolved. That is, the focus of the approval was on format and presentation issues, rather than on content issues. DPI approval was obtained using a sign-off form.

#### **4.5.5 Final Pages Sign-off**

The final pages represent the DPI's final opportunity to review test book and test administration manual pages prior to releasing the materials to Manufacturing. At this stage, the materials had been through CTB's quality assurance process and any queries resolved. The focus of this review is to verify that previously-requested edits have been made and that there are no errors in content or conventions of standard written English. DPI approval was obtained using a sign-off form.

## **Part 5: Test Administration**

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### **5.1 Accommodations**

The Wisconsin Department of Public Instruction (DPI) is committed to the proposition that all schools, and all students within schools, will be held accountable to a common set of high academic content standards. For the overwhelming majority of students, a major component of accountability is achieved through administration of the Wisconsin Student Assessment System (WSAS) which includes the WKCE-CRT. For a small group of English language learners and special education students, however, assessment of progress using WSAS may be inappropriate. An alternate system of assessment directly aligned with Wisconsin's Model Academic Standards is required to meet both the spirit and letter of the federal No Child Left Behind Act (NCLB) Act of 2001 and PI 13, Wisconsin Administrative Code.

Wisconsin Student Assessment System (WSAS) Alternate Assessments are standards-based alternatives to WKCE-CRT tests at grades 3-8 and 10 and consist of DPI-approved protocols and rubrics for the local collection and local scoring of student work. Nearly all students at grades 3-8 and 10, including most students with disabilities and students with limited English proficiency are expected to take the WKCE-CRT, with allowable accommodations as needed. WSAS Alternate Assessments are given in lieu of the specific WKCE-CRT subject area tests to two student groups: (1) students with more severe disabilities if the local Individualized Education Program (IEP) team determines that the students are not able to demonstrate at least some of the knowledge and skills on the WKCE-CRT subject area tests and (2) students whose first language is not English and whose academic English skills are at a beginning level as determined by the individual school districts.

Students with disabilities who have an IEP, or who have a 504 plan, may be considered for standard accommodations. Also, students identified as Limited English Proficient (LEP) and students who have been identified as Fluent English Proficient (FEP) for no more than two years may be considered for standard accommodations.

For the purposes of assessment, a Special Education student is eligible to receive services under the Individuals with Disabilities Education Act – 1997 and has an Individualized Education Program (IEP). For the purposes of assessment, a 504 student is eligible under Section 504 of the Rehabilitation Act of 1973 and has a 504 Accommodation Plan.

An English Language Learner (ELL) is a student whose native language is other than English and is learning English as a second language. By definition, the English language proficiency of these students precludes them from meaningful participation in the WKCE-CRT. The WSAS Alternative Assessment for English Language Learners (WAA-ELL) allows these students access to the same concepts as their English proficient peers while minimizing the influence of language. Alternate assessment for English language learners entails the collection, analysis, and interpretation of original student work in reading and mathematics at grade levels 3-8 and 10. In addition, comprehensive assessment of language arts, science and social studies occurs in grades 4, 8 and 10. WAA-ELL is based on the identical set of state content standards in reading, mathematics, English language arts, science and social studies that exists for all students, and it includes alternate performance indicators (APIs) aligned to those standards for English language learners.

### 5.1.1 Standard Accommodations

Standard accommodations are provisions made in how a student accesses and demonstrates learning. These should not substantially change the instructional level, the content, or the performance criteria. The changes are made in order to provide a student equal access to learning and equal opportunity to demonstrate what is known. Standard accommodations are changes in the routine conditions under which students take assessments, and involve changes in:

- Timing or scheduling of the test (i.e., administration of the test in short intervals or at a time of day that takes into account a student's medical needs);
- Test setting (i.e., administration of the test individually or in a small group setting, under special lighting, or using special furniture);
- Test presentation (i.e., test questions presented in large print or Braille, repeated directions, or explanation of directions); or
- How the student responds to test questions (i.e., the student points to answers or records answers in the test booklet instead of the answer booklet).

In addition, a standard accommodation that is available to English Learners is limited oral translation in the student's native language. When this accommodation is provided on state assessments only the verbal directions stated by the Test Administrator and the written directions that the student is expected to read may be orally translated into the student's native language. The translation must be an exact translation which is as close to verbatim as possible, and translation is to be provided on an as needed basis only. Translating any test item or translations that paraphrase, simplify, or clarify directions, or written translations are not permitted.

Table 5-1 describes in detail all standard accommodations made available for the 2005 Fall WKCE-CRT assessments.

**Explanations of asterisks** (from Assessment Accommodations for ELL students and students with disabilities/504)

- \* **Denotes an accommodation involving the use of highlighters. Highlighters may only be used by ELL students and students with disabilities.** Please note: carefully supervise the use of highlighters because they may cause smudging of pencil marks and bubbles and, therefore, could affect reliability of scoring. If highlighters are used, the following guidelines must be followed:

**Guidelines for Highlighters** (CTB/McGraw-Hill):

1. Do not allow the highlighting of track marks, litho codes, skunk lines, barcodes, preslugged bubbles or any carbon black printing. The highlighters cause these black inks to blur and bleed.
2. Do not allow the highlighting of pencil marks of any kind, whether bubbles or handwriting. The highlighters cause pencil marks to blur and bleed.
3. Use only a highlighter from the following list, which were tested and found to have minimal problems;  
Avery Hi-liter

Avery Hi-liter, thin-tipped  
Bic Brite-Liner  
Sanford Major Accent  
Sanford Pocket Accent, thin-tipped

**\*\*Denotes an accommodation for which test security should be considered.**

Test security must be maintained during all breaks within a testing session. To lessen the risk of a security breach occurring during these breaks, students requiring the use of restroom facilities must be escorted by either the proctor or a test examiner. In addition, students must not be allowed to use any form of wireless communication during these breaks.

**\*\*\*Parameters for marking test booklet with No. 2 Pencil.**

Do not mark in the bubble answer positions.

Do not mark in the student Pre-ID Barcode on barcode label.

Do not mark in the timing tracks (the parallel lines along the side of the test booklet).

Do not mark in the skunk lines (the little squares and rectangles across the bottom of each page of the test booklet).

Do not mark in the Litho codes (the squares and numbers across the bottom of the document on the first and last page of the test booklet).

Do not mark more than one answer bubble as the scanner cannot determine a response.

## **5.1 Reporting Results of Assessments Taken with Accommodations**

Scores of assessments taken with standard accommodations will be included with the results of students who took these tests under standard conditions at the school, district, and state level.

## **5.2 Test Security**

The primary goal of the WKCE-CRT test security was to protect the integrity of the examinations. To ensure that trends in achievement results can be calculated across years in order to provide longitudinal data, a certain number of test questions must be repeated from year to year. If any of these questions are made public, the validity of the test may be compromised. Access to test materials was limited to those educators who required access. WDPI ensured that all who had access to test materials understood the critical need for test security, presented during the 2005 Pre-Test Workshops, and outlined the acceptable and unacceptable test preparation and administration practices (Do's/Don'ts sheet provided in the Test Coordinator Kits). All WKCE-CRT tests were administered under secure testing conditions established by the WDPI.

Wisconsin Student Assessment Security Warning: The following statement was directed by WDPI to appear on every test booklet beginning with the 2004-2005 school year;

## Test Security

**All passages, stimuli, and questions used in the *Wisconsin Knowledge and Concepts Examinations-Criterion-Referenced Test* are CONFIDENTIAL and must be kept SECURE at all times. Unauthorized use, duplication or reproduction of ANY or ALL portions of the test materials is prohibited. Violation of security can result in district disciplinary action, prosecution, and/or penalties by the Department of Public Instruction or CTB/McGraw-Hill.**

For additional information on test security, refer also to Part 10, section 10.2.5 for a Erasure Analysis.

### 5.3 Test Administration

In order to ensure standardized testing administration for all students, a Guide for District Assessment Coordinators and School Assessment Coordinators was made available to all test coordinators (DPI, 2005-2006). The Guide included the following topics:

- Test Security
- Schedule of Important Dates
- Responsibilities of District Assessment Coordinators (DACs)
- Responsibilities of School Assessment Coordinators (SACs)
- Scheduling Test Administration
- Preparations for Testing
- Students to be Tested
- Standard Accommodations
- DPI Guidelines to facilitate participation of students with special needs
- Data collections and reporting
- Word Processors, Scribes, Tape Recorders, and Large Print and Braille Tests
- Test Materials
- Receiving Test Materials
- Inventorying Test Materials
- Procedures During Test Administration
- Procedures Following Test Administration
- Returning Materials to CTB/McGraw-Hill

In addition, Test Administration Manuals were made available to all test administrators. They included the following:

- Test Materials
- Test Security
- Testing schedules
- Test Administration Guidelines

- Guidelines for preparing students to take the test
- Use of appropriate testing procedures
- Student Identification Information
- Explanation of Symbols
- Detailed Scripts for Administration of Each Part of Each Test
- Procedures Following Test Administration

For specific information related to test administration, refer to the Test Coordinator's Manual and/or the Test Administration Manuals ([http://dpi.wi.us/oea/kce\\_publin.html](http://dpi.wi.us/oea/kce_publin.html)).

## Part 6: Scoring

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### 6.1 Rubric Description

For the 2005 operational test administration, the Reading and Mathematics tests at grades 3–8 and 10 and Science and Social Studies at Grade 8 had constructed response items. In addition, a writing prompt was administered at grades 4, 8, and 10. The tables that follow below present the rubrics.

#### Table 6.1.1 Reading Rubric, Grades 3–8 and 10

Reading items at all grade levels are scored using item-specific scoring guides that are based on a generic, 0–3 holistic rubric.

##### 3 points

- The response demonstrates *thorough understanding* of the reading concept embodied in the task.
- The response is *accurate, complete, insightful, and fulfills all the requirements* of the task.
- Necessary support and/or examples are included.
- Information is clearly *text-based*.

##### 2 points

- The response demonstrates *partial understanding* of the reading concept embodied in the task.
- The response is *accurate* and *fulfills most of the requirements* of the task.
- Necessary support and/or examples may not be complete or clearly text-based.

##### 1 point

- The response demonstrates *an incomplete understanding* of the reading concept embodied in the task.
- The response provides *some information that is text-based*, but does not fulfill the requirements of the task.
- Information provided is *too general* or *too simplistic*.
- Necessary support and/or examples may be incomplete or omitted.

##### 0 points

- The response demonstrates *no understanding* of the reading concept embodied in the task.
- The response is *inaccurate, confused, or irrelevant*.
- The student has *failed to respond to the task*.

### Table 6.1.2 Mathematics Rubric, Grades 3–8 and 10

Mathematics constructed response operational items each have two parts. Part A is scored as correct/incorrect. Part B is scored using a 2-point holistic rubric.

**2 points** The student demonstrates a thorough understanding of the mathematical concepts and/or procedures represented in the problem. The student responds correctly to the problem, uses mathematical procedures and/or concepts, and provides clear and complete explanations and interpretations containing words, diagrams, or calculations unless otherwise specified. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding of the problem.

**1 point** The student provides a response that is only partially correct. The student provides a correct solution, but may demonstrate a misunderstanding of the underlying mathematical concepts and/or procedures. The student provides a correct solution, but in place of showing his/her work writes, “I used my calculator.” The student provides a thorough demonstration of understanding the problem, but states an incorrect solution or conclusion.

**0 points** The student provides a completely incorrect solution, a response that cannot be interpreted, or no response at all.

### Table 6.1.3 Writing Rubrics, Grades 4, 8, and 10

The Writing prompt at grades 4, 8, and 10 is scored using two holistic rubrics: a 3-point rubric for Conventions of written English, and a 6-point rubric for Composing.

#### Conventions of Written English – 4<sup>th</sup> Grade

<b>3 points</b>	<b>Advanced Control</b>
The response demonstrates advanced control of a wide range of conventions identified in the 4 <sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:	
<ul style="list-style-type: none"><li>• Uses parts of speech effectively, including nouns, pronouns, and adjectives</li><li>• Uses adverbials effectively, including words and phrases</li><li>• Employs principles of agreement related to number, gender, and case</li><li>• Capitalizes proper nouns, titles, and initial words of sentences</li><li>• Uses punctuation marks and conjunctions, as appropriate, to separate sentences and connect independent clauses</li><li>• Uses commas correctly to punctuate appositives and lists</li><li>• Spells correctly in general and usually on more difficult words</li><li>• Uses word order and punctuation marks to distinguish statements, questions, exclamations, and commands</li><li>• Makes errors that are infrequent and minor</li></ul>	

**2 points      Proficient Control**

The response demonstrates proficient control of the essential conventions identified in the 4<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:

- Generally controls grammar and usage (principles of agreement, noun and verb forms, superlative and comparative forms)
- Capitalizes proper nouns, titles, and initial words of sentences
- Uses end-stop punctuation correctly most of the time; internal punctuation (commas, apostrophes) is sometimes missing or wrong.
- Generally uses correct spelling with common words but more difficult words are problematic
- Makes errors typical of those commonly found in a rough draft; errors do not significantly distract the reader

**1 point      Minimal Control**

The response demonstrates minimal control of the essential conventions identified in the 4<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:

- Contains numerous serious end-stop punctuation errors, resulting in fragments, comma splices, run-ons
- Shows poor control of subject/verb agreement, possessive forms, capitalization, superlatives and comparatives
- Spelling errors are frequent, even on common words
- Makes errors that are frequent, varied, and distracting

**0 points      Off Topic, No Response, Illegible, Another Language**

## Composing – 4<sup>th</sup> Grade

### Wisconsin Writing Grade 4 Rubric 6-Point Scoring Guide

Elements of Rubric	Purpose & Focus	Organization & Coherence	Development of Content	Sentence Fluency	Word Choice		
<i>Element Description</i>	Consistently focuses on the topic and maintains a unified purpose  Demonstrates understanding of the requirements of the assigned task	Uses a logical plan of development with an effective beginning, middle, and end  Keeps relationships among ideas clear  Paragraphs logically and uses appropriate transitional devices	Expands and supports main ideas with specific details, examples, and/or reasons that are 1) clearly related to the topic and purpose, and 2) effective for audience	Uses varied sentence structures, creating a fluent, effective, and readable style	Controls word choice with respect to both denotation and connotation  Demonstrates attention to context (audience, purpose, situation, tone)  Evidences some control over figurative language for rhetorical effect (e.g. metaphors, similes)		
<i>Positive Descriptors</i>	Focused, unified, controlled, relevant	Well organized, integrated, smooth, controlled, coherent	Thorough, specific, well-developed, well-supported, well-illustrated, insightful, convincing	Fluid, varied, controlled, effective	Vivid, precise, concrete, concise		
<i>Negative Descriptors</i>	Rambling, loosely related, redundant, irrelevant, lacks purpose	Disorganized, hard to follow, mechanical, illogical shifts, incoherent	Vague, general, simplistic, superficial, incomplete, illogical, inadequately supported, lacks illustration	Choppy, simple, repetitive, garbled, ineffective, awkward	Awkward, imprecise, vague wordy, repetitive		
Rubric Holistic Scoring Scale							
Scores	6	5	4	3	2	1	0
<i>Description</i>	Exemplary control of the domain	Advanced control of the domain	Proficient control of the domain	Adequate control of the domain	Basic control of the domain	Minimal control of the domain	Off topic, no response, illegible, another language

## Conventions of Written English – 8th Grade

### **3 points      Advanced Control**

The response demonstrates advanced control of a wide range of conventions identified in the 8<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:

- Uses words, phrases, and clauses effectively, including coordinate and subordinate conjunctions, relative pronouns, and comparative adjectives
- Uses correct tenses to indicate the relative order of events
- Employs principles of agreement, including subject-verb, pronoun-noun, and preposition-pronoun
- Punctuates compound, complex, and compound-complex sentences correctly
- Employs the conventions of capitalization
- Spells frequently used words correctly and uses effective strategies for spelling unfamiliar words
- Makes errors that are infrequent and minor

### **2 points      Proficient Control**

The response demonstrates proficient control of the conventions identified in the 8<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:

- Generally controls grammar and usage (principles of agreement, noun and verb forms, pronoun reference, superlative and comparative forms)
- Generally uses phrases, dependent and independent clauses clearly and correctly
- Capitalizes most words correctly; control over more sophisticated capitalization skills may be spotty
- Uses end-stop punctuation correctly most of the time; internal punctuation (commas, apostrophes, semicolons) is sometimes missing or wrong.
- Generally uses correct spelling with grade-level words and reasonable phonetic approaches to more difficult words
- Makes errors typical of those commonly found in a rough draft; errors do not seriously distract the reader

### **1 point      Minimal Control**

The response demonstrates minimal control of the conventions identified in the 8<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:

- Contains numerous serious end-stop or internal punctuation errors, resulting in fragments, comma splices, run-ons
- Shows poor control of grammar and usage (principles of agreement; verb and/or noun forms including possessives; pronoun reference; superlative and comparative forms; appropriate use of phrases/independent, dependent clauses, capitalization)
- Frequently misspells words, even those on grade-level
- Makes errors that are frequent, varied, and distracting

### **0 points      Off topic, No response, Illegible, Another language**

## Composing – 8<sup>th</sup> Grade

<b>Wisconsin Writing Rubric Grade 8 6-Point Scoring Guide</b>									
<b>Elements of Rubric</b>	<b>Purpose &amp; Focus</b>		<b>Organization &amp; Coherence</b>		<b>Sentence Fluency</b>		<b>Word Choice</b>		
<i>Element Description</i>	Clearly presents and maintains a unified purpose, focus, and/or thesis  Demonstrates understanding of the requirements of the assigned task		Frames the discussion with an effective introduction and conclusion  Creates a logical structure of development for the topic, thesis, and purpose  Uses transitional strategies (from idea to idea, paragraph to paragraph, and sentence to sentence)		Demonstrates <i>quality</i> of invented content (e.g. of explanations, arguments, rationale, ideas, details, examples, illustrations)  Demonstrates <i>thoroughness</i> in the elaboration of content		Demonstrates use of varied syntactic structures including simple, compound, complex, and compound/complex sentences  Evidences some control over stylistic effects (e.g. variety, readability)		Controls word choice with respect to both denotation and connotation  Demonstrates attention to context (audience, purpose, situation, tone)  Evidences some control over figurative language for rhetorical effect (e.g. similes, metaphors, personification)
<i>Positive Descriptors</i>	Focused, unified, controlled, relevant		Well organized, integrated, smooth, controlled, coherent		<u>Quality</u> : clear, convincing, accurate, effective, well-reasoned, insightful <u>Thoroughness</u> : specific, well-developed, well-supported, well-illustrated		Fluid, varied, controlled, effective		Apt, discriminating, vivid, precise, concrete, concise
<i>Negative Descriptors</i>	Rambling, loosely related, redundant, irrelevant, lacks purpose		Disorganized, hard to follow, mechanical, illogical shifts, incoherent		<u>Quality</u> : vague, imprecise, inaccurate, simplistic, poorly reasoned, superficial <u>Thoroughness</u> : incomplete, general, inadequately developed, inadequately supported, lacks illustration		Choppy, monotonous, garbled, ineffective, awkward		Inappropriate, cliched, awkward, imprecise, vague wordy
<b>Rubric Holistic Scoring Scale</b>									
<b>Scores</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>		
<i>Description</i>	Exemplary control of the domain	Advanced control of the domain	Proficient control of the domain	Adequate control of the domain	Basic control of the domain	Minimal control of the domain	Off topic, no response, illegible, another language		

## Conventions of Written English – 10th Grade

### **3 points**      **Advanced Control**

The response demonstrates advanced control of a wide range of conventions identified in the 12<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts:

- Uses words, phrases, and clauses effectively, including interrelated clauses in complex sentences
- Uses correct tenses, including conditionals, to indicate the relative order and relationship of events
- Employs principles of agreement, including subject-verb, pronoun-noun, and preposition-pronoun
- Punctuates compound, complex, and compound-complex sentences correctly, including appropriate use of colons, hyphens, dashes, ellipses, and italics; punctuates dialogue correctly; follows citation conventions
- Employs the conventions of capitalization
- Spells frequently used words correctly and uses effective strategies for spelling unfamiliar words
- Makes errors that are infrequent and minor

### **2 points**      **Proficient Control**

The response demonstrates proficient control of essential conventions identified in the 12<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts

- Generally controls grammar and usage (principles of agreement, noun and verb forms, pronoun references, superlative and comparative forms)
- Generally uses phrases, dependent and independent clauses clearly and correctly
- Uses end-stop punctuation correctly most of the time; internal punctuation (commas, apostrophes, semicolons, colons) is sometimes missing or wrong; sometimes fails to punctuate dialogue correctly or to accurately follow citation conventions
- Employs the conventions of capitalization
- Generally uses correct spelling with grade-level words and reasonable phonetic approaches to more difficult words
- Makes errors typical of those commonly found in a rough draft; errors do not seriously distract the reader

### **1 point**      **Minimal Control**

The response demonstrates minimal control of essential conventions identified in the 12<sup>th</sup> grade Wisconsin Model Academic Standards in English Language Arts

- Contains numerous serious end-stop or internal punctuation errors, resulting in fragments, comma splices, run-ons
- Shows poor control of grammar and usage (principles of agreement, verb and/or noun forms; pronoun reference; superlative and comparative forms)
- Shows poor control of spelling, even on grade-level words
- Makes errors that are frequent, varied, and distracting

### **0 points**      **Off Topic, No Response, Another Language, Illegible**

## Composing – 10<sup>th</sup> Grade

Wisconsin Writing Grade 10 Rubric 6-Point Scoring Guide							
Elements of Rubric	Purpose & Focus	Organization & Coherence		Development of Content	Sentence Fluency	Word Choice	
<i>Element Description</i>	Explicitly states, or strongly implies, a thesis or unifying purpose which firmly guides the paper  Demonstrates understanding of the requirements of the assigned task	Frames the discussion with an effective introduction and conclusion  Creates a logical structure of development for the topic, thesis, and purpose  Uses effective and varied transitional strategies (from idea to idea, paragraph to paragraph, and sentence to sentence)		Demonstrates <i>quality</i> of invented content (e.g. of explanations, arguments, rationale, ideas, details, examples, illustrations)  Demonstrates <i>thoroughness</i> in the elaboration of content	Demonstrates syntactic control of simple, compound, complex, and compound/complex sentences  Evidences some control over stylistic effects (e.g. flow, cadence, parallelism, variety, readability, judicious use of active and passive voice, effective repetition)	Controls word choice with respect to both denotation and connotation  Demonstrates attention to context (audience, purpose, situation, tone)  Evidences some control over figurative language for rhetorical effect (e.g. metaphors, similes, hyperbole, analogies)	
<i>Positive Descriptors</i>	Focused, unified, controlled, relevant	Well organized, integrated, smooth, controlled, coherent		<u>Quality</u> : clear, precise, accurate, effective, well-reasoned, insightful <u>Thoroughness</u> : complete, specific, well-developed, well-supported, well-illustrated	Fluid, varied, controlled, effective, skilled	Apt, discriminating, vivid, precise, concrete, concise	
<i>Negative Descriptors</i>	Rambling, loosely related, redundant, irrelevant, lacks purpose	Disorganized, hard to follow, mechanical, illogical shifts, incoherent		<u>Quality</u> : vague, imprecise, inaccurate, simplistic, poorly reasoned, superficial <u>Thoroughness</u> : incomplete, general, inadequately developed, inadequately supported, lacks illustration	Choppy, monotonous, garbled, ineffective, awkward	Inappropriate, cliched, awkward, imprecise, vague wordy	
Rubric Holistic Scoring Scale							
Scores	6	5	4	3	2	1	0
<i>Description</i>	Exemplary control of the domain	Advanced control of the domain	Proficient control of the domain	Adequate control of the domain	Basic control of the domain	Minimal control of the domain	Off topic, no response, illegible, another language

### **Table 6.1.4 Science and Social Studies Rubric, Grade 10**

The Grade 10 Science and Social Studies constructed response items are scored using item-specific scoring guides; each item is scored using a 0–2 rubric.

The Grade 10 science and social studies constructed response items were developed based on these guidelines for the scoring rules.

The item must be scorable with a specific 2-1-0 rubric or scoring rule.

Answer cues or critical elements should be supplied to indicate the item writer’s expectations of the characteristics or content of an exemplary response. The answer cues must clearly relate to or address the performance standard being measured. The statement “Answers will vary” is not acceptable.

The performance criteria for each score point must be defined, using concise and precise language.

The format will be as follows:

#### **Exemplary Response**

Any \_\_\_ of the following key elements:

- 
- 

#### **Score Points**

2 points

1 point

0 points Incorrect response or no response

## **6.2 Processing and Scoring of Test Materials**

CTB's primary goal in the scoring and processing of test documents is to deliver quality results to Wisconsin educators, students and parents according to WKCE-CRT program timelines. The accuracy of scored data and the accurate and timely delivery of score reports are the primary concern of the team devoted to providing WKCE-CRT scoring services.

CTB's WKCE programs Scoring Team, which is based in Monterey, California, coordinated the Fall 2005 operational processing at the Salinas, California Scoring facility and the handscoring services through the Mather, California handscoring team. Although the majority of handscoring services were provided by the Mather facility some WKCE-CRT handscoring was distributed through other CTB owned and operated Handscoring sites including Indianapolis, Indiana; Delran, New Jersey; and Orlando, Florida.

CTB handscoring processes, controls and quality assurance practices are uniformly administered at all scoring facilities. The Scoring Team of trained technical specialists is responsible for coordinating all scoring and reporting activities related to the processing of the WKCE-CRT test documents. Document preparation, interdepartmental coordination and communication, processing specifications, and problem resolution are functions performed by the assigned Scoring Project Manager from the WKCE programs team. The scoring team works closely with all CTB departments to ensure the successful scoring and reporting of the WKCE-CRT program.

## **6.3 Scoring Process Overview**

CTB conducts quality control checks at all phases of test processing, scoring, data analysis and reporting, and integrates the quality controls into a comprehensive end-to-end quality assurance program for all deliverables. Established procedures require all personnel and subject matter experts to complete their tasks according to strict quality assurance regulations within the data processing, scoring and reporting areas.

## **6.4 CTB Scoring System**

Within each step of the process cycle, CTB integrates procedures to ensure quality. Presented below, in order of occurrence, are quality assurance procedures applicable to the Scoring and Reporting process.

### **6.4.1 Prework**

Prior to document arrival at CTB, the scoring team utilizes available customer data to prepare materials to expedite the document-handling process. Team members verify the accuracy of the following materials:

- Expected number of students by grade and school

- Test date
- Student Barcode Labels
- Precoded headers generated from school/district enrollment files
- Return Shipping Labels
- Report services specifications
- Sample reports
- Report collation examples
- Report packing schematics
- Document type (i.e., selected response/constructed-response)
- Packing lists generated for report shipments
- Other requirements to meet WKCE-CRT specifications

Prior to receipt of answer documents, detailed scoring specifications for WKCE programs are distributed to all departments and workstations involved in the scoring and editing process.

#### **6.4.2 Receiving**

Shipments are tracked electronically, from the time of pickup at the sites, until delivery at CTB. After receipt, documents are organized by District and the following steps performed:

- The box count is verified against the carrier’s bill of lading and/or box count indicators as printed on the outside of the box. If a discrepancy is encountered, boxes are placed in a problem resolution area and discrepancy procedures are enforced. If missing boxes are not located within 24 hours, the Scoring Team is notified to contact the District for resolution.
- The shipment is checked for damaged materials. If the integrity of the documents is affected by any kind of damage, the Scoring Team is notified. Depending on the severity of the problem, the team member contacts the District for resolution. A record of all damaged materials is maintained.
- Before leaving the Receiving area, documents are logged into the computerized tracking system which provides real-time information regarding the status of the documents throughout the scoring and editing process. The electronic profile for each District is updated with at least the following information:
  - District name
  - Date of receipt
  - Box count
  - Shipping carrier
  -
- CTB follows-up with each district whose scorable test materials are not received in accordance with program timelines. CTB will provide retrieval status information as requested to WI-DPI.

### **6.4.3 Login**

Documents released by Receiving are transferred to Login where:

- School Header Sheets are checked against School Group Lists to verify the number of students tested within each group, and to check for the required Principal or Designee signature and contact information. The Scoring Team is notified of any missing signatures, requiring a call to the district.
- Documents are grouped into manageable stacks and aligned to ensure proper scanning.
- Scannable headers are placed on top of each stack and a number assigned to identify each unique stack within a group.

### **6.4.4 Scanning**

After all information has been verified as received and prepared for scanning, the documents are placed in mini-queues for the next steps in the process, where they are cut into single sheets and electronically scanned. Scanners are calibrated periodically.

The scanners used by CTB have built-in checks for miscalibration. Hardware bias checking is used in real-time to verify that the scanner calibration is maintained during the scanning process. Additional checks are implemented by CTB to reinforce the built-in hardware checks and to ensure optimal scanner setup.

CTB's scanning software utilizes the speed of the NCS 5000I optical scanners to capture document images and bubbled data without requiring specific document editing and resolution rules. Scanners are thus able to run at rated speed with no interruptions except for problems with the physical documents. All editing of the scanned documents is performed, in a subsequent step, in the raw scoring/editing system.

The scanning program evaluates every detectable mark on both sides of each page, and records the intensity and coordinates of solid marks for resolution in the subsequent raw scoring step. The form identification (i.e., "skunk marks") determines the type of document, and the headers determine customer identification and district, school, and class.

### **6.4.5 Editing/Updates**

Raw scoring and editing of scanned data is performed in a client/server system (WinScore), where a sophisticated system of edits are invoked to review the integrity of each batch scanned and to produce a list of error suspects. While the editors can view data from any document on-line, the error suspect list concentrates on the most likely problems based on pre-defined guidelines. This system reduces editing time and provides a high degree of quality control.

CTB continues to enhance the capability of editing software to simplify the detection and correction of errors. On-line editing screens focus an editor on potential problems and then provide related information. The actual scanned documents are always available to the editor, and the software supports the review and correction of any field in the scanned record. Entry and verification of the necessary corrections are enhanced to ensure each error is actually corrected.

As batches are extracted for scoring, a final edit is performed to ensure all requirements for scoring are met. This automated final edit flags a batch for further editing if any error is still detected. A batch that contains errors cannot be extracted for reporting, thus ensuring a high level of accuracy of the scored data.

CTB has maintained a professional staff of specialized data processing technicians to lead the verification process to ensure the integrity of the student response data at both group and individual levels. This process includes the following error checks:

- Reliability. The reliability check ensures that the raw scores for each subtest are above chance levels. Scores not passing this edit are checked by a trained specialist to ensure that responses are being read correctly and that the correct form and level of the test is being used.
- Biographical data. Electronic edits are performed on elements such as student name to ensure obvious errors are corrected when possible.
- Student counts. Actual counts based on scanned records are electronically compared with expected counts, and discrepancies are flagged.
- School name/number. Pre-assigned school numbers and names are verified against an electronic file.
- Custom edits. Special edits can be performed using custom software that works in conjunction with our standard scoring process.

#### **6.4.6 Document Retention**

When the editing process is completed, documents are moved to a staging area to be prepared for retention. Bundles are caged, warehoused in a recoverable location, and retained for possible retrieval during the specified retention period. Once this period is over, documents are destroyed according to procedures that ensure security is maintained.

#### **6.5 Handscoring Process**

##### **Electronic Handscoring System (EHS)**

For WKCE programs, the Electronic Handscoring System (EHS) is used to score constructed response (CR) items. EHS presents images of scanned test books to trained readers, who assign scores for constructed response items. Scanned output is viewed on high quality 19" workstation monitors. Images of each student's responses are automatically routed to two or more readers when required, and images of specific subsets of test items are routed to designated

groups of readers trained to score these items. In addition to increased reader reliability, significant gains in reader productivity are noticed following the implementation of EHS.

### **6.5.1 Anchor Papers and Training Papers**

Prior to the actual scoring, the CTB Scoring Center creates training materials. CR items for the WKCE-CRT are assessed using a WI-DPI holistic rubric with an X-point score scale. CTB randomly samples student answer documents to ensure it is looking at a representative sample of the possible responses. Rangefinding meetings are held with WI-DPI staff and educators to select sample papers of each score point. Sample papers are used to construct scoring guides and training papers. CTB's Scoring Team collaborates with WI-DPI to make necessary revisions to the rubrics and selection of scoring guides and training papers.

This process includes several presorting steps and subsequent iterative/consensus processes in order to achieve ever-increasing agreement and precision through a kind of "round robin" scoring, followed by discussion and selection.

Papers for a form that are selected and assigned status as good anchor training, horizontal training and qualifying, are consolidated into training formats. Once approved by WI-DPI, the Scoring Guides (consisting of rubrics, anchors, and annotations) serve as a constant guide, setting the course for all subsequent training and scoring.

### **6.5.2 Training**

Validation is a critical task in the assessment training process, and is the final determinant in reader readiness. All readers, including team leaders, must achieve 80 percent exact agreement on the qualifying round following training. Those readers not validating on the first attempt receive further training prior to taking an additional qualifying round. Only those training who successfully validate are qualified as readers and may score tests. Team leaders are required to complete two validation rounds with 80 percent exact agreement in each round.

### **6.5.3 Intra-Rater Reliability**

#### Checksets

Throughout the course of the handscoring process, calibration sets of pre-scored papers (check-sets) are administered daily to the team leaders as well as to the readers, to monitor scoring accuracy and to maintain a consistent focus on the established rubric and guidelines. Imaging permits this monitoring without reader knowledge of when a check-set is administered. Readers whose check-set scores fall below the qualifying level are removed from live scoring and are given additional training and another qualifying (validation) round. Readers unable to qualify are dismissed.

### Read-Behinds

The “read-behind” is another valuable intra-rater reliability monitoring technique. On a daily basis, each team leader reads a random selection of each reader’s scored items. The scores are compared, and if they agree, the team leader is able to offer feedback, which enhances the reader’s confidence and ability to score quickly and accurately. However, if a reader is straying from the standard established in the training and validation samples, the aberrant scoring is detected, and the team leader is able to offer the guidance necessary to refocus the reader’s effort. Readers whose scoring is inconsistent are read behind more frequently by their team leaders, thus correcting any scoring variations.

### Double Reads

In the instance where the contract requires double reads, each constructed response is scored by two readers and inter-rater reliability is monitored throughout the scoring process. If the scores of the two assigned readers differ by one point, the student will receive the higher of the two scores. If the scores of the two readers differ by more than one point, a third rating is provided by an expert rater, who will resolve the discrepancy and assign a final score.

## **6.5.4 Scoring Personnel - Constructed Response Scorers**

CTB recruits, trains, and manages a sufficient number of staff, over multiple handscoring sites, to complete all handscoring operations within the time lines of this contract. CTB’s experience involves extensive consultations between CTB Scoring, Publishing, and the customer to review scoring rubrics, develop anchor papers and other reader training materials, and provide analyses of student responses to tryout forms.

### Readers

Many CTB readers have a great deal of classroom teaching experience. Our reader pool includes editors, published authors, and a number of individuals with advanced degrees. The minimum qualification for all Scoring Center readers is a Bachelor’s degree. WKCE-CRT constructed response (CR) items are scored in Mather, California and electronically vectored to multiple CTB handscoring sites including Salinas, Delran, Indianapolis and (Orlando) Florida. Handscoring readers are recruited from the ‘local’ city areas and must possess, and show evidence of, either, a BA or BS degree. Evaluator staff are comprised of individuals from many walks of life -- from retired or current educators to engineers, possessing BAs to PhDs.

### Team Leaders

Team leaders are selected on the basis of demonstrating a high degree of scoring accuracy and consistency, often across multiple subjects and grades. Team Leaders must also

possess good interpersonal and leadership skills in order to be effective when training and counseling readers. While it is possible to conduct handscoring with more readers per team leader, it has been CTB's experience that inter-rater reliability and production goals are jeopardized unless a trained leader can frequently monitor all readers.

### Scoring Supervisors

Scoring Supervisors are the core group at CTB scoring centers who direct and organize the assessment process, and train team leaders and readers. Scoring Supervisors have extensive experience as Team Leaders prior to their qualification and selection. Scoring Supervisors are subject area experts in the content areas they supervise and train.

## **6.6 Quality Assurance of Custom Software**

CTB's Quality Assurance department acts as an adjunct to both our larger Technology and Scoring departments. The Quality Assurance group, charged with the mission of ensuring accurate scoring and reporting software and systems, employs a variety of methods to ensure accuracy of all WKCE scoring and reporting software. While this group works in tandem with the Technology and Scoring departments sharing their findings, by maintaining an independent function and focus, an internal quality assurance audit "lives" within the project. Months prior to CTB receiving documents from the WKCE-CRT administration, the Technology Department will develop requirements and programming specifications that detail the business rules and required scanning and scoring specifications for each administration. Scanning programs are then developed and verified to ensure accuracy and adherence to program requirements.

After the development of scanning programs, the Quality Assurance Department comprised of Technology Quality Assurance and User Acceptance groups, conducts independent "end-to-end" production tests using answer documents that have been hand-coded and scanned. This process is designed to ensure the accuracy of the production system, before live data are processed, resulting in a qualified production scoring system that is fully compliant with all WKCE program specifications. Each department creates test decks for all scoring and reporting systems. Test decks are hand bubbled for all test sections and answer types, including multiple-choice and constructed-response items. Unusual bubbling patterns are tested including "all rights," "only one correct response per test section," "no correct response," "double marks," and many others. These patterns are used to verify test scores, invalidation, suppression, and omissions. Demographic grids and other contract-specific information are bubbled with a pre-identified set of criteria to ensure that biographical data are captured properly. The test deck proceeds through each subsystem before processing production data.

## **6.7 Advanced Function Printing (AFP)**

The IBM Advanced Function Printing (AFP) system is a key factor in CTB's ability to print large volumes of reports with varied content and sequences. CTB provides the functionality to print reports in the actual shipping sequence, with no manual sorting or collation required. In addition, each page may contain complex graphics and the visual aids necessary to

clearly convey the information to the wide variety of people who read the reports. CTB converted all mainframe systems to AFP and developed all new reports in this environment. AFP operates on high-speed laser printers using large roll feeders for several hours of uninterrupted printing at a rate of over 200 pages per minute. The printers' output processors then separate packages, or sets, of reports.

AFP supports report collation. Reports can be printed in any desired sequence, since the contents of each set of reports can be predefined. The sequence in which these packages are printed is also predefined. A "break page" of control and routing information precedes each package of reports. For example, for a district-wide school package, the break page may contain test, type of report, report level/grade, school name, principal's name and school address information. Packages are produced in the final order for quality checks and packaging for shipment.

With AFP graphic capabilities, CTB can design more meaningful reports. Form and content can be varied at any time while printing, fonts can be mixed on a page, graphics can be added, and complex graphics can be inserted to represent variable data.

CTB adopts procedures to provide unprecedented flexibility in the reporting software. In many cases, an application program need not be changed to modify or enhance a report; the much simpler AFP page definition can be changed, leaving the application program intact. Thus, programming, testing, and quality assurance are all simplified.

## **6.8 Reliability for CR Items and Writing Prompts**

The score distributions and inter-rater reliability for CR items and Writing prompts are provided. While there are several CR items for Reading, Mathematics, Social Studies, and Science, one Writing prompt occurs in each grade 4, 8, and 10. For one Mathematics CR item, there is a Part A and a Part B. Similarly, for one Writing prompt, there are scores for both Composition and Convention.

### **6.8.1 Distribution of CR Items**

The distributions of CR items were provided to check the reasonability of CR items. Four condition codes were used for scoring CR items, and are turned into zero score point. “A” denotes no response or no attempt, “B” represents illegible, “C” means another language, and “D” denotes off-topic. Table 6-1 shows the score distributions for Reading CR items. The table shows the score distribution of the first read. Note that while all responses for operational items were scored, only a portion of the responses for field test items was scored. Therefore, operational and field test items can be identified based on the number of students (N in the sixth column). As can be seen in the table, most condition codes were “A”, which means that many students did not try the CR items. Table 6-2 shows the score distributions for Mathematics. Unlike Reading, one Mathematics item consists of Part A and B, which have different score levels. Except for Mathematics Grade 10, Part A has a one score point, and Part B has a two score points. Three items, grade 8 Form A #54 Part B, grade 10 Form A #37 and #45, showed more than 10,000 A condition codes. Table 6-3 and 6-4 present the score distributions of Social Studies and Science. Social Studies also show very large number of A condition code for most items.

Table 6-5 through 6-11 show the score distributions by number and percent for Writing composition, convention, and total score of composition and convention, for grades 4, 8 and 10. To check whether the distributions of the first read and second read are similar, both scores from the first read and second read are reported. The distributions of the two reads are similar across all score levels for grades 4, 8, and 10. Note that only the scores from the first read are used for Reading, Mathematics, Social Studies, Science. The average of two raw scores is reported for Writing, so the similarity of the two scores from the first read and the second read are important for Writing.

Tables 6-5 and 6-6 show that few students in grades 4, 8, and 10 obtained the maximum score points for writing convention. At the same time, Table 6-9 shows that few students in grades 4 and 8 obtained the maximum score for the field test composition portion. Note, as shown in Tables 6-7 and 6-8, that no students in grade 4, and very few students in grades 8 and 10 obtained the maximum total score. In fact, very few students, in grades 4, 8, and 10 scored in the top three score levels. In short, it was very difficult to get the full score for Writing Composition.

## 6.8.2 Inter-Rater Reliability

The reliability of handscoring should be measured in a variety of ways. Two of the most effective ways of measuring handscoring reliability are 1) tabulations of exact and adjacent agreement, and 2) reliability coefficients. Reliability for constructed response items is typically examined by calculating indices of inter-rater agreement: the degree of reliability with which different human raters assign scores to student responses. Three indexes for inter-rater reliability were considered: intraclass correlation, Cohen's kappa, and weighted kappa. The formula for intraclass correlation and weighted kappa are from Rich Patz's 1998 unpublished paper, "Calculating handscoring reliability coefficients."

**Notation.** To assess reliability, it is necessary to replicate the scoring process for a subset of papers. This is usually done with "blind double reads." We will suppose that we have  $N$  responses, each of which is scored twice. We denote the two scores of response  $n$  by  $X_{n1}$  and  $X_{n2}$ , where  $n=1, 2, \dots, N$ . The resulting data may be presented in two ways, enumeration by response and cross-tabulation:

**Data Structure 1: Enumeration by Response.** Each row represents a single student response:

Response #	Score1	Score 2	Mean Score
1	$X_{11}$	$X_{12}$	$\bar{X}_{1.}$
2	$X_{21}$	$X_{22}$	$\bar{X}_{2.}$
⋮	⋮	⋮	
⋮	⋮	⋮	
N	$X_{N1}$	$X_{N2}$	$\bar{X}_{N.}$
Column Mean	$\bar{X}_{.1}$	$\bar{X}_{.2}$	$\bar{X}_{..}$

where

$$\bar{X}_{.1} = (X_{11} + X_{21} + \dots + X_{N1}) / N$$

is the mean score for response 1 (similarly for responses 2,3, ...,N),

$$\bar{X}_{.1} = \frac{1}{N} \sum_{n=1}^N X_{n1} = (X_{11} + X_{21} + \dots + X_{N1}) / N$$

is the mean of Score1 over all responses (similarly for Score2), and

$$\bar{X}_{..} = \frac{1}{N} \sum_{n=1}^N (X_{n1} + X_{n2}) / 2$$

is the overall mean score across both scores of all responses.

**Data Structure 2: Cross-tabulation of Score 1 and Score 2.** As an alternative, we may create a square table of counts for each Score1 by Score2 (i.e.,  $X_{n1} \times X_{n2}$ ) combination:

		Score 2				Row Total
		0	1	...	K	
Score 1	0	$n_{00}$	$n_{01}$	...	$n_{0K}$	$n_{0+}$
	1	$n_{10}$	$n_{11}$	...	$n_{1K}$	$n_{1+}$
	.	.	.	...		
	.	.	.	...		
Column Total		$n_{+0}$	$n_{+1}$	...	$n_{+K}$	$n_{++}$

where  $K$  is the maximum score (for a rubric including zero) obtainable for the item,  $n_{ij}$  is the number of responses for which Score1 =  $i$  and Score2 =  $j$ ,  $n_{i+}$  is the number of responses for which Score1 =  $i$ , and  $n_{+j}$  is the number of responses for which Score2 =  $j$ .

Formulas for the two reliability coefficients of interest are now given:

1. **Intraclass correlation**,  $\rho_{IC}$ , describes the percent of overall score variance accounted for by the variance of mean response scores:

$$\rho_{IC} = \frac{Var_n(\bar{X}_n)}{Var_n(X_{n1}, X_{n2})} = \frac{\frac{1}{N-1} \sum_{n=1}^N (\bar{X}_n - \bar{X}_{..})^2}{\frac{1}{2(N-1)} \sum_{n=1}^N [(X_{n1} - \bar{X}_{..})^2 + (X_{n2} - \bar{X}_{..})^2]}$$

If agreement is perfect  $\rho_{IC} = 1$ . Always,  $0 \leq \rho_{IC} \leq 1$ .

2. **Cohen' Kappa** (Cohen, 1960),  $k$ , is commonly used to summarize the agreement between raters and is computed as

$$k = \frac{\sum_{i=j} P_{ij} - \sum P_{i+} P_{j+}}{1 - \sum P_{i+} P_{j+}},$$

where  $\sum_{i=j} P_{ij}$  is the observed proportion of agreement and  $\sum P_{i+} P_{j+}$  is the chance proportion of

agreement (Brennan & Prediger, 1981). In the above “Data structure 2,”  $P_{ij} = \frac{n_{ij}}{n_{++}}$ ,

$$P_{i+} = \frac{n_{i+}}{n_{++}}, \text{ and } P_{j+} = \frac{n_{j+}}{n_{++}}.$$

**3. Weighted Kappa,  $k$ ,** is used in many contexts as a measure of association in square contingency tables:

$$k = \frac{\sum_{i=0}^k \sum_{j=0}^k w_{ij} \frac{n_{ij}}{n_{++}} - \sum_{i=0}^k \sum_{j=0}^k w_{ij} \frac{n_{i+} n_{j+}}{n_{++}^2}}{1 - \sum_{i=0}^k \sum_{j=0}^k w_{ij} \frac{n_{i+} n_{j+}}{n_{++}^2}}, \text{ where } w_{ij} = 1 - \frac{(i-j)^2}{K^2}$$

If agreement is perfect,  $k=1$ . If agreement is what would be expected by chance,  $k=0$ . Always,  $0 \leq k \leq 1$ .

Ordinal rating scales (e.g., 0, 1, 2), used in scoring CR items contain a certain level of chance agreement that is expected. Although the intraclass correlation is reported in this report, it does not take into account chance agreement between the two raters, but Cohen’s Kappa does. In general, Kappa will have values equal to or smaller than the intraclass correlation. If agreement is perfect, then Kappa is +1. If agreement is at chance levels, Kappa is 0. Landis and Koch (1977) suggest that values of Kappa greater than .75 indicate “excellent agreement”, values between .40 and .74 represent “good agreement” beyond chance, and values below .40 denote “poor agreement”. Criteria for intraclass correlation or weighed kappa are not certain.

Note that only the scores from the first read are used for Reading, Mathematics, Social Studies, Science. The average of two raw scores is reported for Writing. Weighted kappa is calculated based on the average score, while kappa is computed based on a single score. Therefore, although weighted kappa and (unweighted) kappa were included, (unweighted) kappa is appropriate for Reading, Mathematics, Social Studies, and Science, while weighted kappa is proper index for Writing raw scores. For Writing grade 10, scale scores is estimated using the first read only so that both kappa is also an appropriate index.

In order to monitor the reliability of the scoring of the CR items for Reading, Mathematics, Social Studies, and Science, all other responses were read by a single rater, and approximately 3,000 cases of the operational items, and 500 cases of the field items were submitted to a second rater for scoring. Note that all cases of Writing operational

prompts and approximately 400 cases of Writing field tested prompt were scored by two readers.

Table 6-12 through Table 6-16 present the rater agreement statistics for CR items and Writing prompt. Evidence supporting inter-rater reliability for each trait of the 2005 WKCE-CRT assessments is presented in terms of percentage of agreement between raters, three indexes of inter-reliability, and the frequency distribution of the score. “Perfect” agreement is defined as trait scores that are exactly the same. “Adjacent” agreement is defined as trait scores differing by one point. “Discrepant” cases are those cases where scores from two raters differed by more than one raw score point. The column for “codes” means the number of students who receive condition codes, A, B, C, or D. For example, in Table 6-12 for Reading Grade 3, item #16 shows that the perfect agreement, adjacent agreement, discrepant agreement, and codes are 82.66%, 15.84%, 1.50%, 7.22%, respectively. Note that the percent agreement was computed after the students with condition codes were dropped. The 7.22% for Grade 3 item #16 condition codes means that about 212 students out of 2935 received the codes from either one of two readers, or both readers. The percents, 82.66, 15.84, and 1.50, were computed using the remaining students 2723 (=2935-212). The condition codes were transformed to the raw score of 0 when three indexes for inter-reliability were estimated.

## **Reading**

The maximum score point of Reading CR items is 3 score points, for all grades. By far the most common mode of agreement was perfect agreement. The percent of perfect agreement ranges from 62.19% (Grade 8 item #42) to 86.52% (Grade 4 item #79 Part B). Adjacent agreement occurred in approximately 25% of cases for each grade. Discrepant agreement occurred far less often than any other mode of agreement. The percent of discrepant agreement ranges from 0.22% (Grade 10 item #44) to 5.62% (Grade 3 #52). In other words, if we consider more than 1 score point as a critical difference, the rater score differences were not large for Reading. Intraclass correlation ranges from 0.83 (Reading Grade 6 # 21) to 0.96 (Reading Grade 7 item #63). Although this correlation was low for the Grade 6 item #21, the percent of discrepant agreement was 2.52%. That is, the percent of agreement is 97.48%. Kappa ranges from 0.45 to 0.81. All items are over the good agreement criterion value of 0.40 based on Landis and Koch (1977).

## **Mathematics**

Most Mathematics CR items have a maximum of 1 or 2 score points, except grade 10 item #9 which has a maximum of 4 points. In general, a smaller number of maximum score points produces better inter-rater agreement and reliability than a larger maximum. Compared to Reading, Mathematics produced larger percent of perfect agreement and smaller percent of discrepant agreement for most items across all grades. Intraclass correlation ranges from 0.79 (Mathematics Grade 5 item #28 Part B) to 1.00 (in several instances). As mentioned above, these better results do not mean that raters for

Mathematics did better than the raters for Reading. Like intraclass correlation, in general, kappa for Mathematics was higher than that for Reading. In many larger scale assessments, it is often found that inter-reliability for Mathematics is higher than that for Reading. Scoring Rubrics for Mathematics can be much clearer for raters than those for Reading. Kappa ranges from 1.0 to 0.42 across grades.

## **Writing**

It was clear that the perfect agreement rate for Composition (six score points) is lower than that for Convention (three score points) because of the difference in score points. Perfect agreement was more common where there were fewer possible score points, as might be expected, and, as might also be expected, discrepant modes of agreement were more common where there were more possible point levels. Notably however, the sum of perfect agreement and adjacent was similar for both composition and convention. In general, the percent of condition codes, was the lowest of the 5 contents. Intraclass correlation ranges from 0.88 to 0.96, and weighted kappa ranges from 0.76 to 0.92. Kappa values for Grade 10 Composition and Convention were 0.44 and 0.55, which are considered good agreement.

## **Social Studies**

Each Social Studies CR item has a maximum of 2 score points. Perfect agreement was again the most common mode of agreement, and ranging from 70.27% to 80.88%. Discrepant agreement was rare, ranging from 1 to 2%. The percent of condition codes, which ranges from 9.63 to 16.59, were the highest among the 5 contents. Intraclass correlation ranges from 0.83 to 0.87, and kappa ranges from 0.50 to 0.62, which is good agreement.

## **Science**

Perfect agreement predominated among raters of Science CR items, ranging from 79.05% to 88.48% across items. Each item had a maximum of two score points. Discrepant agreement occurred only rarely, that is, in approximately 1 to 2% of cases, for all items. Condition codes ranged from 9.63 to 12.78% of cases. Intraclass correlation ranges from 0.90 to 0.95, and kappa ranges from 0.68 to 0.81, which is good to excellent agreement.

## **Part 7: Data and Analysis**

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### **7.1 14 Data: Calibration Sample and Census Data**

For the 2005 Fall WKCE-CRT, scoring and all norms were based on the 14 calibration districts (CD), which have been used in previous administrations of WKCE. Therefore, it is important to check whether the 14 CD can be considered a representative sample of all Wisconsin students. For that purpose, two analyses were performed: First, students' characteristics in the 5 NCLB subgroups were compared. Second, the scale scores of the 14 the CD and WI census test population were compared. Table 7-1 shows the list of the 14 CD.

#### **7.1.1 Proportion of Students by 5 NCLB groups**

The number of students and proportion of students in the 5 NCLB sub-groups using the WI census data and 14 calibration districts are presented from Table 7-2 to Table 7-6. These tables contain information for students belonging to each NCLB group. Students were self-identified into each group. The 14 CD students are a subsample of the census data. Table 7-2 shows the gender characteristics of the examinees, split into the census data and the 14 CD. The census data includes the 14 CD students. For all grades, there were more male students for both the census and the 14 CD. On average, 51% of students were male, and 49 % of students were female. Table 7-3 presents the ethnicity characteristics of the students. In the census data, the majority of students were White (almost 77%), next were African American students (almost 11%), the third was Hispanic students (almost 7%), the fourth was Asian students (almost 4%), and American Indian students (1 - 2 %). The population of African American and Hispanic students was smaller in Grade 10 than in other grades. A similar pattern was found in the 14 CD in terms of the percentages of each ethnicity in the population. However, the percent of each ethnicity was a little different: the census data consists of more White students than the 14 CD sample and the 14 CD data contains more African American, Hispanic students, and Asian students.

Table 7-4 shows socio-economic status (SES) where students were identified as “Economically Disadvantaged” or not. In the table, “Yes” means “Economically Disadvantaged.” In the census data, the percentage of Economically Disadvantaged students ranged from 24% to 34% across grades. The percentage of students who are Economically Disadvantaged tends to decrease as grade increases. Table 7-5 presents the Disability characteristics. In the table, “Yes” denotes “Disabled.” Almost 14% of students in the census data, and about 15% of students in the 14 CD were Disabled. These percents were similar across grades. Table 7-6 shows the English Language Proficiency (ELP) characteristics of both samples. In the table, “No” means “Not Proficient.” In the census data, 3 to 6% are Not Proficient, while for the 14 CD, 10 to 13% are Not Proficient.

### 7.1.2 Comparison of Scale Score

Mean and standard deviation of the 2005 Fall WKCE-CRT scale scores for the 14 CD and the census data were compared across all grades and contents in Table 7-7. The third column shows the mean of the 14 CD, the fourth column presents the mean of the census, and the fifth column shows the difference between the two means. Across all contents and grades, the mean difference was small. The maximum difference was 5.09 in Mathematics Grade 7, and the smallest difference was -0.17 in Reading Grade 6. Among the 5 contents, Mathematics showed the largest mean difference across grades (2.16 – 5.09). The sixth column shows the standard deviation (SD) of the 14 CD, the seventh column presents the SD of the census, and the last column is the difference between these two SDs. Like the mean, the difference in SD was small across contents and grades (0.62-3.81).

Typically, it is less likely that a sample will represent all characteristics of a census when the sample unit is large, such as district. In general, a smaller sample unit, such as a school or a class, is more likely to more easily satisfy all sample conditions. In practice, however, it is difficult for WKCE-CRT to use a school or class as a sampling unit because it takes time to gather test answer sheets from each school or class. For the WKCE-CRT, the sampling unit was district. That means all students in a sampling district were included in the 14 CD. A couple of noteworthy differences in some student demographics did occur. For example, Asian students were over sampled at a 2 to 1 rate in the 14 CD vs. the census. However, this kind of demographic difference is not a serious concern because performance is similar in the 14 CD and the census. For Reading, the differences of mean and SD in the 14 CD and the census were small. Although there are some mean differences for Mathematics, such as 5.09 for Grade 7, these differences can be considered as small when the large standard deviations are considered together with the means. In sum, it is believed that the 14 CD can be considered a representative sample of WI students based on the students' performance.

### 7.2 Valid Records in Calibration Sample

Only valid student records were used in the calibration sample. Two rules were used to exclude records. First, if a student did not attempt the first 5 MC items, the record was removed from the calibration sample. Second, if the student's responses for the first 5 MC items were multiple-marks, the record was excluded from the sample. If either of these response patterns occurred, the record was excluded. The calibration sample includes all valid cases, that is to say, it includes all cases where neither of these response patterns occurred. The same rules have been applied to both *TerraNova* and WKCE.

Table 7-8 shows the total number of students in the census data and the 14 calibration districts. As indicated in Table 7-2, students of unspecified gender were excluded for the analysis by gender, and as indicated in Table 7-3, students of unspecified ethnicity were excluded for the analysis by ethnicity.

### 7.3 Descriptive Statistics by Test

Summary statistics for raw scores are based on the total Wisconsin student population that took the Fall 2005 WKCE-CRT assessment. Table 7-9 shows test configuration for operational items used for scoring, and field test items. The table is split by grade and content. For operational items, the number of MC and CR items is indicated for each grade and content area. The number of score points associated with each CR item and the total number of score points are also indicated. For FT items, the number of MC and CR items is indicated for each grade and content area. Note that there are no FT items for Grade 10. More information for test configuration can be found in Part 4: Test Design.

The raw score table (Table 7-10) includes the number of students, the mean score, mean  $p$ -value, standard deviation (SD), skewness, kurtosis, minimum observed score, maximum observed score, reliability (Cronbach's alpha) and the standard error of measurement for raw scores.

In terms of the measurements applied here, note first, that the mean  $p$ -value is an indication of difficulty. It is computed by the following formula: mean  $p$ -value = mean / total score points. For example, in Reading Grade 3, the mean  $p$ -value (0.64) was obtained by dividing the mean of 42.44 by the total score of 66.

Like the standard deviation (SD), skewness and kurtosis also describe the shape of the raw score distribution. When the distribution is perfectly normal, skewness is 0. A negative skew indicates the presence of some extreme low scores and a tendency for students to score above the mean. A positive skew indicates a distribution with some extreme high scores and a tendency for students to score below the mean. Kurtosis describes a distribution in terms of its degree of peakedness. When a distribution is perfectly normal, Kurtosis is 0. A negative Kurtosis statistic indicates a distribution which is flatter than a perfectly normal curve, and a positive Kurtosis statistic indicates a distribution which is more peaked than a perfectly normal curve.

Where any student failed all items on the test, the minimum observed score is 0. Where any student got the full scores for all items, the maximum observed score is the total score points of the test. For example, in Reading Grade 3, 0 and 66 indicate that there is at least one student who failed all items, and at least one student who got the maximum score, respectively.

A reliable test is one with high reliability represented by statistics such as the Cronbach's alpha and a low standard error of measurement (SEM). Test length (number of items and score points) is one of the important factors that influence reliability statistics and SEM. These concepts are described further in Part 10: Reliability and Validity. However, for present purposes the reader should note that measurement error is associated with every test score. A student's true score is the hypothetical average score that would result if the test could be administered repeatedly without the effects of practice or fatigue. Obtained scores should be regarded not as absolute, but as one point within a range that, with a certain degree of probability, includes a student's true score.

## Reading

### *All Grades*

Looking across all grades, mean  $p$ -values in Reading ranged from 0.61 to 0.66, indicating that each test was of approximately equal difficulty for each grade. Mean raw scores are discussed by grade because the number of possible score points varies by grade, ranging from 66 to 69. Standard deviations, in all cases, indicated a moderate degree of dispersion in scores. The distributions of raw scores are approximately normal in all grades. In each grade there is a negative skew, indicating the presence of some extreme low scores and a tendency to score above the mean. In each grade there is also a negative Kurtosis coefficient, indicating a curve which is flatter than a perfectly normal curve. For every grade, alpha was high (0.90-0.93). SEM ranged from 3.30 to 3.55. The raw score information for Reading is split by gender, ethnicity, socioeconomic status, disability, and English language proficiency. The subgroup differences are discussed with each grade.

### *Grade 3*

In Grade 3, the mean raw score for all students was 42.44, and the mean  $p$ -value was 0.64. Together, these two measures indicate performance and difficulty. The standard deviation was 12.05. Compared in terms of gender, in Grade 3, male (41.21,  $p=0.62$ ) and female (43.71,  $p=0.66$ ) mean scores were similar. The standard deviations were 12.38 for males and 11.56 for females. Reading scores varied more widely across ethnicity. White students (44.24,  $p=0.67$ ) and Asian students (41.38,  $p=0.63$ ) had the highest scores, followed by American Indian (38.37,  $p=0.58$ ), Hispanic (37.37,  $p=0.57$ ), and African American (33.45,  $p=0.51$ ) students. Standard deviations were similar for all ethnicities ranging from 11.33 to 12.21. When we compare students in terms of socio-economic status, and specifically compare students who are Economically Disadvantaged to those who are not, there were some differences. For Economically Disadvantaged students, the mean raw score was 36.75 ( $p=0.56$ ) as compared to 45.19 ( $p=0.68$ ) for Not Economically Disadvantaged students. Standard deviations here were 12.26 and 10.93 respectively. In terms of disability, students who were Not Disabled (43.86,  $p=0.66$ ) had higher mean scores than students who were Disabled (31.83,  $p=0.48$ ). Standard deviations were 13.31 for Disabled students and 11.13 for Not Disabled students. As a group, students Proficient in English (42.75,  $p=0.65$ ) had higher mean scores than students who were Not Proficient (35.88,  $p=0.54$ ). Standard deviations here were 12.00 and 11.21 respectively.

### *Grade 4*

In Grade 4, the mean raw score for all students was 40.47 ( $p=0.61$ ) with a standard deviation of 12.51. In terms of gender, male (39.88,  $p=0.60$ ) and female (41.08,  $p=0.62$ ) mean scores were similar. Standard deviations were also similar, at 12.73 for males and 12.25 for females. Larger differences in mean scores emerge when we compare students in terms of ethnicity. White students (42.54,  $p=0.64$ ) had the highest mean scores, followed by Asian students (38.35,  $p=0.58$ ), American Indian students (36.02,  $p=0.55$ ), Hispanic students (34.06,

$p=0.52$ ), and African American students (30.96,  $p=0.47$ ). Standard deviations were similar for all ethnicities, ranging from 11.72 to 12.82. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 34.17 ( $p=0.52$ ) among Economically Disadvantaged students, compared to 43.51 ( $p=0.66$ ) for Not Economically Disadvantaged students. Standard deviations here were 12.24 and 11.46 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (42.02,  $p=0.64$ ) than students who were Disabled (29.54,  $p=0.45$ ). Standard deviations were 12.77 for Disabled students and 11.68 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (40.96,  $p=0.62$ ) than students who were Not Proficient (31.20,  $p=0.47$ ). Standard deviations were 12.40 for the former, and 10.82 for the latter.

### *Grade 5*

The mean raw score for all students in Grade 5 was 45.32 ( $p=0.66$ ,  $SD=11.57$ ). Mean scores were similar among male (44.73,  $p=0.65$ ) and female (45.93,  $p=0.67$ ) students. Standard deviations were also similar, at 11.76 for males and 11.33 for females. Reading scores varied more widely by ethnicity. White students (47.25,  $p=0.68$ ) had the highest mean scores, followed by Asian students (43.98,  $p=0.64$ ), American Indian students (41.28,  $p=0.60$ ), Hispanic students (39.50,  $p=0.57$ ), and African American students (36.14,  $p=0.52$ ). Standard deviations were similar for all ethnicities, ranging from 10.70 to 11.85. Differences also emerge when we compare students in terms of socio-economic status. The mean score was 39.63 ( $p=0.57$ ) among Economically Disadvantaged students, as compared to 48.05 ( $p=0.70$ ) for Not Economically Disadvantaged students. Standard deviations here were 11.76 and 10.42 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (47.02,  $p=0.68$ ) than students who were Disabled (33.57,  $p=0.49$ ). Standard deviations were 12.53 for Disabled students and 10.37 for Not Disabled students. As a group, students Proficient in English (45.72,  $p=0.66$ ) had higher mean scores than students who were Not Proficient (37.34,  $p=0.54$ ). Standard deviations were 11.45 and 11.04 respectively.

### *Grade 6*

Among Grade 6 students, the mean raw score was 43.85 ( $p=0.64$ ,  $SD=11.26$ ). Among male (42.72,  $p=0.62$ ) and female (45.01,  $p=0.65$ ) students, mean scores were similar, with standard deviations at 11.50 and 10.89 respectively. Grouped and compared by ethnicity, mean scores vary more widely. As a group, White students (45.94,  $p=0.67$ ) had the highest mean scores, followed by Asian students (41.06,  $p=0.60$ ), American Indian students (38.95,  $p=0.56$ ), Hispanic students (37.83,  $p=0.55$ ), and African American students (33.90,  $p=0.49$ ). Standard deviations ranged from 10.19 to 11.60. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 37.79 ( $p=0.55$ ), while among Not Economically Disadvantaged students the mean score was 46.67 ( $p=0.68$ ). Standard deviations were 11.53 and 9.94 respectively. Students who were Not Disabled had higher mean scores (45.70,  $p=0.66$ ) than students who were Disabled (31.43,  $p=0.46$ ). Standard deviations were 9.96 and 11.60

respectively. Students Proficient in English (44.24,  $p=0.64$ ) had higher mean scores than students who were not (34.79,  $p=0.50$ ). Standard deviations were 11.12 and 10.56 respectively here.

### *Grade 7*

In Grade 7, the mean raw score for all students was 42.33 ( $p=0.61$ ). The standard deviation was 11.74. In terms of gender, male (41.16,  $p=0.60$ ) and female (43.57,  $p=0.63$ ) mean scores were similar. Standard deviations were also similar, at 11.88 for males and 11.46 for females. Larger differences emerge when we compare students in terms of ethnicity. White students (44.42,  $p=0.64$ ) had the highest mean scores, followed by Asian students (38.27,  $p=0.55$ ), American Indian students (37.87,  $p=0.55$ ), Hispanic students (35.85,  $p=0.52$ ), and African American students (32.40,  $p=0.47$ ). Standard deviations were similar for all ethnicities, ranging from 10.82 to 11.83. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 36.05 ( $p=0.52$ ) among Economically Disadvantaged students, as compared to 45.11 ( $p=0.65$ ) for Not Economically Disadvantaged students. Standard deviations here were 11.80 and 10.58 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (44.30,  $p=0.64$ ) than students who were Disabled (29.31,  $p=0.42$ ). Standard deviations were 11.25 for Disabled students and 10.49 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (42.74,  $p=0.62$ ) than students who were Not Proficient (31.33,  $p=0.45$ ). Standard deviations were 11.58 for the former, and 10.59 for the latter.

### *Grade 8*

The mean raw score for all students in Grade 8 was 42.54 ( $p=0.62$ ,  $SD=11.30$ ). Mean scores were similar among male (41.62,  $p=0.60$ ) and female (43.53,  $p=0.63$ ) students. Standard deviations were also similar, at 11.51 for males and 10.99 for females. Reading scores varied more widely by ethnicity. As a group, White students (44.58,  $p=0.65$ ) had the highest mean scores, followed by Asian students (39.89,  $p=0.58$ ), American Indian students (37.47,  $p=0.54$ ), Hispanic students (36.29,  $p=0.53$ ), and African American students (32.19,  $p=0.47$ ). Standard deviations were similar for all ethnicities, ranging from 10.39 to 10.99. Differences also emerge when we compare students in terms of socio-economic status. Among Economically Disadvantaged students, the mean score was 36.28 ( $p=0.53$ ) as compared to 45.15 ( $p=0.65$ ) for Not Economically Disadvantaged students. Standard deviations here were 11.22 and 10.26 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (44.44,  $p=0.64$ ) than students who were Disabled (29.99,  $p=0.43$ ). Standard deviations were 10.95 for Disabled Students and 10.08 for Not Disabled students. As a group, students Proficient in English had higher mean scores (42.85,  $p=0.62$ ) than students who were Not Proficient (33.37,  $p=0.48$ ). Standard deviations were 11.21 and 10.05 respectively.

## *Grade 10*

In Grade 10, the mean raw score for all students was 42.55 ( $p=0.64$ ,  $SD=12.17$ ). Among male (41.03,  $p=0.61$ ) and female (44.10,  $p=0.66$ ) students, mean scores were similar, with standard deviations at 12.54 and 11.58 respectively. Grouped by and compared by ethnicity, mean scores vary more widely. As a group, White students (44.33,  $p=0.66$ ) had the highest mean scores, followed by Asian students (39.70,  $p=0.59$ ), American Indian students (37.70,  $p=0.56$ ), Hispanic students (35.68,  $p=0.53$ ), and African American students (31.06,  $p=0.46$ ). Standard deviations ranged from 11.31 to 12.37. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 35.68 ( $p=0.53$ ), while among Not Economically Disadvantaged students the mean score was 44.59, ( $p=0.67$ ). Standard deviations were 12.38 and 11.33 respectively. Students who were Not Disabled had higher mean scores (44.54,  $p=0.66$ ) than students who were Disabled (28.26,  $p=0.42$ ). Standard deviations were 10.89 and 11.33 respectively. Students Proficient in English (42.83,  $p=0.64$ ) had higher mean scores than students who were Not Proficient (31.39,  $p=0.47$ ). Standard deviations were 12.08 and 10.52 respectively here.

## **Mathematics**

### *All Grades*

In Mathematics, mean  $p$ -values ranged from 0.49 to 0.67. That is, there are some mean variations across grades (See Test Construction in Part 4 Test Development for an explanation). Mean raw scores and standard deviations are discussed by grade because the number possible score points ranges from 65 to 76. Raw scores are approximately normally distributed in each grade. In grades 3-7, there is a slight negative skew, indicating the presence of some extreme low scores, and slight tendency to score above the mean. In grades 8 and 10, there is a positive skew, indicating the presence of some extreme high scores, and a tendency to score below the mean. In all grades, there is also a negative Kurtosis coefficient, indicating a curve which is flatter than a perfectly normal curve. In all grades, alpha was high (0.91-0.93). SEM ranged from 3.23 to 3.79. Raw scores, split by gender, ethnicity, socioeconomic status, disability status, and English language proficiency, are discussed individually with each grade.

### *Grade 3*

In Grade 3, the mean raw score for all students was 43.48 ( $p=0.67$ ). The standard deviation was 10.74. In terms of gender, male (43.94,  $p=0.68$ ) and female (43.01,  $p=0.66$ ) mean scores were similar. Standard deviations were also similar, at 10.88 for males and 10.56 for females. Larger differences emerge when we compare students in terms of ethnicity. White students and Asian students had the highest mean scores at 45.22 ( $p=0.70$ ) and 44.65 ( $p=0.69$ ) respectively. The mean scores for American Indian students and Hispanic students were next, at 40.12 ( $p=0.62$ ) and 39.48 ( $p=0.61$ ) respectively. For African American students, the mean score was 33.58 ( $p=0.52$ ). Standard deviations were similar for all ethnicities ranging from 9.82 to 11.48.

Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 38.39 ( $p=0.59$ ) among Economically Disadvantaged students, as compared to 45.96 ( $p=0.71$ ) for Not Economically Disadvantaged students. Standard deviations here were 11.10 and 9.63 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (44.37,  $p=0.68$ ) than students who were Disabled (37.02,  $p=0.57$ ). Standard deviations were 12.04 for Disabled students and 10.23 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (43.63,  $p=0.67$ ) than students who were Not Proficient (40.38,  $p=0.62$ ). Standard deviations were 10.76 for the former, and 9.79 for the latter.

#### *Grade 4*

The mean raw score for all students in Grade 4 was 45.88 ( $p=0.67$ ) with a standard deviation of 11.52. Mean scores were similar among male (46.34,  $p=0.68$ ) and female (45.39,  $p=0.67$ ) students. Standard deviations were also similar, at 11.53 for males and 11.49 for females. Mean scores in Mathematics varied more widely by ethnicity. As a group, White students and Asian students had the highest mean scores at 47.88 ( $p=0.70$ ) and 45.79 ( $p=0.67$ ) respectively. Next were American Indian students (41.24,  $p=0.61$ ) and Hispanic students (40.61,  $p=0.60$ ). For African American students, the mean score was 35.47 ( $p=0.52$ ). Standard deviations were similar for all ethnicities ranging from 10.60 to 11.59. Differences also emerge when we compare students in terms of socio-economic status. Among Economically Disadvantaged students, the mean score was 40.19 ( $p=0.59$ ) as compared to 48.63 ( $p=0.72$ ) for Not Economically Disadvantaged students. Standard deviations here were 11.66 and 10.39 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (47.01,  $p=0.69$ ) than students who were Disabled (38.11,  $p=0.56$ ). Standard deviations were 12.45 for Disabled Students and 10.93 for Not Disabled students. As a group, students Proficient in English (46.16,  $p=0.68$ ) had higher mean scores than students who were Not Proficient (40.41,  $p=0.59$ ). Standard deviations were 11.50 and 10.68 respectively.

#### *Grade 5*

In Grade 5, the mean raw score for all students was 47.35 ( $p=0.62$ ,  $SD=12.30$ ). Among male (47.42,  $p=0.62$ ) and female (47.27,  $p=0.62$ ) students, mean scores were very similar, with standard deviations at 12.47 and 12.13 respectively. Grouped and compared by ethnicity, mean scores vary more widely. White students (49.43,  $p=0.65$ ) and Asian students (48.29,  $p=0.64$ ) had the highest mean scores. Next were the mean scores of American Indian students (42.92,  $p=0.56$ ) and Hispanic students (41.31,  $p=0.54$ ). Among African American students, the mean score was 36.53 ( $p=0.48$ ). Standard deviations ranged from 11.25 to 12.03. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 41.19 ( $p=0.54$ ), while among Not Economically Disadvantaged students the mean score was 50.31 ( $p=0.66$ ). Standard deviations were 11.94 and 11.34 respectively. Students who were Not Disabled had higher mean scores (48.84,  $p=0.64$ ) than students who were Disabled (37.26,  $p=0.49$ ). Standard deviations

were 11.53 and 12.63 respectively. Students Proficient in English had higher mean scores (47.63,  $p=0.63$ ) than students who were Not Proficient (41.71,  $p=0.55$ ). Standard deviations were 12.28 and 11.41 respectively here.

### *Grade 6*

For Grade 6, the mean raw score for all students was 44.44 ( $p=0.58$ ). The standard deviation was 13.83. In terms of gender, male (44.25,  $p=0.58$ ) and female (44.64,  $p=0.59$ ) mean scores were similar. Standard deviations were also similar, at 14.08 for males and 13.57 for females. Larger differences emerge when we compare students in terms of ethnicity. White students and Asian students had the highest mean scores, at (46.80,  $p=0.62$ ) and (44.99,  $p=0.59$ ) respectively. Mean raw scores for American Indian (38.22,  $p=0.50$ ) and Hispanic students (38.07,  $p=0.50$ ) were next. For African American students, the mean score was 31.93 ( $p=0.42$ ). Standard deviations were similar for all ethnicities ranging from 12.08 to 13.64. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 37.35 ( $p=0.49$ ) among Economically Disadvantaged students, as compared to 47.75 ( $p=0.63$ ) for Not Economically Disadvantaged students. Standard deviations here were 12.98 and 12.94 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (46.35,  $p=0.61$ ) than students who were Disabled (31.72,  $p=0.42$ ). Standard deviations were 12.88 for Disabled students and 12.93 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (44.72,  $p=0.59$ ) than students who were Not Proficient (37.85,  $p=0.50$ ). Standard deviations were 13.81 for the former, and 12.53 for the latter.

### *Grade 7*

The mean raw score for all students in Grade 7 was 42.74 ( $p=0.56$ ). The standard deviation was 13.61. Mean scores were similar among male (42.93,  $p=0.56$ ) and female (42.54,  $p=0.56$ ) students. Standard deviations were also similar, at 13.84 for males and 13.35 for females. The mean raw score for Mathematics varied more widely by ethnicity. In terms of ethnicity, the highest mean raw scores were among White students (45.14,  $p=0.59$ ) and Asian students (42.01,  $p=0.55$ ). Next were the scores for American Indian students (36.76,  $p=0.48$ ) and Hispanic students (36.18,  $p=0.48$ ). For African American students, the mean score was 29.59 ( $p=0.39$ ). Standard deviations were similar for all ethnicities, ranging from 11.76 to 13.73. Differences also emerge when we compare students in terms of socio-economic status. Among Economically Disadvantaged students, the mean score was 35.40 ( $p=0.47$ ) as compared to 45.98 ( $p=0.61$ ) for Not Economically Disadvantaged students. Standard deviations here were 12.75 and 12.68 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (44.75,  $p=0.59$ ) than students who were Disabled (29.47,  $p=0.39$ ). Standard deviations were 12.25 for Disabled Students and 12.64 for Not Disabled students. As a group, students Proficient in English (43.04,  $p=0.57$ ) had higher mean scores than students who were Not Proficient (34.49,  $p=0.45$ ). Standard deviations were 13.57 and 11.96 respectively.

## *Grade 8*

In Grade 8, the mean raw score for all students was 36.49 ( $p=0.49$ ,  $SD=13.38$ ). Among male (36.58,  $p=0.49$ ) and female (36.40,  $p=0.49$ ) students, mean scores were similar, with standard deviations at 13.69 and 13.04 respectively. Grouped and compared by ethnicity, mean scores vary more widely. White students and Asian students had the highest mean scores at 38.72 ( $p=0.52$ ) among White students and 36.38 ( $p=0.49$ ) among Asian students. Next were American Indian students (29.93,  $p=0.40$ ) and Hispanic students (29.27,  $p=0.40$ ). Among African American students, the mean score was 24.65 ( $p=0.33$ ). Standard deviations ranged from 9.88 to 13.53. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 29.43 ( $p=0.40$ ), while among Not Economically Disadvantaged students the mean score was 39.42 ( $p=0.53$ ). Standard deviations were 11.51 and 13.00 respectively. Students who were Not Disabled had higher mean scores (38.38,  $p=0.52$ ) than students who were Disabled (24.03,  $p=0.32$ ). Standard deviations were 12.79 and 10.07 respectively. Students Proficient in English (36.74,  $p=0.50$ ) had higher mean scores than students who were Not Proficient (29.04,  $p=0.39$ ). Standard deviations were 13.39 and 10.66 respectively here.

## *Grade 10*

For Grade 10, the mean raw score for all students was 35.75 ( $p=0.52$ ). The standard deviation was 14.29. In terms of gender, male (36.07,  $p=0.52$ ) and female (35.42,  $p=0.51$ ) mean scores were similar. Standard deviations were also similar, at 14.72 for males and 13.82 for females. Larger differences emerge when we compare students in terms of ethnicity. White students and Asian students had the highest mean scores: 37.89 ( $p=0.55$ ) among White students and 34.05 ( $p=0.49$ ) among Asian students. The mean for American Indian students was 28.95 ( $p=0.42$ ) and for Hispanic students 26.77 ( $p=0.39$ ). Among African American students, the mean score was 21.70 ( $p=0.31$ ). Standard deviations were similar for all ethnicities, ranging from 10.25 to 14.09. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 27.32 ( $p=0.40$ ) among Economically Disadvantaged students, as compared to 38.26 ( $p=0.55$ ) for Not Economically Disadvantaged students. Standard deviations here were 12.32 and 13.86 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (37.74,  $p=0.55$ ) than students who were Disabled (21.44,  $p=0.31$ ). Standard deviations were 9.78 for Disabled students and 13.67 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (36.02,  $p=0.52$ ) than students who were Not Proficient (25.10,  $p=0.36$ ). Standard deviations were 14.26 for the former, and 10.90 for the latter.

## Language Arts

### *All Grades*

In Language Arts, mean  $p$ -values ranged from 0.61 to 0.73. Mean raw scores and standard deviations are discussed with each grade because the range of possible score points runs from 30 to 39. Raw scores are approximately normally distributed in each grade. In each grade there is negative skew, indicating a distribution with some extreme low scores and a tendency for scores to be slightly above the mean. In grades 4 and 10 the Kurtosis coefficient is negative, indicating a curve which is flatter than perfectly normal, and in Grade 8, Kurtosis is positive, indicating a curve more peaked than a perfectly normal curve. In each grade, at least one student failed all items, and at least one student got the full scores for all items. Looking across all grades, alpha ranged from (0.83 to 0.85). SEM ranged from 2.09 to 2.57. The raw score data is also split by gender, ethnicity, socioeconomic status, disability status, and English language proficiency. The subgroup differences are discussed with each grade. Note that there are 30 possible points in grades 4 and 8, but 39 in Grade 10, because in Grade 10, a 9-point writing prompt is part of the Language Arts score.

### *Grade 4*

For Language Arts, the mean raw score for all students in Grade 4 was 20.49, ( $p=0.68$ ). The standard deviation was 5.40. Mean scores were close among male (19.80,  $p=0.66$ ) and female (21.22,  $p=0.71$ ) students. Standard deviations were also similar, at 5.45 for males and 5.25 for females. Scores varied more widely by ethnicity. As a group, White students had the highest mean scores (21.32,  $p=0.71$ ), followed by Asian students (19.82,  $p=0.66$ ), American Indian students (18.44,  $p=0.61$ ), Hispanic students (18.22,  $p=0.61$ ), and African American students (16.47,  $p=0.55$ ). Standard deviations were similar for all ethnicities ranging from 5.08 to 5.45. Differences also emerge when we compare students in terms of socio-economic status. The mean score was 17.96 ( $p=0.60$ ) among Economically Disadvantaged students, as compared to 21.72 ( $p=0.72$ ) for Not Economically Disadvantaged students. Standard deviations here were 5.40 and 4.96 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (21.05,  $p=0.70$ ) than students who were Disabled (16.55,  $p=0.55$ ). Standard deviations were 5.37 for Disabled Students and 5.16 for Not Disabled students. As a group, students Proficient in English (20.67,  $p=0.69$ ) had higher mean scores than students who were Not Proficient (17.14,  $p=0.57$ ). Standard deviations were 5.37 and 4.92 respectively.

### *Grade 8*

In Grade 8, the mean raw score in Language Arts, for all students, was 21.95 ( $p=0.73$ ,  $SD=5.23$ ). Among male (21.30,  $p=0.71$ ) and female students (22.63,  $p=0.75$ ), mean scores were close, with standard deviations at 5.51 and 4.82 respectively. Grouped and compared by ethnicity, mean scores vary more widely. As a group, White students had the highest mean

scores (22.75,  $p=0.76$ ), followed by Asian students (20.72,  $p=0.69$ ), American Indian students (19.65,  $p=0.65$ ), Hispanic students (19.25,  $p=0.64$ ), and African American students (17.99,  $p=0.60$ ). Standard deviations ranged from 4.81 to 5.71. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 19.35 ( $p=0.65$ ), while among Not Economically Disadvantaged students the mean score was 23.02 ( $p=0.77$ ). Standard deviations were 5.55 and 4.69 respectively. Students who were Not Disabled had higher mean scores (22.80,  $p=0.76$ ) than students who were Disabled (16.28,  $p=0.54$ ). Standard deviations were 4.57 and 5.75 respectively. Students Proficient in English had higher mean scores (22.08,  $p=0.74$ ) than students who were Not Proficient (17.90,  $p=0.60$ ). Standard deviations were 5.18 and 5.02 respectively here.

### *Grade 10*

For Grade 10, the mean raw score for all students was 23.74 ( $p=0.61$ ). The standard deviation was 6.63. In terms of gender, male (22.58,  $p=0.58$ ) and female (24.93,  $p=0.64$ ) mean scores were similar. Standard deviations were also similar, at 6.83 for males and 6.19 for females. Larger differences emerge when we compare students in terms of ethnicity. White students (24.60,  $p=0.63$ ) had the highest mean scores, followed by Asian students (22.55,  $p=0.58$ ), American Indian students (20.46,  $p=0.52$ ), Hispanic students (20.28,  $p=0.52$ ), and African American students (18.15,  $p=0.47$ ). Standard deviations were similar for all ethnicities ranging from 6.27 to 6.55. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean raw score was 20.11 ( $p=0.52$ ) among Economically Disadvantaged students, as compared to 24.81 ( $p=0.64$ ) for Not Economically Disadvantaged students. Standard deviations here were 6.56 and 6.26 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (24.77,  $p=0.64$ ) than students who were Disabled (16.26,  $p=0.42$ ). Standard deviations were 5.67 for Disabled students and 6.06 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (23.89,  $p=0.61$ ) than students who were Not Proficient (17.98,  $p=0.46$ ). Standard deviations were 6.58 for the former, and 5.68 for the latter.

## **Social Studies**

### *All Grades*

Looking across all grades, mean  $p$ -values in Social Studies ranged from 0.59 to 0.81. Mean raw scores and the standard deviations of raw scores are discussed by grade because the number possible score points varies by grade, ranging from 38 to 70. The distributions of raw scores are approximately normal in all grades. In each grade there is a negative skew, it is largest in Grade 4. The negative skew indicates the presence of some extreme low scores and a corresponding tendency to score above the mean. In grades 8 and 10, there is also a negative Kurtosis coefficient, indicating a curve which is flatter than perfectly normal, while in Grade 4 the positive Kurtosis coefficient indicates the curve is more peaked than a perfectly normal curve. Across all grades, alpha ranged from 0.87 to 0.93 and SEM ranged from 2.14 to 3.63. The

raw score data for Language Arts is also split by gender, ethnicity, socioeconomic status, disability, and English language proficiency. The differences by subgroups are discussed with each grade.

#### *Grade 4*

In Social Studies, the mean raw score for all students in Grade 4 was 30.87 ( $p=0.81$ ,  $SD=5.82$ ). Mean scores were very close among male (30.82,  $p=0.81$ ) and female (30.92,  $p=0.81$ ) students. Standard deviations were also similar, at 5.98 for males and 5.65 for females. Scores varied more widely by ethnicity. As a group, White students (31.84,  $p=0.84$ ) had the highest mean scores, followed next by Asian students (30.14,  $p=0.79$ ), American Indian students (28.79,  $p=0.76$ ), Hispanic students (28.80,  $p=0.76$ ), and African American students (25.75,  $p=0.68$ ). Standard deviations were similar for all ethnicities ranging from 5.08 to 7.29. Differences also emerge when we compare students in terms of socio-economic status. The mean score was 28.15 ( $p=0.74$ ) for Economically Disadvantaged students, as compared to 32.19 ( $p=0.85$ ) for Not Economically Disadvantaged students. Standard deviations here were 6.61 and 4.88 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (31.35,  $p=0.83$ ) than students who were Disabled (27.64,  $p=0.73$ ). Standard deviations were 6.94 for Disabled Students and 5.47 for Not Disabled students. As a group, students Proficient in English (31.01,  $p=0.82$ ) had higher mean scores than students who were Not Proficient (28.07,  $p=0.74$ ). Standard deviations were 5.78 and 5.95 respectively.

#### *Grade 8*

In Grade 8, the mean raw score for all students was 32.76, ( $p=0.73$ ,  $SD=8.23$ ). Among male (32.76,  $p=0.73$ ) and female students (32.76,  $p=0.73$ ), mean scores and  $p$ -value were identical, and standard deviations were close, at 8.53 and 7.91 respectively. Grouped and compared by ethnicity, mean scores vary. As a group, White students (34.28,  $p=0.76$ ) had the highest mean scores, followed by Asian students (31.28,  $p=0.70$ ), American Indian students (29.14,  $p=0.65$ ), Hispanic students (28.31,  $p=0.63$ ), and African American students (24.58,  $p=0.55$ ). Standard deviations ranged from 7.39 to 8.50. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 28.09 ( $p=0.62$ ), while among Not Economically Disadvantaged students the mean score was 34.69 ( $p=0.77$ ). Standard deviations were 8.58 and 7.26 respectively. Students who were Not Disabled had higher mean scores (34.02,  $p=0.76$ ) than students who were Disabled (24.45,  $p=0.54$ ). Standard deviations were 7.39 and 8.68 respectively. Students Proficient in English (32.96,  $p=0.73$ ) had higher mean scores than students who were Not Proficient (26.84,  $p=0.60$ ). Standard deviations were 8.18 and 7.66 respectively here.

## Grade 10

For Grade 10, the mean raw score for all students was 41.06 ( $p=0.59$ ). The standard deviation was 13.83. In terms of gender, male (40.99,  $p=0.59$ ) and female (41.13,  $p=0.59$ ) mean scores were similar. Standard deviations were also similar, at 14.54 for males and 13.07 for females. Larger differences emerge when we compare students in terms of ethnicity. White students (43.10,  $p=0.62$ ) had the highest mean scores, followed by Asian students (37.89,  $p=0.54$ ), American Indian students (34.98,  $p=0.50$ ), Hispanic students (33.17,  $p=0.47$ ), and African American students (27.39,  $p=0.39$ ). Standard deviations were similar for all ethnicities ranging from 11.76 to 13.15. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 32.93 ( $p=0.47$ ) among Economically Disadvantaged students, as compared to 43.45 ( $p=0.62$ ) among Not Economically Disadvantaged students. Standard deviations here were 12.93 and 13.17 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (42.95,  $p=0.61$ ) than students who were Disabled (27.48,  $p=0.39$ ). Standard deviations were 11.63 for Disabled students and 13.04 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (41.35,  $p=0.59$ ) than students who were Not Proficient (29.47,  $p=0.42$ ). Standard deviations were 13.78 for the former, and 10.85 for the latter.

## Science

### All Grades

Looking across all grades, mean  $p$ -values in Science ranged from 0.58 to 0.71. Mean raw scores and the standard deviations of raw scores are discussed by grade because the number possible score points varies by grade, ranging from 40 to 68. Raw scores in Science are approximately normally distributed in each grade. In each grade, there is a negative skew, indicating the existence of some extreme low scores and a tendency to score above the mean. In Grade 4, the Kurtosis coefficient is positive, indicating a curve more peaked than a perfectly normal distribution, and in grades 8 and 10 the Kurtosis coefficient is negative, revealing a curve which is slightly flat. Across all grades, alpha ranged from 0.84 to 0.92 and SEM ranged from 2.53 to 3.69.

### Grade 4

The mean raw score in Science, for all students in Grade 4, was 28.31 ( $p=0.71$ ,  $SD=6.26$ ). Mean scores were similar among male (28.56,  $p=0.71$ ) and female (28.04,  $p=0.70$ ) students. Standard deviations were also similar, at 6.36 for males and 6.15 for females. Scores varied more widely by ethnicity. As a group, White students (29.49,  $p=0.74$ ) had the highest mean scores, followed by Asian students (27.29,  $p=0.68$ ), American Indian students (26.02,  $p=0.65$ ), Hispanic students (25.28,  $p=0.63$ ), and African American students (22.35,  $p=0.56$ ). Standard deviations were similar for all ethnicities ranging from 5.61 to 6.72. Differences also emerge when we compare students in terms of socio-economic status. The mean score was 25.20

( $p=0.63$ ) for Economically Disadvantaged students, as compared to 29.82 ( $p=0.75$ ) for Not Economically Disadvantaged students. Standard deviations here were 6.60 and 5.49 respectively. When we compare students who were Not Disabled to those who were Disabled, those Not Disabled had higher mean scores (28.83,  $p=0.72$ ) than students who were Disabled (24.78,  $p=0.62$ ). Standard deviations were 6.90 for Disabled Students and 5.99 for Not Disabled students. As a group, students Proficient in English (28.50,  $p=0.71$ ) had higher mean scores than students who were Not Proficient (24.60,  $p=0.62$ ). Standard deviations were 6.23 and 5.74 respectively.

### *Grade 8*

In Grade 8, the mean raw score for all students was 27.05 ( $p=0.68$ ,  $SD=6.86$ ). Among male (27.35,  $p=0.68$ ) and female (26.74,  $p=0.67$ ) students, mean scores were close, with standard deviations at 6.99 and 6.71 respectively. Grouped and compared by ethnicity, mean scores vary more widely. As a group, White students (28.43,  $p=0.71$ ) had the highest mean scores, followed by Asian students (24.96,  $p=0.62$ ), American Indian students (23.74,  $p=0.59$ ), Hispanic students (22.71,  $p=0.57$ ), and African American students (20.04,  $p=0.50$ ). Standard deviations ranged from 6.16 to 6.76. Differences in mean scores are also evident when we compare students in terms of socio-economic status. As a group, the mean score among Economically Disadvantaged students was 23.21 ( $p=0.58$ ), while among Not Economically Disadvantaged students the mean score was 28.64 ( $p=0.72$ ). Standard deviations were 6.98 and 6.15 respectively. Students who were Not Disabled had higher mean scores (27.99,  $p=0.70$ ) than students who were Disabled (20.88,  $p=0.52$ ). Standard deviations were 6.33 and 7.04 respectively. Students Proficient in English had higher mean scores (27.25,  $p=0.68$ ) than students who were Not Proficient (21.20,  $p=0.53$ ). Standard deviations were 6.81 and 6.02 respectively here.

### *Grade 10*

For Grade 10, the mean raw score for all students was 39.60 ( $p=0.58$ ). The standard deviation was 13.08. In terms of gender, male (40.63,  $p=0.60$ ) and female (38.54,  $p=0.57$ ) mean scores were similar. Standard deviations were also similar, at 13.43 for males and 12.62 for females. Larger differences emerge when we compare students in terms of ethnicity. White students (41.86,  $p=0.62$ ) had the highest mean scores, followed by Asian students (35.03,  $p=0.52$ ), American Indian students (33.35,  $p=0.49$ ), Hispanic students (31.03,  $p=0.46$ ), and African American students (24.80,  $p=0.36$ ). Standard deviations were similar for all ethnicities ranging from 10.82 to 13.10. Differences in mean scores also emerge when we compare students in terms of socio-economic status. The mean score was 31.52 ( $p=0.46$ ) among Economically Disadvantaged students, as compared to 41.98 ( $p=0.62$ ) among Not Economically Disadvantaged students. Standard deviations here were 12.51 and 12.26 respectively. Differences also exist between Disabled and Not Disabled students. Students who were Not Disabled had higher mean scores (41.31,  $p=0.61$ ) than students who were Disabled (27.30,  $p=0.40$ ). Standard deviations were 11.28 for Disabled students and 12.38 for Not Disabled students. Students Proficient in English, as a group, had higher mean scores (39.91,  $p=0.59$ ) than students who

were Not Proficient (27.16,  $p=0.40$ ). Standard deviations were 12.99 for the former, and 10.28 for the latter.

## 7.4 Classical Item Analysis

Tables 7-21 through 7-43 represent item-level item analysis for all grades and contents. First, the tables distinguish between operational and field test items. Next, we indicate the test book form, and test book item number. The test book form and test book item number can be used to understand the location of test items as students actually encountered them in test booklets.

The item analysis tables also indicate item type (MC, or CR). Multiple choice and constructed response items have a fundamentally different character, so this basic item type information is included in the tables and should be considered alongside the item statistics during item analysis.

The  $p$ -value for a MC item represents the proportion of students who answered the item correctly. If all students answered a given MC item correctly, its  $p$ -value would be 1.0. If only 30% of students answered the question correctly, the  $p$ -value would be .30. So, the lower the  $p$ -value, the more difficult the item is. The item  $p$ -value is a good indication of difficulty, it takes student performance into account, and it makes comparing items in terms of a common statistic very simple. The  $p$ -value for a CR item represents the proportion of possible raw score points that students actually obtained for the item. An  $p$ -value of .33 for a given CR item would indicate that, on average, students obtained one-third of the possible points for the item. If the  $p$ -value were .75, this would indicate a much easier item, where, on average, students scored 75% of the maximum possible points for the item. As such, for CR items as well,  $p$ -value indicates difficulty and the lower the  $p$ -value, the more difficult the item is.

A point-biserial correlation between item score and the total score on the test was also computed for MC items. The point-biserial correlation indicates the correlation between the item score and the total score on the test. If an item were to show a correlation of .80, this would indicate a strong relationship between the item score and a total test score. If the correlation for a given item were only .10, this would indicate that the performance on the item is weakly related to the total test score. The point-biserial correlation is only appropriate for dichotomous level data (yes/no, right/wrong), so for the CR items, a Pearson correlation between the item score and the total score on the test was computed. The Pearson correlation can be interpreted the same way: it is a correlation between the score for a given CR item and the total test score. For item analysis, the studied item was excluded from the computation of the total score so as to not artificially inflate the correlation statistic. This effect would be most noticeable for CR items worth several points.

A formula similar to the point-biserial correlation was applied to compute the correlation between each distracter and the total score. In general, negative correlations are expected for all distracters when an item is good. In other words, it is expected that choosing the wrong answer is negatively correlated with the total test score. However, a small positive correlation for a

distracter can often mean that the distracter is very attractive for low performing students. The omit rate indicates those cases where students did not attempt the item. These are often indicators of miskeyed items and are further investigated.

Items were flagged for further investigation when certain thresholds were reached. The  $p$ -value was flagged when the statistic fell below 0.30 for MC items. This would indicate an especially difficult item, where only 30% of students obtained the correct answer. The point-biserial correlation was flagged where the coefficient was below 0.15. This would indicate a weak correlation between the likelihood of a correct answer choice and the total test score. The omit-rate was flagged when it was above 5%. This could indicate an especially difficult item, or if located near the end of the test, it could indicate a speeded test, where students did not have enough time. Distracters were flagged when they had a positive correlation with the total test score. That is to say, they were flagged when a wrong answer choice was, for some reason, an attractive choice, and positively correlated with a positive test score.

Note that the item analysis for operational items is based on the 14 calibration districts, and the item analysis for the field test items is based on the census data. Also, note that some field test CR items were not included in student scores. They were dropped from the scoring process. Because they were not a part of the student score computation, they are also excluded from our item analysis. The items referred to are: Grade 4 Math, Form B, item 67; Grade 8 Math, Form A/D, item 69; Grade 6 Reading, Form A, B, C, item 75; and Grade 5 Math, Form C, Item 73.

Progressing through the summary analysis and tables we will see, first, that there were a wide range of  $p$ -values. This means that there were items at all difficulty levels, which is what we want to see. A test made up of too many easy items or too many difficult items would not give us an accurate picture of the ability of students. We will also note that the correlation column shows a wide range of values. This is also what we want to see, a full range is necessary to discriminate between students at all ability levels.

All flag types did occur. That means first, that in some cases, less than 30% of students got an item correct, thereby generating the  $p$ -value flag. In other words, some items were difficult. Second, point-biserial correlation for MC item (or item-to-total score correlation for CR item) was flagged, indicating that in some cases the item score was only weakly related to the total test score. For some FT items, it was actually negative, in which case a correct answer choice is a negatively correlated with the total test score. These items were sent to Development for further examination. Third, some items were flagged for the omit rate. That implies that at least 5% of students did not attempt the item. Note that that in many cases, the omit rate was very low, less than 1%, thus indicating that many items were attempted by nearly every student. Also note that it is often found that the omit rates for CR items are higher than those for MC items because in general, guessing is not a possibility for CR items.

When flags occur, we can use the item analysis information with the test book in hand to examine the specific content of the test item, and from that vantage point consider more fully why one item may have been omitted more often than another, or why one item was more difficult than another, and so on.

The presence of a flag is an indication that an item should be investigated further, but that does not mean it cannot be included in the test as an operational item for valid reasons. Where flags did occur, all items were investigated further in order to assess whether the item should be excluded from the item pool. Note that all Reading and Mathematics items were field tested during the 2004 Form and Standardization process. For further discussion of the 2005 WKCE-CRT item selection process, see section 4.3.1 on Test Development.

Note that we generally expect FT items to be flagged more often than operational items. Note also that there are no FT items for Grade 10. Items for Grade 10 come from Wisconsin's HSGT item pool. This pool of items is large enough to obviate the need for field testing.

Table 7-44 shows the number of items flagged for all contents and grades, distinguishing between operational items and field test items. Note that because item analysis was performed by form, and FT items can occur in more than one form, the same FT item can appear as flagged more than once. Operational items appear only once.

## Reading

Speaking now with reference to operational items, for Reading Grade 3, only one item was flagged. The item was flagged for the point-biserial correlation, a distracter, and for  $p$ -value. In Grade 4, only 4 operational items were flagged for any criteria. Three (3) items were flagged for a distracter and one was flagged for  $p$ -value. In Reading Grade 5, only 3 items were flagged. All 3 were flagged for a distracter, and 1 of the 3 was flagged for both a distracter and for the point-biserial correlation. In Grade 6, 6 items were flagged for any criteria. Two (2) were flagged for  $p$ -value only, 3 were flagged for a distracter only, and 1 was flagged for the point-biserial correlation, a distracter, and  $p$ -value. Grade 7 showed 8 flagged items. Seven (7) of the 8 were flagged for distracters. However, only 2 of these items were flagged for a distracter only: 2 were flagged for a distracter and the point-biserial correlation, 1 was flagged for a distracter, the point-biserial correlation, and for  $p$ -value, and 2 were flagged for a distracter and for  $p$ -value. In addition, 1 item was flagged for  $p$ -value only. In Grade 8, 7 operational items were flagged for any criteria. The distracter flag was common here, but in most cases items were flagged in two criteria, one of which was the distracter. Two (2) items were flagged for a distracter only. In 2 cases, flags were generated for the point-biserial correlation and for a distracter. In one case, an item was flagged for the point-biserial, a distracter, and  $p$ -value. One (1) item was flagged for both a distracter and  $p$ -value. Also, 1 item was flagged for the omit rate. In Grade 10, 8 items were flagged for any criteria. Here, as was the general tendency across grades, the distracter flag was the most common. Five (5) items were flagged for a distracter, 1 was flagged for a distracter and the point-biserial correlation, and 1 was flagged for a distracter and  $p$ -value. One (1) additional item was flagged for the omit rate.

Among field test items, in Grade 3, 3 field test items were flagged for any criteria: 2 for the omit rate, and 1 for  $p$ -value. In Grade 4, 3 field test items were flagged, all for  $p$ -value. In Grade 5, 10 field test items were flagged. Four (4) items were flagged for a distracter, 3 were flagged for  $p$ -value, and 3 were flagged for both a distracter and  $p$ -value. In Reading Grade 6, 10 field test items were flagged. Four (4) were flagged for distracters. Three (3) were flagged for the

omit rate. Three (3) items were flagged for both the point biserial correlation and for a distracter. In Grade 7 Reading, 18 field test items were flagged. Nine (9) items were flagged for a distracter. Four (4) were flagged for the point biserial correlation and a distracter. One (1) item was flagged for  $p$ -value. Three (3) were flagged for the omit rate and  $p$ -value. One (1) item was flagged for a distracter and  $p$ -value. Six (6) field test items in Grade 8 were flagged, all for the omit rate.

## Mathematics

In Mathematics Grade 3, only 5 operational items were flagged for any criteria. Three (3) items were flagged for the omit rate, 1 was flagged for a distracter, and 1 item was flagged for a distracter and for  $p$ -value. In Grade 4, only 5 items were flagged for any reason. Two (2) items were flagged for the omit rate, 2 items were flagged for  $p$ -value, and 1 item was flagged for the point-biserial correlation. In Grade 5, 8 items were flagged. Two (2) items were flagged for the point biserial correlation, a distracter, and for the  $p$ -value flag. Two (2) items were flagged for  $p$ -value. Three (3) items were flagged for a distracter. One (1) item was flagged for the omit rate. In Grade 6, only 3 operational items were flagged: 1 for  $p$ -value, 1 for omit rate, and 1 for a distracter. In Grade 7, 10 items were flagged for any criteria; the omit rate and  $p$ -value were most the common. Five (5) items were flagged for the omit rate and for  $p$ -value. Three (3) items were flagged for the omit rate. One (1) item was flagged for the point-biserial correlation, a distracter, and for  $p$ -value. One (1) item was flagged for a distracter. In Grade 8, 14 operational items were flagged,  $p$ -value and the omit rate were, as in Grade 7, most common. Three (3) items were flagged for  $p$ -value. Five (5) were flagged for the omit rate and  $p$ -value. Two (2) were flagged for a distracter. Two (2) were flagged for a distracter and the point biserial correlation. One (1) item was flagged for a distracter and for  $p$ -value. One (1) additional item was flagged for the omit rate. In Grade 10 Mathematics, 10 items were flagged. Here, the omit rate was the most frequent flag. Five (5) items were flagged for the omit rate, and 1 for the omit rate and  $p$ -value. One (1) item was flagged for  $p$ -value. One (1) item was flagged for the point biserial and a distracter. Two (2) items were flagged for a distracter.

With reference to field test items, in Grade 3, five items were flagged. Three (3) were flagged for  $p$ -value, 1 was flagged for a distracter, and 1 was flagged for a distracter and  $p$ -value. Two (2) FT items were flagged in Grade 4 Mathematics. Both items were flagged for the point biserial correlation. In Grade 5, 6 items were flagged: 5 for  $p$ -value, and 1 for a distracter. For Grade 6, 5 items were flagged: 3 for  $p$ -value, 2 for a distracter. In Grade 7, 11 FT items were flagged, mostly for distracters and  $p$ -value. Five (5) were flagged for distracters. Four (4) were flagged for  $p$ -value. One (1) item was flagged for the point biserial correlation, a distracter, and for  $p$ -value. One (1) item was also flagged for the point biserial correlation and for a distracter. In Grade 8 Mathematics, 24 FT items were flagged for any criteria, mostly for distracters, and  $p$ -value. Three (3) items were flagged for a distracter and for  $p$ -value. Six (6) items were flagged for the point biserial correlation, a distracter, and  $p$ -value. Seven (7) items were flagged for a distracter. Five (5) items were flagged for the omit rate and  $p$ -value. Three (3) items were flagged for  $p$ -value.

## **Language Arts**

In Grade 4 Language Arts, no operational items were flagged for any reason. In Grade 8, 1 item was flagged. It was flagged for the omit rate. In Grade 10, 3 operational items were flagged. One (1) item was flagged for the point biserial correlation, a distracter, and for  $p$ -value. One (1) item was flagged for a distracter. One (1) item was flagged for  $p$ -value.

Four (4) FT items were flagged in Language Arts Grade 4: 2 for a distracter, 1 for  $p$ -value and 1 for the point biserial correlation, a distracter, and  $p$ -value. In Grade 8, 2 FT items were flagged, both for the point biserial correlation and a distracter.

## **Social Studies**

No operational items were flagged for any criteria in Social Studies Grades 4 and 8. In Grade 10, 2 items were flagged for the omit rate and for  $p$ -value. Three (3) items were flagged for the omit rate. In Social studies, no FT items were flagged for any criteria, for any Grade.

## **Science**

In Grade 4 Science, 4 operational items were flagged. One (1) item was flagged for the point biserial correlation, 2 items were flagged for distracters, and 1 item was flagged for both the point biserial correlation and a distracter. In Grade 8, 2 items were flagged, both for a distracter. In Grade 10, 8 items were flagged: 4 for the omit rate and 4 for a distracter. No FT items were flagged for any criteria, for any Grade in Science.

### **7.4.1 Speededness**

The degree to which a test is speeded can be evaluated by examining the percentage of students who fail to respond to the last items on the test. The omit rates shown in Tables 7-21 to 7-43, as described in section 7.4, demonstrate that no forms are speeded. There were no differences between omit rates for items at the beginning of the test forms and items at the end of the test forms.

## Part 8: Calibration and Scaling

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Part 8 describes the calibration and scaling procedures applied to the 2005 WKCE-CRT. There were two main differences between the 2004 WKCE and the 2005 WKCE-CRT. First, most 2004 WKCE items were directly from *TerraNova*, while for the 2005 WKCE-CRT all Reading and Mathematics items were customized to Wisconsin standards. Second, the *TerraNova* item parameters estimated in 2002 *TerraNova* standardization, using a national sample, were applied to score the 2004 WKCE, whereas the 2005 WKCE-CRT item parameters were estimated using 14 calibration districts (CD) from Wisconsin. Note that the scale of the 2005 WKCE-CRT is the first operational scale. That is, there is no scale connection between the 2004 WKCE and 2005 WKCE-CRT. The scale scores of the 2004 WKCE and WKCE-CRT can not be directly compared. The score conversion tables should be used for this purpose. The relationship between the 2004 WKCE and the 2005 WKCE-CRT is described in detail in Part 11.

### 8.1 Calibration Methods

The 2005 Fall WKCE-CRT was calibrated and scaled using item response theory (IRT) procedures similar to those followed in the development of the *TerraNova* test (CTB/McGraw-Hill, 1997), *TerraNova* 2<sup>nd</sup> Edition (CTB/McGraw-Hill, 2000), and the Wisconsin Knowledge and Concept Exam (WKCE) (CTB/McGraw-Hill, 1997-2004).

Because the characteristics of MC and CR items are different, two different item response theory models were used in the analysis of the data. The three-parameter logistic model (Lord & Novick, 1968; Lord, 1980) was used to scale the MC items and the two-parameter partial credit model (Muraki, 1992; Yen, 1993) was used to scale the CR items. The three-parameter logistic model (3PL) defines a MC item in terms of three item parameters: the item difficulty (or its location on a scale of difficulty/ability), the item discrimination (or item differences on discrimination), and the level of guessing. The two-parameter partial credit model (2PPC) defines a CR item in terms of an item discrimination parameter and a location parameter for each score point. Introductory discussions of IRT can be found in Educational Measurement (Linn, 1989), or Chapter 11 in Introduction to Measurement Theory (Allen & Yen, 1979). More advanced discussions of partial credit models may be found in Muraki (1990, 1992), Yen (1993), and van der Linden and Hambleton (1997).

#### 8.1.1 Calibration Models

The 3PL model (Lord & Novick, 1968; Lord, 1980) was used in the analysis of MC items. In this model, the probability that a student with scale score  $\theta$  responds correctly to item  $i$  is:

$$P_i(\theta) = c_i + \frac{1 - c_i}{1 + \exp[-1.7a_i(\theta - b_i)]}$$

where  $a_i$  is the item discrimination,  $b_i$  is the item difficulty, and  $c_i$  is the probability of a correct response by a very low-scoring student.

For analysis of the CR items in 2005 WKCE-CRT, the 2PPC model (Muraki, 1992; Yen, 1993) was used. The 2PPC model is a special case of Bock's (1972) nominal model. Bock's model states that the probability of an examinee with ability  $\theta$  having a score at the  $k$ -th level of the  $j$ -th item is

$$P_{jk}(\theta) = P(x_j = k - 1 | \theta) = \frac{\exp Z_{jk}}{\sum_{i=1}^{m_j} \exp Z_{ji}}, \quad k = 1, \dots, m_j,$$

where  $Z_{jk} = A_{jk}\theta + C_{jk}$ .

For the special case of the 2PPC model used here, the following constraints were used:

$$A_{jk} = \alpha_j(k-1), \text{ and } C_{jk} = -\sum_{i=0}^{k-1} \gamma_{ji}, \text{ where } \gamma_{j0} = 0,$$

where  $\alpha_j$  and  $\gamma_{ji}$  are parameters freely estimated from the data. The first constraint implies that higher item scores reflect higher ability levels and that items can vary in their discriminations. The 2PPC model estimates a total of  $m_j$  independent item parameters; for each item there are  $m_j - 1$  independent  $\gamma_{ji}$  parameters and one  $\alpha_j$  parameter.

### 8.1.2 Calibration Software

The IRT models were implemented using CTB's PARDUX software (Burket, 1991). PARDUX estimates parameters simultaneously for MC and CR items using marginal maximum likelihood procedures implemented with the expected maximum (EM) algorithm (Bock & Aitkin, 1981; Thissen, 1982). PARSCALE, MULTILOG, and BIGSTEPS are among the most widely known and used IRT programs. Extensive simulation studies and comparisons between PARDUX and MULTILOG (Thissen, 1990), a program widely used for research purposes, have shown that PARDUX provides precise parameter and ability estimates, and it performs more efficiently than MULTILOG (Fitzpatrick, 1991). Simulation studies have also compared PARDUX with PARSCALE (Muraki & Bock, 1991), and with BIGSTEPS (Wright & Linacre, 1992). Fitzpatrick and Julian (1996) found that PARDUX provided precise parameter and ability estimates, and performed more efficiently than the other programs. Extensive research with simulation data has also shown that the IRT procedures used here produce accurate vertical scaling (Yen & Burket, 1997). The Stocking and Lord (1983) procedure was used to place the estimated parameters on the scale from which the anchor items (i.e., *TerraNova*) were drawn.

## **8.2 Scaling Procedures**

The scaling procedure for Reading and Mathematics was different from that for the remaining contents because the vertical scale was applied to Reading and Mathematics only.

### **8.2.1 Reading and Mathematics**

Scales for Reading and Mathematics were based on the scale set up in the 2004 Form & Standardization. In the 2004 Form & Standardization, three forms, A, B, and C, were constructed and administered. Using Form A, the vertical relationship for Reading and Mathematics grades 3 through 10, except for Grade 9, were constructed. In the 2005 Fall WKCE-CRT, an almost intact Form A was administered except for Reading Grade 4, where Form B was administered. The following two steps were used to place the 2005 WKCE-CRT scale on the 2004 Form Standardization scale:

- Step 1: 2005 WKCE-CRT items were calibrated for each grade and content.
- Step 2: For each grade and content, the items which appeared in both 2004 Form Standardization and the 2005 WKCE-CRT were treated as anchor items. Using the anchor items, item parameters for the 2005 WKCE-CRT were transformed.

Then, the Stocking and Lord (1983) formula was applied to estimate the transformation slope and intercept. The transformation slope and intercept was applied to 2005 WKCE item parameters. Because the 2004 WKCE Form Standardization was on a vertical scale across grades, the 2005 scale transformation to the 2004 scale means that the vertical relationship across grades still exists for the 2005 WKCE-CRT. The mean and standard deviation for Reading and Mathematics can be found Part 9.1 Summary Statistics for Scale Score.

Figure 8-3 and 8-4 show the vertical relationships of Reading and Mathematics scales across grades. Although some test characteristics curves for Reading were overlapped in some ability ranges, this overlapping was not a major concern because this type of vertical relationship pattern for Reading has been found in many large scale State assessments, and the vertical order of the state mean and standard deviation was considered more important. As can be seen Table 9-11 and Table 9-12, the means and standard deviations of the 14 CD and WI census show this vertical order for Reading and Mathematics.

### **8.2.2 Language Arts, Social Studies, and Science**

Vertical scaling was planned for and applied to Reading and Mathematics, but because Language Arts, Social Studies, and Science are not given, those scale are grade specific. In the 2005 WKCE-CRT, Reading and Mathematics were administered to grades 3-8 and 10, while the remaining three contents were administered to grades 4, 8, and 10. Without administering tests for all continuous grades for a given content area, it is difficult to build a vertical scale for the content area. Although the vertical relationship across grades was not set up for these grades in the 2004 Form Standardization testing, the scales for grades 4, 8, 10 were artificially constructed in such a way so as to show a vertical relationship across grades. DPI and CTB were concerned

that, had this not been done, test users could wrongly interpret the scales because different grades would show similar means and standard deviations. The typical scales without the vertical relationship across grades are set up to use the same mean and standard deviation for all grades. In that arrangement, two students from two different grades considered to have similar performances in their respective grades, could actually see a scale score for the higher grade student lower than the scale score of the lower grade student. To avoid this situation, an artificial vertical relationship was set up across grades for these three contents. The mean and standard deviation for these three grades can be found Part 9.1 Summary Statistics for Scale Score. Figure 8-5 and 8-7 show the vertical relationships of Language Arts, Social Studies, and Science across grades. Although the three TCCs for the three grades show the vertical relationship across grades, this relationship was artificially built, as mentioned.

### **8.3 Calibration and Scaling Results**

As described, the items that appeared in both the 2004 Form Standardization and 2005 WKCE-CRT were treated as anchor items for calibrating and scaling the operational items. For some contents and grades, the 2005 WKCE-CRT contains field tested items together with operational items. Part 7.4 Classical Item Analysis shows information for these field test items. These field test items were calibrated together with 2005 WKCE-CRT operational items, and transformed to the scale of the 2005 WKCE-CRT using the item parameters of the 2005 WKCE-CRT operational items. While all responses of field test MC items were included, about 2,000 responses of field test CR items and Writing prompts were used for both calibration and scaling. Note that about 2,000 responses were scored for each field test CR item and Writing prompt. The number of responses for CR items and Writing prompt can be found in Part 6.4.1 (Distribution of CR items).

#### **8.3.1 IRT Item Parameters**

All operational items were converged, meaning parameters were successfully estimated for each item, but there were three field test items not converged, or for which parameters could not be estimated during calibration: Reading Grade 7 Form A/B/C #82, Mathematics Grade 7 Form B #73, and Language Arts Grade 8 item #32. Figure 8-1 shows the item characteristic curve (ICC) of Reading item #82. The horizontal axis represents the range of student ability (or performance trait) from -4.0 to 4.1. The vertical axis presents the proportion of students correct on the item. The figure clearly shows that the expected ICC based on the IRT theory did not fit to the observed ICC across all ranges. If the two ICCs fit well, the two lines would be almost overlapped across all ability ranges. While the expected ICC always expects the monotonic increase of performance as student's ability increases, the observed ICC for the item did not show that monotonic pattern. The observed ICC shows that low ability students did better for this item than high performance students did for this item. Figure 8-2 shows the ICC for Mathematics Grade 7 item #73. As can be seen in the figure, this item did not discriminate students across all ability levels. This item was relatively easy item for all students. These two items will not be used as operational items without re-field testing after the items are revised. Figure 8-3 shows the ICC for Language Arts Grade 8 item #32. Like the mathematics item, this item does not

discriminate students across all ability levels. These three items will not be used for any future testing without re-field testing after the items are revised..

Whenever item parameters were used, as when used for scoring, the estimated item parameters from 14 calibration districts were used in the 2005 WKCE-CRT. Although using item parameters from census data is ideal, the item parameters from the 14 calibration districts were used due to the time limitation. As can be seen in Part 7.1, the 14 CD seemed to represent the WI census well.

The current technical report does not contain item parameters used for the 2005 Fall WKCE-CRT scoring because of the large size of the data files. Separate excel files containing item parameters will be delivered to DPI for a database.

### 8.3.2 IRT Item Fit

A statistical procedure was used to identify items that did not fit the IRT model. Item model fit information was obtained for each item using a Z-statistic. The Z-statistic is a transformation of the chi-square ( $Q_I$ ) statistic that takes into account differing numbers of score levels as well as sample size:

$$Z_j = \frac{(Q_{1j} - DF_j)}{\sqrt{2DF_j}}$$

where  $Q_{1j}$  is the item chi-square statistic,  $j$  is an item, and DF is the degrees of freedom for a given item  $j$ .

The Z-statistic is an index of the degree to which obtained proportions of students with each item score are close to the proportions that would be predicted by the estimated student ability and item parameters. These values, along with the associated chi-squares ( $Q_I$ ), are computed for ten intervals corresponding to deciles of the ability distribution (Yen, 1984). Because the value of Z increases as the sample size increases, with other things being equal, the critical values for Z were established using the following equation (Yen, 1991a):

$$Z_{crit,j} = \frac{4N_j}{1500}$$

where  $Z_{crit,j}$  is the critical value of Z for item  $j$ , and  $N_j$  is the number of students who responded to item  $j$ .

Table 8–1 presents items that were flagged based on the Z statistics above. For example, the second row shows that Reading Grade 3 operational MC item #40 was flagged because its Z value of 43.04 is larger than the critical Z value of 16.10 based on the sample size of 6,306. The third column does not show form numbers where the item appears on all forms. Many CR operational or field test items were flagged, though the ratio of CR items to MC items on a test

form is small. In general, there are small number of students at the lower score level or higher score level for CR items, and these small sample sizes easily introduce the misfit between the observed ICC and expected ICC. With a small sample size, it is not easy to get a stable expected ICC. In a similar manner, the misfit for MC items often happens at the lower ability range or higher ability range, where there are a small number of students. As shown in Table 1, more Mathematics items were flagged than Reading items because Mathematics contains more CR items than Reading. Because the index itself does not show where the misfit happens on the ability range, graphical information was produced for each item by PARDUX. The main concern for the item fit is where the misfit happens. If the misfit happens around the lower or higher ability range, where there are not many students, we do not worry as much about the misfit. If the misfit happens around the middle of ability range, where there are many students, we are more concerned. The flagging of an item does not require that the item not be used. This item fit is just one of the criteria for selecting sound operational items. The fit index for all items and the graphical information for items flagged are not included in this report, but will be separately delivered to DPI. As with all items flagged, the list of items flagged based on the Z statistics and graphical information was delivered to Development for future item selection.

### **8.3.3 Scoring and Standard Error of Measurement**

Item-pattern scoring utilizes more information about students' responses than number-correct scoring. The item-pattern score is the maximum likelihood estimate for students with a given response pattern and known item parameter estimates. Either raw score or item-pattern scoring can be chosen. For groups of 25 or more students, the two methods produce tau equivalent results. Item-pattern scoring is generally recommended because it produces more accurate scores for individual students. This increase in accuracy is equivalent, on the average, to approximately a 15 to 20% increase in test length (Yen, 1984; Yen & Candell, 1991). This item-pattern score has applied to the 2004 WKCE and the 2005 WKCE-CRT. Note that the pattern score means that students with the same raw score can get different scale scores. Students with the same raw score can have different scale scores even if they correctly answered the same number of items. If a student A correctly answered more difficult items than student B, with the same raw score for the same test, the scale score of the student A would be higher than that of student B. Students who correctly answered difficult items will have higher scale scores than the students who correctly answered easy items. Therefore, a scoring table, which shows the relationship between raw score and scale score, can not be applied to the 2005 WKCE-CRT. However, to show the rough relationship among raw score, scale score, and standard error of measurement (SEM), scoring tables were included. Tables 8-2 through 8-25 show these scoring tables.

Standard error of measurement is used to obtain a range within which a student's true score is likely to fall. An obtained score should not be regarded as an absolute value, but as a point within a range that with a certain degree of probability includes a student's true score. It is expected that 68% of the time a student's score obtained from a single testing would fall within one SEM of that student's true score and that 95% of the time the obtained score would fall within two standard errors of true score.

Standard errors of measurement (SEM) for the 2005 WKCE-CRT scale scores, obtained from item-pattern scoring, are displayed graphically for each of the test configurations in Figures 8-9 through 8-13. Each figure includes a SEM curve of a given grade level. The curve for each form is plotted as a function of the scale scores. Note that for convenience, the highest and lowest obtainable scale score (HOSS and LOSS) of 2005 WKCE-CRT were used as the starting scale score and the last scale score.

These figures show the scale score range within which measurement is most accurate and that extreme scale scores have more measurement error than moderate scores. The forms lose accuracy of measurement for scale scores near the high or low extremes because there are fewer students at these score ranges.

## Part 9: Test Results

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### 9.1 Summary Statistics for Scale Scores

In addition to raw scores, scale scores based on IRT pattern scoring were also estimated. Scale scores are discussed further in a later section, however, for present purposes, the reader should note that item-pattern scoring utilizes more information about students' responses than number-correct scoring. Scale scores are based on student performance on all the items in the test. The item-pattern scoring procedure produces scale scores (or maximum-likelihood trait estimates) based on patterns of item responses, as described by Lord (1974; 1980, 179-181). The item-pattern score is the maximum likelihood trait estimate of a student with a given response pattern, where item parameter estimates are known.

Table 9-1 shows the mean scale score, standard deviation, skewness, kurtosis, minimum observed scale score (min), and maximum observed scale score (max) for the total population, for all contents and grades. As reflected in Table 9-1, when we look at mean scale scores by grade and content area, we see scale scores rising as grade level increases. This is the (intended) result of vertical scaling (See Part 8.2 for vertical scaling).

### Reading

From the distribution of scale scores for Reading, it is found that a standard deviation in every grade indicates moderate degree of dispersion. For Reading, the range between LOSS and HOSS increases with each grade, so the rising standard deviation can be understood within that light. Looking at the negative skewness across grades, we see an indication of some extreme low scores and a corresponding tendency for students to score above the mean. Looking at Kurtosis, we see a positive coefficient in every case, indicating a curve which is slightly more peaked than a perfectly normal curve. The Minimum and Maximum columns indicate the minimum and maximum scores obtained. In Grade 5, the maximum obtained score was 683, while the HOSS was 690. This indicates that in Grade 5, no students got a full score. This is the same for grade 6. The Reading scores showed consistent scoring patterns within subgroups. For example, female students had higher mean scores than male students, in every grade. In every grade the same pattern of scores by ethnicity persists. By group, White students had the highest scores, followed by Asian students, American Indian students, Hispanic students and African American students. Also in every grade, students who were Not Economically Disadvantaged scored higher than students who were Economically Disadvantaged. Those students who were Not Disabled had higher mean Reading scores than students who were Disabled, in every grade. In every grade, students who were Not Proficient in English had lower mean Reading scores than students who were Proficient.

## **Mathematics**

As indicated by the standard deviation in Table 9-1, Mathematics scores were moderately dispersed in every grade. The negative skewness in each grade indicates some extreme low scores and a corresponding tendency for students to score above the mean. The Kurtosis statistic is positive in every case, indicating a curve which is more peaked than a perfectly normal curve. In Mathematics, male students had higher mean scale score than female students in grades 3, 4, and 5, but the two groups have nearly equivalent results for grades 6-8, and 10. The consistent differences in mean scores by ethnicity persisted in Mathematics. White students had the highest mean scores followed by Asian students, American Indian Students, Hispanic students and African American students. Socio-economic differences persisted as well. As a group, Economically Disadvantaged students tended to not score as well as students who were Not Economically Disadvantaged, in every grade. As in Reading, as a group, those students who were Not Disabled, scored higher than students who were Disabled, in every grade. As we saw in Reading, in every grade, students who were Not Proficient in English had lower mean scores than students who were Proficient.

## **Language Arts**

Scale scores for Language Arts show a moderate degree of dispersion in each grade. The negative skewness indicates some extreme low scores and a corresponding tendency for students to score above the mean. The Kurtosis statistic is positive in every case, indicating a curve which is more peaked than a perfectly normal curve. In every grade, female students scored slightly higher than male students. By ethnicity, White students had the highest scores, followed by Asian students, American Indian Students, Hispanic students and African American students. Once more, in every grade, students who were Not Economically Disadvantaged, as a group, scored higher than students who were Economically Disadvantaged. In Language Arts, as elsewhere, students who were Not Disabled had higher mean scores than students who were Disabled. Again, those Students who were Not Proficient in English had lower mean scores than students who were Proficient in English, in every grade.

## **Social Studies**

When we look at the distribution of scale scores for Social Studies, across grades we see a standard deviation that indicates moderate degree of dispersion. The range between LOSS and HOSS increases with each grade, so the rising standard deviation can be understood within that light. The negative skewness in grades 8 and 10 is an indication of some extreme low scores and a corresponding tendency for students to score above the mean. The positive skewness in grade 4 indicates the presence of some extreme high scores, and a corresponding tendency for students to score below the mean. Kurtosis is positive in every case, indicating a curve which is more peaked than a perfectly normal curve. While other content areas showed some distinct gender differences, those differences are all but gone in grades 4 and 8, where scores are practically identical across gender. Grade 10 showed a small difference: females scored slightly higher than males. Differences by ethnicity persists, but with some minor differences. White students had the

highest scores, followed by Asian students. As a group, African American students had the lowest scores. These three groups are as they were in other content areas. The difference comes in the changing position between American Indian and Hispanic students. In Social Studies the relative position of the two groups changes with the grade level, alternating between the third and fourth position relative to other ethnic groups. In Social Studies, as elsewhere, in every grade, students who were Not Economically Disadvantaged scored higher than students who were Economically Disadvantaged. Those students who were Not Disabled had higher mean Reading scores than students who were Disabled, in every grade. In every grade, students who were Not Proficient in English had lower mean scores than students who were Proficient.

## **Science**

The distribution of scale scores for Science shows a moderate degree of dispersion in every grade. The range between LOSS and HOSS increases here with each grade, so the rising standard deviation can be understood within that context. Looking at the negative skewness across grades, we see an indication of some extreme low scores and a corresponding tendency for students to score above the mean. Looking at Kurtosis, we see a positive coefficient in every case, indicating a curve which is more peaked than a perfectly normal curve. In Science, male students had a higher mean score than female students, in each grade. As we saw in other content areas, grouped and compared by ethnicity, White students had the highest scores, followed by Asian students, American Indian Students, Hispanic students and African American students. Also as we saw in other content areas, in every grade, those students who were Not Economically Disadvantaged scored higher than students who were Economically Disadvantaged. Here as elsewhere, those students who were Not Disabled had higher mean Reading scores than students who were Disabled, in every grade. Also in every grade, those students who were Not Proficient in English had lower mean Reading scores than students who were Proficient.

### **9.1.1 LOSS and HOSS**

Table 9-12 shows the number and percent of students at the lowest obtainable scale score (LOSS) and the highest obtainable scale score (HOSS). For Reading, the percent at the LOSS ranges from 0.73 to 1.95 across grades. Reading Grade 10 shows the largest percent at 1.95. The percent at the HOSS ranges from 0.00 to 0.02 across grades. For Mathematics, the percent at the LOSS ranges from 0.08 to 2.87 across grades. Mathematics Grade 10 shows the largest percent (1.95) at the LOSS. The percent at the HOSS ranges from 0.00 to 0.14 across grades. If we consider two percent as the flagging criterion for LOSS and HOSS, Mathematics Grade 10 (2.87%) is flagged, and Reading Grade 10 (1.95%) is close to the criterion. In general, the percentages at the LOSS were larger in the 2005 WKCE-CRT than the corresponding percentages in the 2004 WKCE. There were two reasons. First, the 2004 WKCE is norm-reference test, while the 2005 WKCE-CRT is criterion reference test. The 2004 WKCE was scaled based on nationally representative samples, while the 2005 WKCE-CRT was scaled based on representative samples of Wisconsin students. Note that the performance of Wisconsin

students is higher than the national average. Second, the 2005 WKCE-CRT Reading and Mathematics Grade 10 tests do not contain many easy items.

For Language Arts, the percent at the LOSS ranges from 0.68 to 1.04 across grades, and the percent at the HOSS ranges from 0.01 to 1.46 across grades. For Social Studies, the percent at the LOSS ranges from 0.36 to 1.66 across grades, and the percent at the HOSS ranges from 0.02 to 3.05 across grades. The large percent (3.05) at Grade 4 HOSS is caused because many students got the full score. This indicates that 2006 WKCE-CRT needs to contain a few difficult items to avoid this HOSS issue. For Science, the percent at the LOSS ranges from 0.19 to 1.79 across grades, and the percent at HOSS ranges from 0.02 to 0.36 across grades.

## **9.2 Performance Level Information**

The Fall 2005 WKCE-CRT cut scores were estimated by a linking study between 2004 WKCE and 2005 WKCE-CRT (See Part 11.1 Linking Study). There are four performance levels: Minimal, Basic, Proficient, and Advanced. Table 9-18 shows cut scores for each content and grade. Students are classified in terms of a performance level based on their scale scores. Tables 9-19 to 9-23 show the percentage of all students in each performance category, as well as subgroup comparisons. The tables are separated by content area.

### **Reading**

Reading performance level data indicates most students are at the Proficient or Advanced performance level. Looking across subgroups, we see that females were less likely than males to be at the Minimal and Basic level than males. Females were also more likely to be at the Advanced level than males, though in some cases the difference is very small. Grouped and compared by ethnicity, looking either at the low end of performance or the high end, the prevailing tendency in performance was such that White students performed the best, followed by Asian Students, American Indian students, Hispanic students, and African American students. Across all grades, those students Proficient in English were less likely score at the Minimal Performance level than students who were Not Proficient in English. At the same time, and in every grade, those students who were Proficient in English were more likely to score at the Advanced level than students Not Proficient in English. As a group, Disabled students were more frequently at the Minimal Performance level than Not Disabled students. The Advanced proficiency level for Reading was more common among Not Disabled students than among Disabled Students. Students Not Economically Disadvantaged were less likely to score at the Minimal Performance level, and more likely to score at the Advanced level in comparison to Economically Disadvantaged students.

### **Mathematics**

The Mathematics performance level data shows that most students are at the Proficient or Advanced performance level. Looking across subgroups, we see that male students are slightly

less likely to score in the lowest category in grades 3-5, but then become slightly more likely to be in the lowest performance category from grade 6-8 and 10. Note that males were also more likely than females to be at the Advanced level. Grouped and compared by ethnicity, looking either at the low end of performance or the high end, the prevailing tendency in performance was such that White students performed the best, followed by Asian Students. Looking across grades, American Indian and Hispanic students alternated places between the third and fourth positions. African American students were, in every grade, the most likely to score in the lowest performance category, and the least likely to score in the highest performance category. As in Reading, those students Proficient in English were less likely score at the Minimal Performance level than students who were Not Proficient in English. At the same time, students Proficient in English were more likely to score at the Advanced level than students Not Proficient in English. Also as we saw in Reading, as a group, Disabled students were more frequently at the Minimal Performance level than Not Disabled students. The Advanced proficiency level for in Mathematics was more common among Not Disabled students than among Disabled Students. In Mathematics, as elsewhere, those students Not Economically Disadvantaged were less likely to score at the Minimal Performance level, and more likely to score at the Advanced level in comparison to Economically Disadvantaged students.

### **Language Arts**

The Language Arts performance level data shows that most students are at the Proficient or Advanced performance level. Looking across subgroups, we see that male students were more likely to score at the lowest level and less likely to score at the highest level than female students. As we saw in Mathematics, when we group and compare students by ethnicity, and look either at the low end of performance or the high end, the prevailing tendency in performance was such that White students performed the best, followed by Asian Students. Looking across grades, American Indian and Hispanic students alternated places between the third and fourth positions. African American students were, in every grade, the most likely to score in the lowest performance category, and the least likely to score in the highest performance category. As in other contents, those students Proficient in English were less likely score at the Minimal Performance level than students who were Not Proficient in English. At the same time, students Proficient in English were more likely to score at the Advanced level than students Not Proficient in English. Also as in other content areas, as a group, Disabled students were more frequently at the Minimal Performance level than Not Disabled students. The Advanced proficiency level was more common among Not Disabled students than among Disabled Students. In Language Arts, as elsewhere, those students Not Economically Disadvantaged were less likely to score at the Minimal Performance level, and more likely to score at the Advanced level in comparison to Economically Disadvantaged students.

### **Social Studies**

The performance level data for Social Studies shows that most students are at the Proficient or Advanced performance level. Looking across subgroups, we see that male students were more likely to score at the lowest level than female students, though at the high end of

performance the differences are small and the two alternate positions. As we saw in other contents, when we group and compare students by ethnicity, and look either at the low end of performance or the high end, the prevailing tendency in performance was such that White students performed the best, followed by Asian Students. Looking across grades, American Indian and Hispanic students alternated places between the third and fourth positions. African American students were, in every grade, the most likely to score in the lowest performance category, and the least likely to score in the highest category. As in other areas, those students Proficient in English were less likely score at the Minimal Performance level than students who were Not Proficient in English. At the same time, students who were Proficient in English were more likely to score at the Advanced level than students who were Not Proficient in English. Also as in other content areas, as a group, Disabled students were more frequently at the Minimal Performance level than Not Disabled students. The Advanced proficiency level was more common among Not Disabled students than among Disabled Students. In Social Studies, as elsewhere, those students Not Economically Disadvantaged were less likely to score at the Minimal Performance level, and more likely to score at the Advanced level in comparison to Economically Disadvantaged students.

## **Science**

For Science, the performance level data shows that most students are at the Proficient or Advanced performance level. Looking across subgroups, we see that male students were more likely to score at the lowest level than female students in grades 4 and 8, but less likely to do so than females in grade 10. The differences here are relatively small. Notably, male students were, in every grade, more likely to score at the Advanced level than female students. In Science, when we group and compare students by ethnicity, and look either at the low end of performance or the high end, the prevailing tendency was such that White students performed the best, followed by Asian Students, American Indian students, Hispanic students, and African American students. As in other content areas, those students who were Proficient in English were less likely score at the Minimal Performance level than students who were Not Proficient in English. At the same time, those students who were students Proficient in English were more likely to score at the Advanced level than students Not Proficient in English. Also as in other content areas, as a group, Disabled students were more frequently at the Minimal Performance level than Not Disabled students. The Advanced proficiency level was more common among Not Disabled students than among Disabled Students. In Science, as elsewhere, those students Not Economically Disadvantaged were less likely to score at the Minimal Performance level, and more likely to score at the Advanced level in comparison to Economically Disadvantaged students.

### **9.3 Standard Performance Indicator (SPI) for Content Standard**

In addition to raw scores and scale scores, teachers and educational decision-makers frequently need diagnostic information to inform instructional strategies and help identify student strengths and weaknesses. This kind of information can be derived from scores on

subsets of test items which estimate how much a student knows in a clearly defined skill domain. These skill domains are called Content Standards (or simply Standards, or Objectives).

We report scores for Content Standards as Standard Performance Indicator (SPI) scores. The SPI is an estimate the number of items a student would be expected to answer correctly if there had been 100 similar items for a given reporting category. For example, an SPI of 77 for a given reporting category means that if the student were given 100 similar items, the student would be expected to answer 77 of them correctly. These are criterion-referenced scores, in that they estimate how much a student knows in a clearly defined skill domain (i.e., the criterion).

Because most Standards are measured by a relatively small number of items, a Bayesian procedure that takes into account the overall test performance is used to improve the reliability of the Standard scores. Given a student's scale score on the test, IRT is used, via the 3PL model for MC items and 2PPC model for CR items, to estimate points obtained for each Content Standard. This estimate provides the initial (Bayesian prior) estimate of the student's mastery score. If this initial estimate is consistent with the points the student obtained, as indicated by a chi-square test, the two scores are combined as a weighted average to obtain the SPI score (the estimated true score). The appropriate weight for the Bayesian prior estimate is computed as a function of the standard error of the scale score on which it is based; the smaller the standard error, the larger the weight. If the prior estimate and the observed score differ significantly, the observed proportion of the maximum score is used, without the prior estimate, to compute the student's SPI score.

The SPI provides a more reliable estimate of student achievement on each Content Standard than is possible by simply reporting percent correct. However, *the SPI information should be used at low-stakes purposes because even the SPI can not be stable for any Content Standard with a small number of items*. Also, while the percentages belonging to each performance level based on SPI cut scores can be compared across years, the SPI value can not be compared across years. The approach to identifying student proficiency of each Content Standard relates to the Wisconsin Model Academic Standards. The SPI at each Content Standard is an estimate of the SPI for a student who has scored exactly at the Standard for each cut score.

Note that the average difficulty of items belonging to each content standard within each grade was not considered when the test form was constructed. Also, note that the average difficulty of items for each content standard across grades was not controlled. There has not been an effort to make the average difficulty of items for all content standards similar within grade, or more difficult as grade increases. Difficulty of items is determined, in part, by the difficulty of the content being measured. The difficulty of concepts varies across content standards within a grade as well as across grades. The current test blueprints do not specify the average difficulty of items for each content standard within grade or across grades. The mean  $p$ -value and mean SPI scores cannot be compared across grades. The mean  $p$ -value or mean SPI scores simply show the relative difficulty among content standards within one grade and content.

Tables 9-13 to 9-17 show the mean raw score, mean  $p$ -value, standard deviation of raw scores, as well as the mean SPI score, and the standard deviation of SPI scores for all contents.

## Reading

Looking at Reading SPI scores as a whole, across Content Standards and grades, one can see that mean p-values and mean SPI scores vary by Content Standard as well as by grade. For example, in Grade 3, the mean p-value ranges from 0.55 to 0.70 and mean SPI ranges from 54.81 to 70.44. In Standard 4, the SPI mean score of 54.81 and its standard deviation of 15.77 imply that if Grade 3 students were to take a test of 100 similar Reading items their mean score would be 54.81, and the standard deviation of their scores would be 15.77. Now, one can compare that score to Standard 2, where, if Grade 3 students were to take a test of 100 similar items their mean score would be 70.44, and the standard deviation of their scores would be 19.40. In other words, the score on Standard 2 would be much higher than the score on 4. The SPI for 4 is low relative to the other scores, which are more similar to one another. In Grade 4 also, Standard 4 is low relative to the other scores, which are clustered together in a smaller range. In Grade 5, the Standard 3 is uniquely low. Here the SPI is only 56.31, while the other standards range from approximately 66.0 to 76.0. That means the score for standard 3 would be distinct, and low relative to the scores for other standards. In Grade 6 one can see two levels of SPI scores. On the high end, there are the scores for Standards 1, and 2, and on the low end there are 3, and 4. The total range there is nearly .20, so again one sees distinct differences in SPI scores (and p-value) by Standard. In Grade 7, one sees another split, with 1 and 2 having the high SPI scores (and p-values) and Standards 3 and 4 having the low SPI scores (and p-values). The same pattern, with the same standards occurs in Grade 8. In Grade 10, 2 and 3 occupy a middle ground in terms of p-value and SPI, while the standards for 1 and 4 are notably higher, and lower, respectively.

## Mathematics

Mathematics SPI scores vary across both grade and Content Standard. For example, within Grade 3, mean SPI ranges from 47.13 to 80.03. Looking at Standard A then, if Grade 3 students were to take a test of 100 similar items, their mean score would be 47.13 and the standard deviation of their scores would be 17.77. At the same time, if Grade 3 students were to take a test of 100 similar items in Standard E, their mean score would be 80.03, and the standard deviation of their scores would be 16.44. In other words, the mean score on Standard E would be much higher than the mean score on Standard A. The SPI (and the p-value) for Standard A is much lower than the SPI (and p-value) for other Standards, within the same grade. Overall, Grade 3 shows two Standards (A and F) where the SPI and p-value are low relative to the level of other standards. In Grade 4, one standard (A) stands out as distinctly low relative to the other standards which are clustered in a narrower (and higher) range. Standard A was also uniquely low in Grade 5, where Standard E was also low. The same pattern occurred in Grade 6: the SPI for Standards A and E were distinctly lower than the SPI for the other standards. Grade 7 shows Standard A as markedly lower and F as markedly higher than the other standards, which sit together in a smaller range. Grade 8 shows a wide range of SPI scores and (p-values). Standard A is on the low end, F is on the high end and there are, overall, four distinct levels of p-value and SPI scores for Grade 8. Grade 10 did not show any extreme scores, the range here was from 49.28 to 56.92.

## **Language Arts**

The SPI data in Table 9-15 for Language Arts show variation in mean p-values and mean SPI scores by Content Standard and by grade. For example, within Grade 4, mean p-values run from 0.56 to 0.71, and mean SPI ranges from 56.40 to 71.71. That means that if Grade 4 students were to take a test of 100 similar items in Standard B, their mean score would be 71.71, but if the test were in Standard F the mean score would be 56.40. In other words the scores for Standard F would be markedly lower than for Standard B. In Grade 4, Standard F stood out as uniquely low; Standards B and D were very close, at 70.77, and 71.71. For Grade 8, mean SPI and p-value clustered together in a narrow range. No standard was distinctly different, either higher or lower than the central tendency. The same was true for Grade 10: mean p-values and SPI scores, split by content standard, were within a relatively small range of values.

## **Social Studies**

Social Studies SPI scores vary by Content Standard and by grade. For example, in Grade 4, the mean p-value ranges from 0.79 to 0.84 and mean SPI ranges from 79.30 to 83.73. The mean SPI score is highest in Standard B and lowest in Standard D. In Standard B, the SPI mean score of 83.73 and its standard deviation of 14.13 imply that if Grade 4 students were to take a test of 100 similar Social Studies items, their mean score would be 83.73, and the standard deviation of their scores would be 14.13. If Grade 4 students were to take a test of 100 similar items in Standard D, their mean score would be 79.30, and the standard deviation of their scores would be 12.38. In other words, the scores for the standard with the lowest mean p-value and lowest mean SPI scores are not very different than the scores for the standard with the highest values for p-value and SPI. Mean p-value and SPI scores tend within a small range in Grade 4. For Grade 7, Standard E is a uniquely low. The other scores span a smaller (and higher) range of values. In Grade 10, the mean p-value and SPI (50.41) for Standard C is uniquely low. SPI for the other Standards range from 59.82 to 64.61.

## **Science**

As indicated in Table 9-17, SPI scores in Science vary by both grade and Content Standard. For example, within Grade 4, mean SPI ranges from 60.23 to 86.92. Looking at Standard A then, if Grade 4 students were to take a test of 100 similar items, their mean score would be 86.92 and the standard deviation of their scores would be 15.37. At the same time, if Grade 4 students were to take a test of 100 similar items in Standard B, their mean score would be 60.23, and the standard deviation of their scores would be 18.89. The score for Standard B then would be markedly lower than the score for Standard A. Overall then, there is a wide range of mean p-values and SPI scores for Grade 4. Grade 8 also shows a wide range of values for p-value and for SPI. Here however, D is on the low end and H is at the high point. Grade 10 shows two levels of mean p-value and SPI. Standards A, D, E, F, and H are on the lower end (with D as uniquely low) and Standards B, C, and G are at a higher level, within a small range.

## Part 10: Reliability and Validity

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Part 10 of the Technical Report provides evidence supporting the reliability and validity of the 2005 Fall WKCE-CRT. Note that field test items were not used for Reliability and Validity evidence.

### 10.1 Reliability

Reliability can be defined as the consistency of an assessment when the testing procedure is repeated with the same testing target group. That is, a reliable assessment is a one which can produce stable scores when the same testing group of students takes the same test repeatedly without any fatigue or memory for the test. Reliability of the 2005 Fall WKCE-CRT assessments was estimated in three ways:

- 1) Internal consistency was assessed for all MC items and CR items.
- 2) Classification consistency and accuracy were estimated for test forms.
- 3) Inter-rater agreement (see Part 6.4) was assessed for all CR items and Writing prompts.
- 4) Standard Errors of Measurement (SEM) based on IRT was assessed (see Part 8.3.4: Scoring and Standard Error of Measurement).

#### 10.1.1 Measures of Internal Consistency and SEM

Cronbach's alpha is a frequently used measure of internal consistency for tests consisting of MC and CR items. Cronbach's alpha is computed as

$$\hat{\alpha} = \frac{k}{k-1} \left( 1 - \frac{\sum \sigma_i^2}{\sigma_x^2} \right),$$

where  $k$  = number of items,  $\sigma_x^2$  = the total score variance, and  $\sigma_i^2$  = the variance of item  $i$  (Crocker & Algina, 1986). Then, standard error of measurement (SEM) is defined as follows:

$$SEM = SD \sqrt{1 - \text{reliability}},$$

where SD represents standard deviation and reliability is calculated using alpha..

Table 10-1 shows Cronbach's alpha and standard error of measurement (SEM) for all students and the 5 NCLB subgroups. For the total group, reliability ranges from 0.90 to 0.93 across grades for Reading, from 0.91 to 0.93 for Mathematics, from 0.83 to 0.85 for Language Arts, from 0.87 to 0.93 for Social Studies, and from 0.84 to 0.92 for Science. If we consider .90 as a conservative criterion for acceptable reliability, Language Arts Grade 4 (0.83), Grade 8 (0.84), and Grade 10 (0.85), as well as Social Studies Grade 4 (0.87), and Science Grades 4

(0.84) and 8 (0.86) do not meet the criterion. Note that the number of items (or score points) has a close relationship with reliability. From Table 7-9, it can be found that the tests, whose reliability is lower than the criterion, consist of relatively small maximum score points. For ELP, the Proficient group shows a little higher reliability than Not Proficient group across all contents and grades. For the other 4 groups, no practically difference between groups was found. Table 10-2 shows the SEM for the total group and the 5 NCLB subgroups. For grades 3 through 8, Reading and Mathematics produce a larger SEM than the other two contents. SEM tends to increase as the number of items (or score points) increases because, in general, the standard deviation is large for a test with a large number of items or score points. For ELP, the Proficient group generally shows a slightly smaller SEM than the Not Proficient group across contents and grades. For the other 4 groups, no significant difference between groups was found. Table 10-3 shows the reliability by Content Standard for the total group. The last column presents the reliability for the total test for the total group. It is clear that the reliability by Content Standards is lower than that for the total test. This low reliability is one reason why the information about the Content Standards should be used for low stakes purposes only. Reliability for Science Grade 4 Content Standard G was the lowest value, at 0.12. It may be difficult to use this score for the Content Standard G for any purpose. Table 10-4 shows SEM for Content Standard for the total group. These SEMs are smaller compared to those for the total test because of the small number of items for each Content Standard.

### 10.1.2 Classification Consistency and Accuracy

One of the cornerstones of the NCLB Act (2002) is the measurement of Adequate Yearly Progress (AYP) of states with respect to the percentage of students at or above the academic performance standard established by states. Because of heavy emphasis on moving all students at or above the “Proficient” category by year 2014, a psychometric property of particular interest is how consistently and accurately assessment instruments can classify students into performance categories.

Conceptually, classification consistency is defined as the extent to which the classifications of students agree on the basis of two independent administrations of the test, or one administration of two parallel test forms. However, it is difficult to obtain data from repeated administrations of the same form because of cost, time, and students’ familiarity of tests across administrations. Also, it is difficult to construct two psychometrically parallel forms. Therefore, a common practice is to estimate classification consistency from a single administration. When a method to estimate classification consistency is applied, a contingency table of  $(H+1) \times (H+1)$  can be constructed, where H is the number of cut scores. For example, with three cut scores, a  $4 \times 4$  contingency table can be built as follows (see Table a).

It is common to report two indices of classification consistency, the classification agreement P and coefficient kappa. Hambleton and Novick (1973) proposed P as a measure of classification consistency, where P is defined as sum of diagonal values of the contingency table:

$$P = P_{11} + P_{22} + P_{33} + P_{44}.$$

Table a  
Contingency Table with 3 Cut Scores

	Level 1	Level 2	Level 3	Level 4	Sum
Level 1	P <sub>11</sub>	P <sub>21</sub>	P <sub>31</sub>	P <sub>41</sub>	P <sub>.1</sub>
Level 2	P <sub>12</sub>	P <sub>22</sub>	P <sub>32</sub>	P <sub>42</sub>	P <sub>.2</sub>
Level 3	P <sub>13</sub>	P <sub>23</sub>	P <sub>33</sub>	P <sub>43</sub>	P <sub>.3</sub>
Level 4	P <sub>14</sub>	P <sub>24</sub>	P <sub>34</sub>	P <sub>44</sub>	P <sub>.4</sub>
Sum	P <sub>1.</sub>	P <sub>2.</sub>	P <sub>3.</sub>	P <sub>4.</sub>	1.0

To reflect statistical chance agreement, Swaminathan, Hambleton, and Algina (1974) suggest using Cohen's kappa (1960):

$$\text{kappa} = \frac{P - P_c}{1 - P_c},$$

where  $P_c$  is the chance probability of a consistent classification under the two complete random assignment. This probability  $P_c$  is the sum of the probabilities obtained by multiplying the marginal probability of the first administration and the corresponding marginal probability of the second administration:

$$P_c = (P_{1.} \times P_{.1}) + (P_{2.} \times P_{.2}) + (P_{3.} \times P_{.3}) + (P_{4.} \times P_{.4}).$$

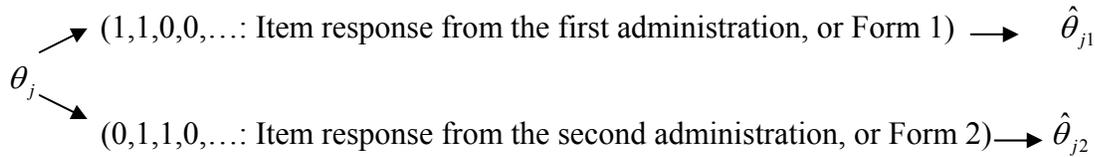
Classification accuracy is defined as the extent to which the actual classifications of test takers agree with those that would be made on the basis of their true scores (Livingston & Lewis, 1995). That is, classification consistency refers to the agreement between two observed scores, while classification accuracy refers to the agreement between the observed score and the true score. It is common to estimate classification accuracy by assuming the psychometric model to find true scores corresponding to observed scores.

### **Kolen and Kim's method for pattern scoring**

When item response theory (IRT) is applied to score examinees' responses, two types of scoring are available: number-correct scoring and pattern scoring. WKCE-CRT is an example of a program that has applied pattern scoring. Many methods of estimating the consistency and accuracy of classification based on number-correct scoring have been suggested. However, there have been relatively few studies dealing with pattern scoring based on IRT. Kolen and Kim (2004) suggested a simple procedure for pattern scoring (KKM) based on IRT and simulation of item responses. KKM requires a simulation of item responses as follows:

Step 1: Obtain item parameters ( $\mathbf{I}$ ) and ability distribution weight ( $\hat{g}(\theta)$ ) at each quadrature point.

Step 2: Compute two ability estimates at each quadrature point. At a given quadrature point  $\theta_j$ , generate two sets of item responses using the item parameters from a test form, assuming that the same test form was administered twice to an examinee with the true ability  $\theta_j$ .



If two parallel (or alternative) forms, e.g., Form 1 and Form 2, are available, the two response patterns can be generated based on the item parameters from the two forms.

Step 3: Construct a classification matrix at each quadrature point. Determine the joint event for the cells in Table b using the two ability estimates obtained from Step 2.

Table b  
Classification Table for One Cut Point ( $C_1$ )<sup>1</sup>

	First administration or Form 1		
	$\hat{\theta}_{j1} \geq C_1$	$\hat{\theta}_{j1} < C_1$	
$\hat{\theta}_{j2} \geq C_1$			Second administration, or Form 2
$\hat{\theta}_{j2} < C_1$			

Step 4: Repeat Steps 2 and 3  $R$  times and get average values over  $R$  replications.  $R$  should be a large number, e.g., 500, to obtain stable results.

Step 5: Multiply distribution weight ( $\hat{g}(\theta)$ ) by average values in Step 4 for each quadrature point, and sum across all quadrature points. From this, a final contingency table and classification consistency indices, such as kappa, can be computed.

Because examinees' abilities are estimated at each quadrature point, this quadrature point can be considered the true score. Therefore, classification accuracy is computed using both examinees' estimated abilities (observed scores) and quadrature point (true score).

As can be seen in Table 10-5 classification consistency and accuracy for Reading Grade 3 there are two tables. The first table is a contingency table with all three cut scores. This table was prepared based on the KKM procedure. The rows represent the first administration of an assessment, and the columns represent the second administration of the same assessment to the same students. As mentioned above in the procedure by Kolen and Kim, the score distributions

<sup>1</sup> This table is constructed for each quadrature point and replication. One, and only one, cell will have a value of 1 and zeros elsewhere.

for the first administration and the second administration are estimated using simulation. So, the value in each cell represents the probability of belonging to certain levels of the first administration and the second administration. For example, 0.03 represents the probability of belonging to “Minimal Performance” in the both first and second administrations. The 0.06 represents the probability of belonging to “Proficient” in the first administration and “Advanced” in the second administration. “Sum” is obtained simply by adding the four row values or the four column values.

The second table shows indices for classification consistency and classification accuracy. Because there are three cuts for 2005 WKCE-CRT, four performance levels exist. The values in “All cuts” were obtained by applying all three cuts together. In Table 10-5 for Reading Grade 3, classification agreement (P) is 0.80, chance probability is 0.35, kappa is 0.69, and classification accuracy is 0.84, when all three cuts were used for computation. The values for cut 1 were obtained by applying only the first cut score (See Part 11.1 for cut scores). Therefore, there are two levels whenever only one cut is applied. It is clear that the values for P, kappa, and classification accuracy with all three cuts are smaller than those with only one cut. With many cut scores, the probability of assigning students to the incorrect performance level will increase. Because the Proficient cut score is a criterion for the AYP report, the reliability values for the second cut need to be considered. In Table 10-5, P was 0.94, k was 0.80, and classification accuracy was 0.95. This interpretation of the table values is the same for Table 10-6 to Table 10-27.

When only the proficient cut score was applied, for Reading and Mathematics, P was equal or larger than .90, and kappa was equal to or larger than .75. For Language Arts, the lowest P was 0.83 and the lowest kappa was 0.64. For Social Studies, the lowest P was 0.92 and the lowest kappa was 0.74. For Science, the lowest P was 0.90 and the lowest kappa was 0.71. If the criterion value of .90 is applied for P, Language Arts only was lower than the criterion, but still the value of Language Arts was larger than .80. Like inter-rater reliability, Landis and Koch (1977) suggest that values of Kappa greater than .75 indicate “excellent agreement”, values between .40 and .74 represent “good agreement” beyond chance, and values below .40 denote “poor agreement”. According to Landis and Koch’s criteria for kappa, all tests for Reading and Mathematics showed “excellent agreement.” For the remaining three contents, no test showed poor agreement for kappa.

Figures 10-1 through 10-5 show P, kappa, and classification accuracy (or decision accuracy), when students were classified based on the total three cuts. These values are also found in the tables. For Reading and Mathematics, values of classification consistency P were over .70, and the values of k were over .60 across all grades. The values for Language Arts were the smallest among the five contents. Language Arts Grade 10 produced the smallest values among all contents and grades. Unlike other contents, a Writing prompt of 9 points contributed to Language Arts Grade 10 scores, whose total score points is 39. The impact of this Writing prompt may need to be examined. The values of k for Science grades 4 and 8 were lower than .60. Based on Landis and Koch’ criteria, all test forms showed “good agreement.”

The Standard Error of Measurement (SEM) for cut scores can be found in Part 8: Scoring and Standard Error of Measurement. The scoring tables (8-2 to 8-25) show the SEM around all

scores, including cut scores. Also, the SEM for each grade and content area is plotted from Figure 8-9 to 8-13, and the location of the cut scores is indicated in each plot.

## **10.2 Validity**

The Standards for Educational and Psychological Testing (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999) defines validity as “the degree to which evidence and theory support the interpretations of test scores entailed by proposed users of tests. Validity is, therefore, the most fundamental consideration in developing and evaluating tests.” The purpose of test score validation is not to validate the test itself, but to validate interpretations of the test scores for particular purposes or uses. Test score validation is not a quantifiable property but an ongoing process, beginning at initial conceptualization and continuing throughout the entire assessment process. Every aspect of an assessment provides evidence in support of its validity (or evidence to the contrary), including design, content specifications, item development, psychometric quality, and inferences made from the results. The Fall 2005 WKCE-CRT tests were designed and developed to provide fair and accurate ability scores that support appropriate, meaningful, and useful educational decisions.

In addition to the evidence provided in Part 3 (Test Design), Part 4 (Test Development), Part 5 (Test Administration), Part 6 (Scoring), Part 7.4 (Classical Item Analysis), Part 8 (Calibration and Scaling), and Reliability in Part 10.1 (Reliability) additional evidence to support the validity of the 2005 WKCE-CRT is provided by the following:

- Identification of any items that displayed differential item functioning for subgroups of 5 NCLB subgroups was performed using three DIF indexes, Mantel-Haenszel (MH), SMD, and Linn & Harnisch (L-H).
- Two types of evidences for construct validity were produced. First, correlations between content standards, were estimated. Second, factor analysis was conducted using students’ responses for operational items.
- To check test integrity, erasure analysis was performed.

### **10.2.1 Differential Item Functioning**

The 2005 WKCE-CRT tests were developed using procedures to minimize item and test bias. Expertise in this area is not, however, a substitute for statistical analyses of the items. Thus, an empirical differential item functioning (DIF) approach was used to examine potential item bias. DIF studies include systematic item analyses to determine if examinees with the same underlying level of ability have the same probability of correctly responding to the item. Items identified with DIF are examined to determine if item performance differences between identifiable subgroups of the population are due to extraneous or construct irrelevant information making the items unfairly difficult for one of the subgroups.

In 2005 WKCE-CRT, DIF analysis were conducted for the 5 NCLB groups: gender (male and female), ethnicity (White, African American, Hispanic, Asian, American Indian), ELP (Proficient, and Not Proficient), disability (Disabled, Not Disabled), socioeconomic status (Economically Disadvantaged, Not Economically Disadvantaged).

Three kinds of DIF statistics were used in this study, Mantel-Haenszel, standardized mean difference, and Linn-Harnisch. An item was flagged when the item is flagged when at least two out of three indexes cross their respective thresholds.

### (1) Linn-Harnisch (L-H)

Because WKCE-CRT was built using item response theory (IRT), the appropriate procedure for examining item bias is one that reflects the IRT model. Several IRT-based procedures are available, such as a procedure that tests the equality of item parameters across groups (Lord, 1980), or any of the procedures that assess the differences in area between the item characteristic curves (e.g., Linn, Levine, Hastings, & Wardrop, 1981). However, these procedures require a minimum of 800 to 1000 cases in each group to make reliable comparisons. A procedure that still relies on the predictions of the three-parameter model but does not require as many cases has been suggested by Linn and Harnisch (1981).

In the case of gender DIF analyses, item parameters (e.g., discrimination, location, and guessing) and the scale score ( $\theta$ ) for each examinee were estimated using the three-parameter logistic model for MC items or the two-parameter partial credit model for CR items. Note that the item parameters were based on data from the total sample of examinees, which includes all subgroups. The sample was then divided into male and female gender subgroups. The members in each group were sorted into ten equal score categories (deciles) based upon their location on the scale score ( $\theta$ ) scale. The expected proportion correct for each group based on the model prediction was compared to the observed (actual) proportion correct obtained by the group. The proportion of people in decile  $g$  who are expected to answer item  $i$  correctly is:

$$P_{ig} = \frac{1}{n_g} \sum_{j \in g} P_{ij},$$

where  $n_g$  is the number of examinees in decile  $g$ . To compute the proportion of people expected to answer item  $i$  correctly (over all deciles) for a specific subgroup (e.g., African American), the following statistic was computed:

$$P_{i.} = \frac{\sum_{g=1}^{10} n_g P_{ig}}{\sum_{g=1}^{10} n_g}.$$

The corresponding observed proportion correct for examinees in a decile ( $O_{ig}$ ) is the number of examinees in decile  $g$  who answered item  $i$  correctly divided by the number of people in the decile ( $n_g$ ). That is,

$$O_{ig} = \frac{\sum_{j \in g} u_{ij}}{n_g},$$

where  $u_{ij}$  is the dichotomous score for item  $i$  for examinee  $j$ . The corresponding formula to compute the observed proportion answering each item correctly (over all deciles) for a subgroup is given by:

$$O_{i\cdot} = \frac{\sum_{g=1}^{10} n_g O_{ig}}{\sum_{g=1}^{10} n_g}.$$

After the values are calculated for these variables, the difference between the subgroup's observed proportion correct and expected proportion correct can be computed. The decile group difference ( $D_{ig}$ ) for observed and expected proportion correctly answering item  $i$  in decile  $g$  is:

$$D_{ig} = O_{ig} - P_{ig},$$

and the overall group difference ( $D_i$ ) between observed and expected proportion correct for item  $i$  in the complete group (over all deciles) is:

$$D_i = O_{i\cdot} - P_{i\cdot}.$$

These indices are indicators of the degree to which subgroup members performed better or worse than expected on each item, based on the parameter estimates from all subgroups. Differences for decile groups provide an index for each of the ten regions on the scale score ( $\theta$ ) scale. The decile group difference ( $D_{ig}$ ) can be either positive or negative. Use of the decile group differences as well as the overall group difference allows one to detect items that give a large positive difference in one range of  $\theta$  and a large negative difference in another range of  $\theta$ , yet have a small overall difference.

DIF is defined in terms of the decile group and total target subsample differences, the  $D_{i-}$  (sum of the negative group differences) and  $D_{i+}$  (sum of the positive group differences) values, and the corresponding standardized difference ( $Z_i$ ) for the subsample (see Linn & Harnisch, 1981, p. 112). Items for which  $|D_i| \geq 0.10$  and  $|Z_i| \geq 2.58$  are flagged for DIF. If  $D_i$  is positive, the item is biased in favor of the target subsample. If  $D_i$  is negative, the item is biased against the target subsample.

## (2) Mantel-Haenszel (M-H)

The Mantel-Haenszel statistic is computed as (Zwick, Donoghue, & Grima, 1993):

$$\text{Mantel } \chi^2 = \frac{\left( \sum_k F_k - \sum_k E(F_k) \right)^2}{\sum_k \text{Var}(F_k)},$$

where  $F_k$  is the sum of scores for the focal group at the  $k^{\text{th}}$  level of the matching variable. Note that the Mantel-Haenszel statistic is sensitive to  $N$  such that larger sample sizes increase the value of chi square.

In addition to the Mantel-Haenszel chi-square statistic, the delta statistic (MH-D DIF) was computed for all items. Educational Testing Service (ETS) first developed the MH-D DIF statistic. To compute delta, alpha (the odds ratio) is first computed as:

$$\alpha_{MH} = \frac{\sum_{k=1}^K N_{r1k} N_{f0k} / N_k}{\sum_{k=1}^K N_{f1k} N_{r0k} / N_k},$$

where  $N_{r1k}$  is the number of correct responses in the reference group at ability level  $k$ ,  $N_{f0k}$  is the number of incorrect responses in the focal group at ability level  $k$ ,  $N_k$  is the total number of responses,  $N_{f1k}$  is the number of correct responses in the focal group at ability level  $k$ , and  $N_{r0k}$  is the number of incorrect responses in the reference group at ability level  $k$ . MH-D DIF is then computed as:

$$\text{MH-D DIF} = -2.35 \ln(\alpha_{MH}).$$

Positive values of MH-D DIF indicate items that favor the focal group, whereas negative values of MH-D DIF indicate items that favor the reference group.

An item was flagged based on the delta statistics. An item is flagged when:

$$|MHD - DIF| \geq 1.5$$

Note that this procedure is applied to MC items only.

## (3) Standardized Mean Difference (SMD)

The SMD is an effect size index of DIF which is relatively easy to interpret (Zwick et al., 1993). The SMD compares the means of the reference and focus groups, adjusting for the distribution of reference and focal group members on the conditioning variable (Zwick et al., 1993). SMD is computed as (Zwick et al., 1993):

$$ES\ SMD = p_{fk} \left( \sum_k m_{Fk} - \sum_k m_{Rk} \right) ,$$

where  $p_{fk}$  = proportion of the focal group members at the  $k$ th level of the matching variable,  $m_{Fk} = 1/N_{F1k}$  and  $m_{Rk} = 1/N_{R1k}$ . A negative SMD value indicates an item on which the focal group has a lower mean than the reference group. A positive SMD value indicates an item on which the reference group has a lower mean than the focal group. An item is flagged when:

$$| ES - SMD | \geq 0.25 .$$

## Results

As indicated, an item flagged for differential item functioning (DIF) is more difficult for a particular group of students than would be expected based on their total test scores.

As indicated, we conducted DIF analyses by gender, ethnicity, English Language Proficiency (ELP), Disability status, and socio-economic status. For gender, the reference group is male, meaning that the results for female students are considered with reference to male student performance. For ethnicity, the reference group is white. Here, this means that the performance of other ethnic groups is considered with reference to the performance of white students. No items are flagged for White students. The DIF analysis for ELP compares item-functioning among students “Proficient” and “Not Proficient” (the focal group) in English. The DIF analysis for “Disability” uses the “Not Disabled” student population as a reference group to assess DIF within the Disabled student population. The DIF analysis investigating item-functioning among “Economically Disadvantaged” students (the focal group) and “Not Economically Disadvantaged” students yielded no flags.

Tables 10-28 to 10-34 show items flagged based on the criteria described above. Overall, gender and disability were flagged much less often than ethnicity and ELP. In both cases, most items flagged were CR items and notably many were FT items. Within gender not all (22) items flagged disadvantaged female students. Many items (15) were flagged because they disadvantaged male students, and some items were flagged because they favored female (5) students. In Disability some items were flagged because they favored Disabled students. The DIF table for Disability shows 17 items flagged for DIF. The tendency however, is toward disadvantage rather than favor. Thirteen (13) of 17 items show disadvantage, and 4 show favor.

The DIF analyses for ethnicity also showed that flagged items were often FT items. For African-American students, 13 items were flagged, and for Hispanic students, 15 items were flagged. In both cases the flags tended to indicate disadvantage or bias against rather than favor. Notably the DIF analysis showed far more flags for Asian students. Seventy-five (75) items were flagged for DIF among the Asian student population, and here as well the tendency was toward disadvantage rather than favor. Fifty-three (53) out of 75 items indicated disadvantage, and 22

indicated favor. Among American Indian students, 48 items were flagged and were fairly evenly distributed between disadvantage and favor. The DIF analysis showed that all flagged items for African-American students, and Hispanic students were MC items. One (1) of 48 flagged items for American Indian students was a CR item, but 12 of 75 flagged items for Asian students were CR items.

In the DIF tables for ELP, 48 items were flagged as disadvantaging students Not Proficient in English. Of all items (75) flagged for English proficiency, approximately one in five were CR items and approximately 20% of flagged items were FT items.

### **10.2.2 Construct Validity**

To establish meaningfulness of a test form for a given content, the test should have appropriate correlation coefficients within the Content Standards. If the correlation coefficient is very high between two Content Standards, it indicates that the two Standards measure the same trait, while the low correlation coefficients indicates two Standards measure traits which are a little different. In general, the size of the correlation coefficient is influenced by the length of test, the number of items, or score points. Tables 10-35 to 10-39 show these correlations between Content Standards.

Across all contents, correlations within Standards were generally highest in Reading which range from a low of 0.58 to a high of 0.80, more frequently they range from 0.70 to 0.79. This may be described as a moderate correlation among Standards. The correlations for Standard 4 tend to be lower than for other Standards, but not always. This means that Standard 4 is slightly different than the other standards for Reading. The correlation for 1-4 in Grade 3 stands out as uniquely low. Correlation coefficients in Mathematics tended to be lower than Reading, indicating that Standards A-E for Mathematics were more unique than the set of Standards in Reading. Correlations among Standards for Mathematics ranged from 0.51 to 0.73, and more frequently ranged from approximately 0.55 to approximately 0.65. Grade 10 Standards showed a higher degree of correlation, from 0.62 to 0.73. Language Arts had a small number of Content Standards and correlations ranged from 0.43 to 0.70, and the D-F correlation is excluded, the range is 0.54 to 0.70. Correlations tended to be stronger in higher grades in both Social Studies and Science. In the case of Social Studies, for example, setting aside Standard E, the range of correlation coefficients in Grade 4 is lower than in either Grade 8 or Grade 10. The range for Grade 4 is 0.45 to 0.61, Grade 8 is 0.51 to 0.71, and Grade 10 continues the upward trend at 0.66 to 0.75. The same grade-by-grade pattern occurred in Science, where Grade 4 correlations start out exceptionally low, ranging from 0.13 to 0.53. Within Grade 4, the Standard B correlations were lower than the correlations of other Standards. In Grade 8 the range of correlations among Standards increases to 0.39 to 0.50. Finally, in Grade 10 the range is from 0.46 to 0.65.

Construct validity tells how well tests measure the skills or constructs they intend to measure, and it is the central concept underlying the 2005 WKCE-CRT assessment validation process. Tests designed to measure similar skills or constructs should correlate more highly than tests designed to measure distinctly different skills or constructs. Achievement tests are typically

designed to measure the student proficiency on a single continuum (or unidimensional construct). Although a well-designed achievement test might encompass several sub-content areas, the test as a whole should coherently assess a single construct, e.g., mathematics achievement. For a test to be scalable and adequately analyzed using a unidimensional Item Response Theory (IRT) model, like what is used for WKCE, the test should be essentially unidimensional. Factor analysis is a statistical technique commonly used to identify the latent constructs underlying test items. Table 10-40 displays a summary of factor analysis results indicating the presence of a single construct underlying the test. Previous research shows that the examination of first two Eigenvalues can be useful in determining the existence of a dominant factor. The ratios of the first two Eigenvalues range from 2.60 to 15.75. That is, the variance of the first factor is approximately 3 to 16 times larger than the variance of the second largest factor. In Reading, ratios ranged from 9.19 to 14.63. Some Mathematics ratios were smaller; there the range was 2.60 to 11.95. Language Arts ratios ranged from 8.40 to 12.59, Social Studies from 9.34 to 12.65, and Science from 7.54 to 15.75. Within the context of the strength of the IRT as a unidimensional model, in general, these ratios can be understood as indicating that the content assessments in the WKCE-CRT are sufficiently unidimensional.

### **10.2.3 Eraser Analysis**

Research used a special program to analyze the data from the responses of multiple choice items provided by Scoring. A high rate of erasures, in conjunction with high performance, may identify situations in which test integrity needs to be examined further. Erasure analysis was performed separately by grade and content area. Schools where the answer sheets of five or more students contained five or more erasure marks were identified. If at least 10% of the students in a school were flagged for erasure, the school is flagged. The list of flagged schools will be released to DPI.

## Part 11: Linking Study and Descriptor Writing

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### 11.1 Linking 2005 WKCE-CRT to 2004 WKCE

Cut scores were established for the Wisconsin Knowledge and Concepts Examination (WKCE) in 2002. These cut scores were used until the Fall 2004 WKCE. In 2005, the Wisconsin Department of Public Instruction augmented the testing program to create the WKCE-CRT, assessing students in Grades 3–8 and 10. Because the Fall 2005 WKCE-CRT is a criterion-reference test and the 2004 WKCE is a norm-referenced test, the 2005 WKCE-CRT scale was different than the 2004 WKCE scale, for all contents. Therefore, a linking study, which links the 2005 WKCE-CRT to the 2004 WKCE, was necessary. Note that the 2004 WKCE was administered only on grades 4, 8, and 10, for all contents: Reading, Mathematics, Language Arts, Social Studies, and Science. For the 2005, the WKCE-CRT expanded the Reading and Mathematics assessments to include grades 3, 5, 6, and 7.

A study comparing three different linking procedures to link the 2004 WKCE and the 2005 WKCE-CRT was performed. The results and implications were delivered to DPI (see the two papers, “A Report for Linking 2004 WKCE Operational Test to 2005 WKCE-CRT Operational Test” and “Discussion for Implication of Three Linking Studies”). After two Technical Advisory Council (TAC) members, DPI, and CTB discussed the results of the study, the procedure based on the assumption that there is flat growth between the 2004 WKCE and the 2005 WKCE-CRT for grades 4, 8, and 10 was accepted.

After reviewing different options for interpolating and extrapolating the cut scores for the 2005 WKCE-CRT assessments in Reading and Mathematics, the Wisconsin Department of Public Instruction (DPI) opted to use a method of linear interpolation, based on impact data. In the option chosen, Reading and Mathematics cut scores for grades 3, 5, 6, and 7 are to be interpolated/extrapolated using the cut scores for grades 4, 8, and 10.

To find cut scores for Grades 3, 5, 6, and 7, the *impact data* for Grades 4 and 8 was first calculated. Impact data indicates the percentage of students classified in each achievement level. The cut scores for Grades 4, 8, and 10 were derived from the no-growth model, which preserved the existing Grade 4, 8, and 10 cut scores. Linear interpolation was then used to find the desired impact data for Grades 5, 6, and 7, based on the previously calculated impact data for Grades 4 and 8. Linear extrapolation was used to find the desired impact data for Grade 3 by extending the trend. The cut scores which most closely gave the desired impact data were then found, as described below.

There exists no one preferred method by which to identify cut scores using impact data, as previously described. Rather, the method used represents a policy decision by DPI. To find cut scores for a given grade and content area, the desired percent of students in an achievement level was first found through either linear interpolation or extrapolation. For each achievement level, if a cut score existed which yielded exactly this impact data, the cut score was adopted. If no cut score gave exactly this percentage, then the highest cut score which yielded the desired or next greater percentage point was found.

For example, assume that 30.0% of students should be classified as *Proficient* or above in a sample grade and content area. If a cut score was available which classified exactly 30.0% of students as *Proficient* or above, then it was adopted. However, if exactly 30.0% was not possible because of slight variations in the scoring table, then the lowest cut score which yielded at least 30.0% was adopted. This method ensures that the percent of students classified as *Proficient* and above will not decline simply as an artifact of the interpolation process.

The WKCE-CRT assessments for Reading and Mathematics are on a vertical scale, and it is important that the cut scores for a given achievement level rise from grade to grade. To promote this type of *vertical moderation*, the cut score for *Advanced* in Grade 10 Reading was raised from 538 to 555, and the cut score for *Basic* in Grade 3 was lowered from 396 to 394.

Table 11-1 shows the cut scores for Grades 3 – 8 and 10 for Reading, along with the impact data associated with these cut scores. Table 11-2 shows the cut scores and associated impact data for Grades 3 – 8 and 10 for Mathematics. Tables 11-3, 11-4, and 11-5 present the cut scores and associated impact data for Grades 4, 8, and 10 for Language Arts, Social Studies, and Science. Figures 11-1 through 11-10 present the cut scores and percentages for all performance levels based on impact data across all grades and content areas.

Crosswalk tables, which show the relationship between the 2004 WKCE scale score and the 2005 WKCE-CRT scale score, for each percentile, were also generated for all contents and grades. These are tables 11-6 to 11-20. The first column, “Fall 2004 WKCE” and the third column, “Fall 2005 WKCE-CRT” provide the scale scores corresponding to each percentile in the second column.

## **11.2 Descriptor Writing**

Committees of Wisconsin educators were convened June 20–22, 2006 in order to develop performance level descriptors to accompany the performance standards. Description writing provides plain-language description of the content that students must know at each grade level to be Proficient. This information may be used by teachers and the public to fully understand the performance levels on the WKCE-CRT. Description Writing allows for teacher input regarding performance-level descriptors.

In the description writing workshop, participants were asked to record the knowledge, skills, and abilities that are required of students in each grade to be Basic, Proficient, and Advanced. To inform their descriptions, participants reviewed ordered item booklets and item maps and identified the knowledge and skills required to answer each item correctly and why each item is more difficult than the preceding item. Participants were shown the statistically set cut scores and then wrote descriptors for each grade/content area.

Prior to the workshop, CTB and DPI discussed the final format of the descriptors. DPI requested three formats:

### *Brief Narrative Description*

These one-paragraph descriptions of each proficiency level may be most useful for those who simply want an overview of the knowledge and skills students typically demonstrate at each level.

### *Detailed Narrative Description*

These descriptions contain more detail but are still structured in a way that makes the information easy to grasp.

### *Elements of Proficiency Levels*

The elements are descriptions of discrete knowledge and skills students typically demonstrate at each proficiency level. They complement the narratives by enumerating specific examples of knowledge and skills described in the narratives.

The morning of the first day, CTB presented a PowerPoint presentation which reviewed the purpose of the descriptor writing workshop, how the cut scores for each performance category were established, an overview of the specific tasks to be completed, the characteristics of well-written descriptors, and how the descriptors should reflect the progression of abilities within and across grade levels.

The educators were assigned to content and grade level groups with 4–6 participants per grade. Two CTB facilitators were assigned to each content area group. The CTB facilitators guided the committees through a series of tasks designed to build familiarity with the test and the content frameworks and then to draft and revise descriptors. Because there were not items for every performance level for each content standard, especially for the Minimal Performance and Basic categories, participants were instructed to use professional judgment to augment the information provided by the test items in order to develop a more complete set of descriptors. Specifically, the sequence of tasks was:

- take the fall 2005 test
- review the ordered item book and describe each item using the item map
- review the cut scores and identify the cut score location in the ordered item book
- review the existing performance level descriptors for grades 4, 8, 10 (established in 2003)
- organize ordered items by content objective and performance level
- draft descriptors by content objective and performance level
- review descriptors for each content objective within the grade level group
- review descriptors by content objective in cross-grade level groups
- revise descriptors by content objective to reflect level to level and grade-to-grade progression
- draft multi-paragraph narrative descriptors from the bulleted list of descriptors by objective
- review and revise narratives across performance levels within a grade

Following the meeting, CTB content specialists reviewed the draft descriptors, checking the accuracy of the description written for each item by checking it against the item in the ordered

item book. The CTB content specialist also edited the descriptors for consistency in style and to ensure that the descriptors appropriately described the increasing level of knowledge and skills across performance levels within a grade and across the grades. The revised descriptors were submitted to DPI for review. DPI distributed the draft descriptors to the table leaders for their review, and a conference call was conducted with DPI, CTB, and the table leaders in attendance. The conference calls were helpful for providing feedback on both general and specific issues. The CTB content specialists then revised the bulleted descriptors and the multi-paragraph narratives based on the feedback and submitted them to DPI for a second review. DPI reviewed the descriptors and provided feedback, which focused primarily on the narrative descriptors. CTB did a final edit of the bulleted and multi-paragraph narrative and then wrote the single-paragraph, condensed narrative. DPI then completed the formatting of the descriptors to prepare them for presentation to the superintendent's cabinet prior to release to the public.

## Part 12: Summary and Recommendation

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Key findings of the 2005 administration are presented in the body of this report. Some items of a more technical nature stand out as key recommendations and summary statements that should be considered in subsequent administrations. We present those items here.

### Research

- 1) The frequency distributions of CR items and Writing prompts should be carefully monitored during 2006-2007 scoring process. As seen in the Grade 4 Writing prompt, there were no students who got the full score for their response. For Grade 8 and 10 there were a very small number of students who got full scores for Writing prompts. The data may indicate a deficiency in the Writing Prompts themselves or the scoring rubrics. DPI and CTB are considering changes to the scoring rubrics as a possible means of addressing this matter. Further study may be required to determine whether this is a deficiency or what else might be done to increase the meaningfulness of the Writing Prompt results for Grades 4, 8 and 10.
- 2) The reliability for Language Arts and Science is relatively low if we consider .90 as the criterion. Reliability for Language Arts is 0.83, 0.84, 0.85 for grades 4, 8, and 10, respectively, and reliability for Science is 0.84, 0.86, and 0.92. The Language Arts and Science tests are relatively low stakes tests at the present and a reliability measure below .90 may be acceptable. For low stakes assessments, applying a criterion value of .70 may be more reasonable. Reliability for Science, on the other hand, must be more carefully considered because Science becomes a NCLB requirement content area beginning in 2007. Reliability for Science grades 4 and 8 needs to be carefully considered.
- 3) Future administrations need to expand existing investigations of validity to include predictive validity, beginning with the 2006 Technical Report. Predictive validity means that, for example, Fall 2006 WKCE-CRT Grade 4 Scores can be predicted using the Fall 2005 WKCE-CRT Grade 3 scores. Using simple regression and the same cohorts, this predictive validity can be estimated for most contents and grades. This validity demonstrates how WKCE-CRT from a previous year can predict performance in the current year. Expanding upon validity through predicative validity is a useful and feasible way to add considerable value to subsequent administrations.
- 4) The current report does not contain information for longitudinal data because 2005 WKCE-CRT and 2004 WKCE are on different scales. Also, when the two scales were linked using the equipercentile linking procedure, we assumed that there was flat growth on a statewide basis between these two years. In 2006 Technical report, using two different cohorts, such as grade 3 in 2005 and 2006 testing, a longitudinal analysis needs to be provided to assess annual yearly progress at the state level.
- 5) Scale Scores for Grade 10 Language Arts are estimated using Language Arts items and a single Writing prompt, while scale scores for grades 4 and 8 are estimated using multiple-

choice items. That is, Writing prompts for the grades 4 and 8 are not used for estimating scale scores. It may be necessary to consider applying the scoring procedure for grade 10 to both Language Arts at grades 4 and 8. Before applying the procedure to grades 4 and 8, it will be necessary to examine the impact of including the Writing prompt to some psychometrical properties. For example, investigating the impact of the prompt on classification consistency and classification accuracy of students in proficiency levels is recommended.

- 6) The lowest observed scale score (LOSS) and the highest observed scale score (HOSS) for all grades and contents need to be carefully tracked. The LOSS (floor effects) in higher grades particularly needs to be monitored because the current 2005 results reported relatively many students around the LOSS.
- 7) Omit rates for all items were computed to examine the possibility of speededness in the 2005 WKCE-CRT. The main concern there is whether or not students have enough time to solve all items in a session. In this procedure, omit rates for all items were computed using the responses of all students, and the omit rates of items at the end of a session are compared to the omit rates of the other items.  
In future years, omit rates need to be examined by performance level, and by the 5 NCLB subgroups (gender, ethnicity, ELP, disability, and SES) in order to fully assess the possibility of speededness among all possible subgroups. Also, the current procedure based on omit rates assumes that students would not mark any items if they do not have time to solve them. However, some students could fill in an answer sheet frantically instead of leaving the question as blank. Therefore, it is necessary to research a procedure that can handle this situation.

## Scoring

Beginning in January 2006, CTB instituted a scoring operations process for all programs that is organized into workcells which optimizes increasing efficiency and ensures accuracy through each step of the document handling and document scoring process. Each workcell, or self-contained, cross-functional team, can be assembled to provide focused, individualized processing specifically designed to meet specific contract requirements. Each workcell is equipped with the skill sets (equipment and personnel) to efficiently and accurately organize, scan, edit and prepare for document retention a group (generally defined by System or District) of student documents in an extremely efficient document flow/document management system

The workcell structure or layout is made up of the necessary processing stations (in the optimal quantities) to complete the operational processing cycle for WKCE student test documents. Within the workcell, documents are organized or staged in preparation for scanning, image-scanned using customized scanning software and high-speed image scanners, and processed through a post-scanning editing cycle running CTB's proprietary Winscore system. Once complete, documents are prepared for secure storage and entered into CTB's document retention system. Documents move directly from process to process, or sit only momentarily in

mini-queues. The result is a significantly increased rate of through-put and efficiency. Each station works together in a smoothly-functioning, self-regulating, continuously-improving cycle.

### **Publishing Recommendations**

DPI and CTB staff should examine the difficulty of reading passages and passage item sets at all grades, but especially for grades 4–6, to determine if passage sets should be reassigned to different grade levels in order to ensure that test characteristic curves will demonstrate progressive levels of difficulty across the grade levels. It is evident that the easiest grade 4 passage sets are more difficult than the easiest grade 5 passage sets. Adjustments or reassignment of passages may also be needed at grades 8 and 10.

Table 2-1  
 Reading Passage Review Results, December 2004

<b>Grade</b>	<b>Passages Reviewed</b>	<b>Use as Is</b>	<b>Use with Edits</b>	<b>Do not Use</b>
3	11	7	1	3
4	16	8	1	7
5	10	3	3	4
6	15	8	4	3
7	17	9	2	6
8	9	4	2	3
<b>Total</b>	<b>78</b>	<b>39</b>	<b>13</b>	<b>26</b>

Table 2-2  
 Reading Passage Review Results, August 2005

<b>Grade</b>	<b>Passages Reviewed</b>	<b>Use as Is</b>	<b>Use with Edits</b>	<b>Do not Use</b>
3	9	0	7	2
4	7	3	1	3
5	8	3	0	5
6	7	2	3	2
7	8	0	4	4
8	8	3	2	3
<b>Total</b>	<b>47</b>	<b>11</b>	<b>17</b>	<b>19</b>

Table 2-3  
Item Content Review Results, March 2005

<b>Grade</b>	<b>Accepted As Is</b>	<b>Accepted w/Edits</b>	<b>Rejected</b>	<b>Total Items Reviewed</b>
<b>Reading</b>				
3	15 (60%)	7 (28%)	3 (12%)	25
4	20 (57%)	15 (43%)	0	35
5	23 (55%)	15 (36%)	4 (9%)	42
6	75 (86%)	10 (11%)	2 (2%)	87
7	21 (54%)	17 (43%)	1 (3%)	39
8	15 (44%)	18 (53%)	1 (3%)	34
<b>Reading Total</b>	<b>169 (65%)</b>	<b>82 (31%)</b>	<b>11 (4%)</b>	<b>262</b>
<b>Mathematics</b>				
3	9 (17%)	40 (75%)	4 (7%)	53
4	18 (31%)	37 (65%)	1 (5%)	56
5	8(15%)	37 (72%)	1 (2%)	51
6	24 (32%)	46 (62%)	4 (5%)	74
7	6 (9%)	45 (70%)	12 (19%)	64
8	14 (18%)	49 (64%)	8 (10%)	77
<b>Mathematics Total</b>	<b>79 (21%)</b>	<b>254 (68%)</b>	<b>30 (8%)</b>	<b>375</b>
<b>Grand Total</b>	<b>248 (39%)</b>	<b>336 (53%)</b>	<b>41 (6%)</b>	<b>637</b>

Table 2-4  
Item Content Review Results, November 2005

<b>Grade</b>	<b>Accepted As Is</b>	<b>Accepted w/Edits</b>	<b>Rejected</b>	<b>Total Items Reviewed</b>
<b>Reading</b>				
3	13 (38%)	15 (44%)	6 (18%)	34
4	22 (60%)	13 (35%)	2 (5%)	37
5	9 (27%)	21 (64%)	3 (9%)	33
6	22 (60%)	13 (35%)	2 (5%)	37
7	26 (65%)	10 (25%)	4 (10%)	40
8	33 (87%)	4 (10%)	1 (3%)	38
<b>Reading Total</b>	<b>125 (57%)</b>	<b>76 (35%)</b>	<b>18 (8%)</b>	<b>219</b>
<b>Mathematics</b>				
3	1 (6%)	17 (94%)	0	18
4	4 (13.3%)	25 (83.3%)	1 (3.3%)	30
5	3(9%)	29 (91%)	0 (0%)	32
6	17 (42.5%)	23 (57.5%)	0 (0%)	40
7	13(52%)	12 (48%)	0 (0%)	25
8	7 (20%)	27 (77%)	1 (3%)	35
<b>Mathematics Total</b>	<b>45 (25%)</b>	<b>133 (74%)</b>	<b>2 (1%)</b>	<b>180</b>
<b>Science</b>				
4	40 (25%)	113 (72%)	4 (3%)	157
8	53 (34%)	100 (64%)	4 (3%)	157
10	9 (35%)	17 (65%)	0 (0%)	26
<b>Science Total</b>	<b>102 (30%)</b>	<b>230 (68%)</b>	<b>8 (2%)</b>	<b>340</b>
<b>Grand Total</b>	<b>272 (37%)</b>	<b>439 (59%)</b>	<b>28 (4%)</b>	<b>739</b>

Table 3-1

## Reading Test Blueprint: Grades 3–8, 10

\*Note: Number of score points at the subskill indicator level (e.g., 1.1, 1.2, etc.) are for SR items only; CR items provide the balance of score points.

Reporting Category	Category Title	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 10	
		% of Pts	# of Pts												
<b>1</b>	<b>Determines meaning of words or phrases in context</b>	24%	16	20%	13	19%	13	18%	12	18%	12	18%	12	18%	15
1.1	Uses context clues to determine meaning of words or phrases		8		3		7		7		7		7		
1.2	Uses knowledge of word structure to determine meaning of words		5		2		3		3		3		3		
1.3	Uses word reference materials to determine meaning of words and phrases		3		2		3		2		2		2		
<b>2</b>	<b>Understands Text</b>	29%	19	27%	18	25%	17	24%	16	24%	16	24%	16	18%	15
2.1	Demonstrates understanding of literal meaning by identifying stated information in literary text		8		8		7		6		6		6		
2.2	Demonstrates understanding of literal meaning by identifying stated information in informational text		8		8		7		6		6		6		
2.3	Demonstrates understanding of explicitly stated sequence of events in literary and informational text		3		2		3		4		4		4		
<b>3</b>	<b>Analyzes Text</b>	35%	23	40%	26	38%	26	35%	25	35%	25	35%	25	35%	30
3.1	Analyzes literary text		10		10		9		8		7		7		
3.2	Analyzes informational text.		7		9		8		7		7		7		
33	Analyzes author's use of language in literary and informational text.		3		4		3		4		5		5		
<b>4</b>	<b>Evaluates and Extends Text</b>	12%	8	13%	9	19%	13	24%	16	24%	16	24%	16	29%	24
4.1	Evaluates and extends literary text		2		2		4		5		5		5		

Table 3-1

Reading Test Blueprint: Grades 3–8, 10 Cont’d

\*Note: Number of score points at the subskill indicator level (e.g., 1.1, 1.2, etc.) are for SR items only; CR items provide the balance of score points.

Reporting Category	Category Title	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 10	
		% of Pts	# of Pts												
4.2	Evaluates and extends informational text		2		2		4		8		5		5		
4.3	Evaluates and extends author’s use of language in literary and informational text		2		2		2		3		3		3		
	Number of SR Items (max = 60)	60		60		60		60		60		60		60	
	Number of CR Items (max = 8)	2		2		3		3		3		3		8	
	<b>Total Score Points for Test</b>	<b>66</b>		<b>66</b>		<b>69</b>		<b>69</b>		<b>69</b>		<b>69</b>		<b>84</b>	

Table 3-2

## Mathematics Test Blueprint: Grades 3–8, 10

Note: Subskill score points represent SR score points only. CR item points make up the difference between total subskill points and reporting category points.

Reporting Category	Category Title	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 10	
		% of Pts	Pts/obj, SR pts/subskill												
<b>A</b>	<b>Mathematical Processes</b>	<b>15%</b>	<b>10</b>	<b>18%</b>	<b>12</b>	<b>19%</b>	<b>14</b>	<b>19%</b>	<b>14</b>	<b>19%</b>	<b>14</b>	<b>22%</b>	<b>16</b>	<b>17%</b>	<b>12</b>
Aa	Reasoning														
Ab	Communication														
Ac	Connections														
Ad	Representation														
Ae	Problem Solving														
<b>B</b>	<b>Number Operations and Relationships</b>	<b>21%</b>	<b>14</b>	<b>18%</b>	<b>13</b>	<b>19%</b>	<b>15</b>	<b>19%</b>	<b>14</b>	<b>20%</b>	<b>15</b>	<b>14%</b>	<b>10</b>	<b>10%</b>	<b>7</b>
<b>Ba</b>	<b>Number Concepts</b>		<b>6</b>		<b>5</b>		<b>6</b>		<b>6</b>		<b>7</b>		<b>6</b>		<b>5</b>
Ba1	Place Value														
Ba2	Reading, Writing, Representing Number														
Ba3	Ordering/Comparing														
Ba4	Number Theory														
Ba5	Counting/Set Concepts														
Ba6	Proportionality														
Ba7	Fraction/Decimal/Percent Equivalency														
<b>Bb</b>	<b>Number Computation</b>		<b>6</b>		<b>6</b>		<b>7</b>		<b>7</b>		<b>7</b>		<b>3</b>		<b>2</b>
Bb1	Whole Numbers														
Bb2	Fractions														
Bb3	Decimals														
Bb4	Percents														
Bb5	Irrational														
Bb6	Estimation														

Table 3-2 Cont'd

## Mathematics Test Blueprint: Grades 3–8, 10

Note: Subskill score points represent SR score points only. CR item points make up the difference between total subskill points and reporting category points.

Reporting Category	Category Title	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 10	
		% of Pts	Pts/obj, SR pts/subskill												
Bb7	Integers														
<b>C</b>	<b>Geometry</b>	<b>19%</b>	<b>13</b>	<b>16%</b>	<b>11</b>	<b>16%</b>	<b>12</b>	<b>16%</b>	<b>12</b>	<b>17%</b>	<b>13</b>	<b>14%</b>	<b>10</b>	<b>16%</b>	<b>12</b>
Ca	Describing Figures		4		3		2		2		3		2		
Cb	Spatial Relationships and Transformations		6		6		6		5		5		4		
Cc	Coordinate System		2		1		2		3		3		2		
<b>D</b>	<b>Measurement</b>	<b>15%</b>	<b>10</b>	<b>15%</b>	<b>10</b>	<b>16%</b>	<b>12</b>	<b>16%</b>	<b>12</b>	<b>14%</b>	<b>11</b>	<b>17%</b>	<b>13</b>	<b>16%</b>	<b>12</b>
Da	Measurable Attributes		3		3		4		3		3		2		
Db	Direct Measurement		5		5		4		4		3		3		
Dc	Indirect Measurement		1		1		2		4		4		6		
<b>E</b>	<b>Statistics and Probability</b>	<b>15%</b>	<b>10</b>	<b>15%</b>	<b>10</b>	<b>16%</b>	<b>12</b>	<b>16%</b>	<b>12</b>	<b>14%</b>	<b>11</b>	<b>14%</b>	<b>10</b>	<b>20%</b>	<b>15</b>
Ea	Data Analysis and Statistics		5		5		7		8		6		5		
Eb	Probability		4		4		4		3		3		3		
<b>F</b>	<b>Algebraic Relationships</b>	<b>15%</b>	<b>10</b>	<b>16%</b>	<b>12</b>	<b>16%</b>	<b>12</b>	<b>16%</b>	<b>12</b>	<b>16%</b>	<b>12</b>	<b>20%</b>	<b>15</b>	<b>20%</b>	<b>15</b>
Fa	Patterns, Relations, and Functions		4		6		5		5		3		6		
Fb	Expressions, Equations, and Inequalities		3		3		3		2		4		6		
Fc	Properties		3		2		3		3		4		2		
	Number of SR Items	50		50		55		55		55		50		55	
	Number of CR Items	5		6		7		7		7		8		6	
	<b>Total Score Points for Test</b>	<b>65</b>		<b>68</b>		<b>76</b>		<b>76</b>		<b>76</b>		<b>74</b>		<b>73</b>	
	<b>Minutes (item time)</b>	88		93		104		125		125		127		117	
	<b>CR Score Pts as % of Total</b>	23%		26%		28%		28%		28%		32%		25%	

Table 3-3  
Language Arts Test Blueprint: Grades 4, 8, 10

Content Standard		Grade 4		Grade 8		Grade 10	
		SR	Prompt	SR	Prompt	SR	Prompt
B	Writing	19	1	16	1	15	1
D	Language	5		8		9	
F	Research and Inquiry	6		6		6	
	<b>Total Number of Items</b>	<b>30</b>	<b>1</b>	<b>30</b>	<b>1</b>	<b>30</b>	<b>1</b>
	<b>Total Number of Points</b>	<b>30</b>	<b>9</b>	<b>30</b>	<b>9</b>	<b>30</b>	<b>9</b>

Table 3-4  
Science Test Blueprint: Grades 4, 8, 10

Content Standard		Grade 4	Grade 8	Grade 10
A	Science Connections	7	0	8
B	Nature of Science	1	6	6
C	Science Inquiry	6	7	11
D	Physical Science	6	6	10
E	Earth and Space	6	6	8
F	Life and Environment	6	6	8
G	Science Applications	3	5	7
H	Personal/Social Perspectives	5	4	2
	<b>Total Number of SR Items</b>	<b>40</b>	<b>40</b>	<b>60</b>

\*Note: Standard A, Science Connections, and Standard B, Nature of Science, are combined to form a reporting category; Standard G, Science Applications, and Standard H, Personal/Social Perspectives, are combined to form a reporting category.

Table 3-5  
Social Studies Test Blueprint: Grades 4, 8, 10

Content Standard		Grade 4	Grade 8	Grade 10
A	Geography	9	11	12
B	History	8	15	13
C	Political Science	7	7	13
D	Economics	7	7	11
E	Behavioral Science	7	5	11
	<b>Total Number of SR Items</b>	<b>38</b>	<b>45</b>	<b>60</b>

Table 3-6  
Reading Test Structure

Grade 3	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	60	1	1	60	60
CR items	2	3	5	6	10
EFT SR items	24	1	1	24	24
EFT CR items	1	3	5	3	5
Reading Time					60
<b>TOTALS</b>	<b>87</b>			<b>66</b>	<b>159</b>

Grade 4	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	60	1	1	60	60
CR items	2	3	5	6	10
EFT SR items	24	1	1	24	24
EFT CR items	1	3	5	3	5
Reading Time					60
<b>TOTALS</b>	<b>87</b>			<b>66</b>	<b>159</b>

Grade 5	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	60	1	1	60	60
CR items	3	3	5	9	15
EFT SR items	24	1	1	24	24
EFT CR items	1	3	5	3	5
Reading Time					60
<b>TOTALS</b>	<b>88</b>			<b>96</b>	<b>164</b>

Grade 6	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	60	1	1	60	60
CR items	3	3	5	9	15
EFT SR items	24	1	1	24	24
EFT CR items	1	3	5	3	5
Reading Time					60
<b>TOTALS</b>	<b>88</b>			<b>69</b>	<b>164</b>

Grade 7	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	60	1	1	60	60
CR items	3	3	5	9	15
EFT SR items	24	1	1	24	24
EFT CR items	1	3	5	3	5
Reading Time					60
<b>TOTALS</b>	<b>88</b>			<b>69</b>	<b>164</b>

Table 3-6  
Reading Test Structure Cont'd

<b>Grade 8</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	60	1	1	60	60
CR items	3	3	5	9	15
EFT SR items	24	1	1	24	24
EFT CR items	1	3	5	3	5
Reading Time					60
<b>TOTALS</b>	<b>88</b>			<b>69</b>	<b>164</b>

<b>Grade 10</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	55	1	1	55	55
CR items	4	3	5	12	20
EFT SR items		1	1	0	0
EFT CR items		3	5	0	0
Reading Time					45
<b>TOTALS</b>	<b>59</b>			<b>67</b>	<b>120</b>

Table 3-7  
Mathematics Test Structure

<b>Grade 3</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	50	1	1.3	50	65
CR items	5	3	5	15	25
EFT SR items	15	1	1.3	15	20
EFT CR items	2	3	5	6	10
<b>TOTALS</b>	<b>72</b>			<b>65</b>	<b>120</b>

<b>Grade 4</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	50	1	1.3	50	65
CR items	6	3	5	18	30
EFT SR items	15	1	1.3	15	20
EFT CR items	2	3	5	6	10
<b>TOTALS</b>	<b>73</b>			<b>68</b>	<b>125</b>

Table 3-7  
 Mathematics Test Structure Cont'd

Grade 5	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	55	1	1.3	55	72
CR items	7	3	5	21	35
EFT SR items	15	1	1.3	15	20
EFT CR items	2	3	5	6	10
<b>TOTALS</b>	<b>79</b>			<b>76</b>	<b>137</b>

Grade 6	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	55	1	1.3	55	72
CR items	7	3	8	21	56
EFT SR items	15	1	1.3	15	20
EFT CR items	2	3	8	6	16
<b>TOTALS</b>	<b>79</b>			<b>76</b>	<b>164</b>

Grade 7	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	55	1	1.3	55	72
CR items	7	3	8	21	56
EFT SR items	15	1	1.3	15	20
EFT CR items	2	3	8	6	16
<b>TOTALS</b>	<b>79</b>			<b>76</b>	<b>164</b>

Grade 8	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	50	1	1.3	50	65
CR items	8	3	8	24	64
EFT SR items	15	1	1.3	15	20
EFT CR items	2	3	8	6	16
<b>TOTALS</b>	<b>75</b>			<b>74</b>	<b>165</b>

Grade 10	No. of Items	Pts per Item	Minutes per Item	Total OP Points	Total Minutes
SR items	55	1	1.3	55	72
CR items	5	2	5	10	25
ECR items	1	4	10	4	10
EFT SR items		1	1.3	0	0
EFT CR items		2	5	0	0
EFT ECR items		4	10	0	0
<b>TOTALS</b>	<b>61</b>			<b>69</b>	<b>107</b>

Table 3-8  
Language Arts Test Structure

<b>Grade 4</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	30	1	1.14	30	36.58
CR items	1	9	30	9	30
EFT SR items	3	1	1.14	0	3.42
EFT CR items	1	9	30		30
<b>TOTALS</b>	<b>35</b>			<b>39</b>	<b>90</b>

<b>Grade 8</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	30	1	1.14	30	36.58
CR items	1	9	30	9	30
EFT SR items	3	1	1.14	0	3.42
EFT CR items	1	9	30		30
<b>TOTALS</b>	<b>35</b>			<b>39</b>	<b>90</b>

<b>Grade 10</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	60	1	1	30	30
CR items	1	9	30	9	30
EFT SR items				0	
EFT CR items					
<b>TOTALS</b>	<b>31</b>			<b>39</b>	<b>60</b>

Table 3-9  
Social Studies Test Structure

<b>Grade 4</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
<b>SR items</b>	38	1	1	38	40
<b>CR items</b>					
<b>EFT SR items</b>					
<b>EFT CR items</b>					
<b>TOTALS</b>	<b>38</b>			<b>38</b>	<b>40</b>

<b>Grade 8</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
<b>SR items</b>	45	1	1	45	45
<b>CR items</b>					
<b>EFT SR items</b>					
<b>EFT CR items</b>					
<b>TOTALS</b>	<b>45</b>			<b>45</b>	<b>45</b>

<b>Grade 10</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
<b>SR items</b>	60	1	1	60	60
<b>CR items</b>	5	2	5	10	25
<b>EFT SR items</b>					
<b>EFT CR items</b>					
<b>TOTALS</b>	<b>65</b>			<b>70</b>	<b>85</b>

Table 3-10  
Science Test Structure

<b>Grade 4</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	40	1	1	40	40
CR items					
EFT SR items					
EFT CR items					
<b>TOTALS</b>	<b>40</b>			<b>40</b>	<b>40</b>

<b>Grade 8</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	40	1	1	40	40
CR items					
EFT SR items					
EFT CR items					
<b>TOTALS</b>	<b>40</b>			<b>40</b>	<b>40</b>

<b>Grade 10</b>	<b>No. of Items</b>	<b>Pts per Item</b>	<b>Minutes per Item</b>	<b>Total OP Points</b>	<b>Total Minutes</b>
SR items	60	1	1	60	60
CR items	4	2	5	8	20
EFT SR items					
EFT CR items					
<b>TOTALS</b>	<b>64</b>			<b>34</b>	<b>80</b>

Table 4-1  
Item Development Each Year and Total to Date

	SR Items in 2004	CR Items in 2004	SR Items in 2005	CR Items in 2005	SR Items in 2006	CR Items in 2006	Total SR to Date	Total CR to Date
<b>Grade 3</b>								
Reading	412	51	23	2	30	4	<b>465</b>	<b>57</b>
Math	317	36	33	14	18	2	<b>368</b>	<b>52</b>
<b>Total</b>	<b>729</b>	<b>87</b>	<b>56</b>	<b>16</b>	<b>48</b>	<b>6</b>	<b>833</b>	<b>109</b>
<b>Grade 4</b>								
Reading	380	56	32	3	34	3	<b>446</b>	<b>62</b>
Math	265	35	45	9	29	1	<b>339</b>	<b>45</b>
Language	0	0	0	10	0	0	<b>0</b>	<b>10</b>
Science	0	0	0	0	123	34	<b>123</b>	<b>34</b>
<b>Total</b>	<b>645</b>	<b>91</b>	<b>77</b>	<b>22</b>	<b>123</b>	<b>34</b>	<b>908</b>	<b>151</b>
<b>Grade 5</b>								
Reading	420	59	36	6	15	3	<b>471</b>	<b>68</b>
Math	305	49	38	11	26	3	<b>369</b>	<b>63</b>
<b>Total</b>	<b>725</b>	<b>108</b>	<b>74</b>	<b>17</b>	<b>41</b>	<b>6</b>	<b>840</b>	<b>131</b>
<b>Grade 6</b>								
Reading	516	53	80	7	35	4	<b>631</b>	<b>64</b>
Math	310	41	53	16	7	2	<b>370</b>	<b>59</b>
<b>Total</b>	<b>826</b>	<b>94</b>	<b>133</b>	<b>23</b>	<b>42</b>	<b>6</b>	<b>1001</b>	<b>123</b>
<b>Grade 7</b>								
Reading	305	39	35	4	38	4	<b>378</b>	<b>47</b>
Math	305	34	32	23	20	0	<b>357</b>	<b>57</b>
<b>Total</b>	<b>610</b>	<b>73</b>	<b>67</b>	<b>27</b>	<b>58</b>	<b>4</b>	<b>735</b>	<b>104</b>
<b>Grade 8</b>								
Reading	368	41	30	4	34	4	<b>432</b>	<b>49</b>
Math	289	51	47	25	20	2	<b>356</b>	<b>78</b>
Language	0	0	0	10	0	0	<b>0</b>	<b>10</b>
Science	0	0	0	0	125	34	<b>125</b>	<b>34</b>
<b>Total</b>	<b>657</b>	<b>92</b>	<b>77</b>	<b>39</b>	<b>125</b>	<b>34</b>	<b>913</b>	<b>171</b>
<b>Grade 10</b>								
Reading	0	0	0	0	0	0	<b>0</b>	<b>0</b>
Math	0	0	0	0	0	0	<b>0</b>	<b>0</b>
Language	0	0	0	0	0	0	<b>0</b>	<b>0</b>
Science	0	0	0	0	18	8	<b>18</b>	<b>8</b>
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>8</b>	<b>18</b>	<b>8</b>
<b>TOTALS</b>								
<b>Grand Totals</b>	<b>4,192</b>	<b>545</b>	<b>484</b>	<b>144</b>	<b>455</b>	<b>98</b>	<b>5,248</b>	<b>797</b>

Table 4-2  
 Unique Items Field Tested Each Year and Total to Date

	SR Items Field Tested in 2004	CR Items Field Tested in 2004	SR Items Field Tested in 2005	CR Items Field Tested in 2005	SR Items Field Tested in 2006	CR Items Field Tested in 2006	Total SR Field Tested to Date	Total CR Field Tested to Date
<b>Grade 3</b>								
Reading	242	12	24	2	27	2	293	16
Math	252	24	15	2	32	4	299	30
<b>Total</b>	<b>494</b>	<b>36</b>	<b>39</b>	<b>4</b>	<b>59</b>	<b>6</b>	<b>592</b>	<b>46</b>
<b>Grade 4</b>								
Reading	294	12	24	2	32	3	318	14
Math	231	29	15	2	32	4	246	31
Language	0	0	0	6	0	0	0	6
Science	0	0	0	0	40	0	40	0
Social Studies	0	0	0	0	0	0	0	0
<b>Total</b>	<b>525</b>	<b>41</b>	<b>39</b>	<b>10</b>	<b>40</b>	<b>0</b>	<b>604</b>	<b>51</b>
<b>Grade 5</b>								
Reading	235	14	24	2	28	2	287	18
Math	257	34	15	2	32	4	304	40
<b>Total</b>	<b>492</b>	<b>48</b>	<b>39</b>	<b>4</b>	<b>60</b>	<b>6</b>	<b>591</b>	<b>58</b>
<b>Grade 6</b>								
Reading	259	14	24	1	33	3	316	18
Math	252	33	15	2	32	4	299	39
<b>Total</b>	<b>511</b>	<b>47</b>	<b>39</b>	<b>3</b>	<b>65</b>	<b>7</b>	<b>615</b>	<b>57</b>
<b>Grade 7</b>								
Reading	259	14	24	1	17	2	300	17
Math	243	33	15	2	32	4	290	39
<b>Total</b>	<b>502</b>	<b>47</b>	<b>39</b>	<b>3</b>	<b>49</b>	<b>6</b>	<b>590</b>	<b>56</b>
<b>Grade 8</b>								
Reading	274	14	24	1	33	4	331	19
Math	234	33	15	2	40	4	289	39
Language	0	0	0	6	0	0	0	6
Science	0	0	0	0	40	0	40	0
Social Studies	0	0	0	0	0	0	0	0
<b>Total</b>	<b>508</b>	<b>47</b>	<b>39</b>	<b>9</b>	<b>40</b>	<b>0</b>	<b>660</b>	<b>64</b>
<b>Grade 10</b>								
Reading	0	0	0	0	0	0	0	0
Math	0	0	0	0	0	0	0	0
Language	0	0	0	0	0	0	0	0
Science	0	0	0	0	10	0	10	0
Social Studies	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>10</b>	<b>0</b>
<b>TOTALS</b>								
<b>Grand Totals</b>	<b>3,032</b>	<b>266</b>	<b>234</b>	<b>33</b>	<b>323</b>	<b>25</b>	<b>3,662</b>	<b>332</b>

Table 5-1  
2005 Fall WKCE-CRT Standard Accommodations

## 2005-06 WKCE-CRT ASSESSMENT GUIDELINES AND ACCOMMODATIONS

<b>Assessment Guidelines and Accommodations</b>	<b>All Students</b>	<b>Students with Disabilities/50</b>	<b>English Language Learner</b>
<b><i>I. Assistance Prior to Administering the Test</i></b>			
1. Teach test-taking skills.	•	•	•
2. Administer practice activities.	•	•	•
<b><i>II. Motivational</i></b>			
1. Provide treats, snacks, or prizes, as appropriate.	•	•	•
2. Provide verbal encouragement of student's efforts.	•	•	•
3. Encourage student who may be slow at starting to begin.	•	•	•
4. Encourage student who may want to quit to sustain effort longer.	•	•	•
5. Encourage student to remain on task.	•	•	•
<b><i>III. Presentation/Test Directions and Content</i></b>			
1. Use visual magnification devices.	•	•	•
2. Use audio amplification devices.	•	•	•
3. Use markers to maintain place.	•	•	•
4. Allow students to mark with pencil as they read test content.***	•	•	•
5. Read directions aloud.	•	•	•
6. Use a tape recording of directions.	•	•	•
7. Use directions that have been marked with pencil by teacher and student.		•	•
8. Reread directions for each subtask as needed.	•	•	•
9. <b>Simplify language in directions. (Read directions without expansion or extension.)</b>		•	•
10. Have student reread and restate directions in his/her own words.		•	•
11. Use sign language or oral interpreters for directions and sample items.		•	•
12. Turn pages for the student.		•	
13. Provide spelling assistance where appropriate. (Not allowed for Language Arts and Reading Test)		•	•
14. Use directions that have been marked with highlighting by teacher and student.*		•	•
15. Provide Braille or large-print editions of the test.		•	
16. Provide a copy of diagram/tables needed for tasks so student does not have to flip back and forth in test booklet		•	
17. <b>Read questions and content to student. (Not allowed on Reading test)</b>		•	•
18. <b>Sign questions and content to student.</b>		•	

<b>Assessment Guidelines and Accommodations</b>	<b>All Students</b>	<b>Students with Disabilities/50</b>	<b>English Language Learner</b>
19. <b>Use Text-talker converter.</b>		●	
20. <b>Provide the assistance of a qualified translator to read or translate test items in content areas (orally or in writing).</b> (Not allowed on Language Arts or Reading tests).			●
21. Read questions and content aloud in simplified English, in English as written, or in the native language. (Not allowed on Language Arts or Reading tests).			●
22. <b>Provide spelling assistance, such as spelling dictionaries and spell/grammar checkers., bilingual word lists, customized dictionaries (word-to-word translations) and glossaries.</b> (Not allowed on Language Arts or Reading tests).			●
23. Explain/Clarify directions in native language or English. Provide both oral and written directions either in native language or English, including audio-taped directions. (Not allowed on Language Arts or Reading tests).			●
24. Provide audio recording of test items in English that is simplified English for words not related to content. (Not allowed on English Language Arts or Reading tests).			●
<b>IV. Response</b>			
1. Allow students in grades 3 and 4 with an IEP or 504 Plan to use a calculator on all sections except the sections measuring computation skills.		●	●
2. Mark responses on large-print answer document.		●	●
3. For selected-response items, indicate responses to a scribe.	●	●	●
4. Record responses on audio tape (Not allowed for constructed-response writing test).	●	●	●
5. For selected-response items, use sign language to indicate response.	●	●	●
6. Use template to maintain place for responding.	●	●	●
7. Use graph paper to align work.	●	●	●
8. For constructed response items, indicate responses to a scribe, except for writing test.	●	●	●
9. Use pencils adapted in size or grip.	●	●	●
10. Use speech synthesizer or electronic reader.		●	
11. Use computer or word processor for recording responses; then transcribe into test booklet.		●	●
12. Use Braille writer for recording responses.		●	
13. Use communications device to indicate responses.		●	
14. Use lined or grid paper for recording answers when only blank space is provided.		●	
15. Allow student to use highlighter as student reads content of test.		●	●
16. <b>Allow student to respond orally (or in writing) in native language and a translator records (or translates) student response in writing in English.</b> (Not allowed on Language Arts or Reading tests).			●

<b>Assessment Guidelines and Accommodations</b>		<b>All Students</b>	<b>Students with Disabilities/50</b>	<b>English Language Learner</b>
17.	<b>Provide audio recording of test items in native language version. (Not allowed on Language Arts or Reading tests)</b>			•
18.	<b>Provide side-by-side bilingual test or translated version. (Not allowed on Language Arts or Reading tests)</b>			•
<b>V. Setting</b>				
1.	Provide distraction-free space or an alternative location for the student (e.g., study carrel, front of classroom).	•	•	•
2.	Take the test with a small group or different class.	•	•	•
3.	Take the test at home or in a care facility (e.g., hospital), with district supervision.	•	•	•
4.	Use adaptive furniture.	•	•	•
5.	Use special lighting and/or acoustics.	•	•	•
6.	Place the student in the room or part of the room where he/she is most comfortable.	•	•	•
7.	Provide for an individual and supervised test administration.	•	•	•
8.	Allow the student freedom to move, stand, or pace during an individualized administration of the test.		•	
<b>VI. Timing/Scheduling</b>				
1.	Timing of the test **	•	•	•
	Each section of every test has a specific time allotment to complete the test. A person administering the test may provide a break or multiple breaks as long as the time allotted for students to take the test is provided. Example: The time allotment for a section of a test is one hour. Instead of scheduling the test from 9:00a.m. to 10:00a.m., the test administrator may schedule it from 9:00a.m. to 10:15a.m. and provide a 15 minute break. The students were given the time allotted to take the test – one hour – and were given a fifteen minute break.	•	•	•
2.	Scheduling.	•	•	•
	Each tested subject is given in multiple sections. There is no need to test all sections in a subject on the same day. Example: Mathematics has three sections. All math sections can be given in one day, or sections can be given on multiple days.	•	•	•
3.	<b>Provide extra time for any timed test.</b> ** Each section of every test has a specific time allotment to complete the test. ELL students and students with disabilities/504 may be provided extra time beyond the time allotted. Example: The time allotment for a section of the test is one hour. Time may be extended for as long as the student needs to complete this section as long as this section is completed within the day it has been started.		•	•
4.	<b>Allow more breaks that result in extra time for any timed test.</b> ** ELL students and students with disabilities/504 may have extended breaks		•	•

<b>Assessment Guidelines and Accommodations</b>	<b>All Students</b>	<b>Students with Disabilities/50</b>	<b>English Language Learner</b>
beyond the number of breaks provided during the administration of the test.			

Table 6-1  
Score Distribution for Reading\*

Grade	Form	Test Book Item No.	N	Scores				Condition Codes**			
				0	1	2	3	A	B	C	D
3		16	58875	15926	22887	14821	1370	3649	45	3	174
		52	58875	11109	13220	29646	1386	3298	60	4	152
	A	87	3045	622	1562	448	35	330	0	2	46
	B	87	2001	635	850	283	25	194	0	0	14
4		16	60183	16296	27267	10674	2831	3080	1	1	33
		42	60183	28811	22826	3632	934	3946	0	2	32
	A	79	3095	879	1740	155	121	193	0	0	7
	B	79	3141	476	1117	1145	200	192	0	1	10
5		14	60496	4846	27467	22309	3355	2486	8	2	23
		35	60496	11286	22859	19636	3425	3160	9	2	119
		53	60496	5014	25602	24446	2734	2648	9	4	39
	A	79	2999	1141	1277	309	53	211	1	0	7
	B	79	2001	869	728	267	21	107	0	1	8
6		21	63158	13731	30290	13537	2614	2950	13	1	22
		30	63158	23532	23356	11455	1731	3052	14	1	17
		59	63158	9799	30976	16186	3460	2665	9	1	62
7		21	65330	23721	19165	12156	6992	3281	1	0	14
		40	65330	20326	10035	24183	7431	3294	0	2	59
		63	65330	32139	13293	12353	3790	3709	0	1	45
	A	88	2969	1120	892	526	31	389	0	0	11
8		14	67034	19439	23728	15521	3857	4431	27	2	29
		42	67034	16068	26920	14713	3965	5306	31	1	30
		53	67034	5352	28220	25246	5169	3003	19	1	24
	A	88	3063	929	678	976	38	438	0	0	4
10		15	73065	3661	13435	27756	23332	4798	24	1	58
		59	73065	12977	21343	21483	10539	6590	40	3	90
		22	73065	5412	24579	18723	19052	5213	27	2	57
		44	73065	7704	19575	29055	11020	5626	24	1	60

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-2  
Score Distribution for Mathematics \*

Grade	Form	Test Book Item No.	Part	N	Scores			Condition Codes**			
					0	1	2	A	B	C	D
3		4	A	58875	13948	42395		2519	5	1	7
3		4	B	58875	11058	8355	36658	2770	12	3	19
3		21	A	58875	23978	31454		3419	6	4	14
3		21	B	58875	24113	22613	7980	4108	17	14	30
3		33	A	58875	32768	23222		2870	5	1	9
3		33	B	58875	30072	18082	7194	3467	16	23	21
3		49	A	58875	18924	37420		2516	3	4	8
3		49	B	58875	7993	44393	3681	2751	11	21	25
3		53	A	58875	13918	42073		2860	3	4	17
3		53	B	58875	23870	3588	27873	3468	16	22	38
3	A	60		2001	1417	107	381	96	0	0	0
3	A	68		2001	445	753	688	112	0	2	1
3	B	60		2001	426	819	653	103	0	0	0
3	B	68		2001	63	709	1108	120	0	0	1
3	C	60		2001	1037	240	652	72	0	0	0
3	C	67		2001	873	539	526	62	0	0	1
4		8	A	60183	25504	32417		2260	2	0	0
4		8	B	60183	7375	28897	20964	2944	2	0	1
4		20	A	60183	28312	29780		2090	1	0	0
4		20	B	60183	31532	15358	10428	2859	5	0	1
4		33	A	60183	29351	26745		4086	1	0	0
4		33	B	60183	25916	14965	15695	3599	3	4	1
4		37	A	60183	16562	41190		2430	1	0	0
4		37	B	60183	14556	12924	29649	3050	2	2	0
4		43	A	60183	36064	21973		2145	1	0	0
4		43	B	60183	18509	22777	16309	2581	3	4	0
4		54	A	60183	16797	41271		2113	2	0	0
4		54	B	60183	38951	9422	9018	2784	4	3	1
4	A	61		3598	1842	537	1068	151	0	0	0
4	A	69		3598	419	881	2120	178	0	0	0
4	B	61		3275	361	624	2153	137	0	0	0
4	C	60	A	3033	206	2717		110	0	0	0
4	C	60	B	3033	784	1201	914	134	0	0	0
4	C	69		3033	334	750	1829	120	0	0	0
5		10	A	60496	10364	48095		2037	0	0	0
5		10	B	60496	6206	10729	41371	2188	1	1	0
5		20	A	60496	29594	28847		2053	2	0	0

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-2 (cont.)  
Score Distribution for Mathematics \*

Grade	Form	Test Book Item No.	Part	N	Scores			Condition Codes**			
					0	1	2	A	B	C	D
5		20	B	60496	16386	23205	18370	2533	1	1	0
5		28	A	60496	37385	19786		3325	0	0	0
5		28	B	60496	41052	10178	5254	4005	3	2	2
5		32	A	60496	45862	11872		2762	0	0	0
5		32	B	60496	6944	38410	11678	3462	2	0	0
5		47	A	60496	28735	29478		2282	1	0	0
5		47	B	60496	23549	6758	27324	2861	4	0	0
5		51	A	60496	39245	18895		2354	2	0	0
5		51	B	60496	38091	1256	18388	2758	2	1	0
5		60	A	60496	4027	54514		1953	1	0	1
5		60	B	60496	2234	12600	43346	2314	2	0	0
5	A	67		2001	1307	105	490	99	0	0	0
5	A	74		2001	392	718	824	67	0	0	0
5	B	67		2001	662	219	1054	66	0	0	0
5	B	77		2001	191	797	955	58	0	0	0
5	C	67	A	2001	1265	660		76	0	0	0
5	C	67	B	2001	531	815	565	90	0	0	0
6		8	A	63158	20146	41121		1887	2	0	2
6		8	B	63158	14435	6152	40546	2015	4	1	5
6		23	A	63158	29522	31403		2225	5	1	2
6		23	B	63158	10403	17801	32306	2639	3	1	5
6		28	A	63158	36129	24647		2380	1	0	1
6		28	B	63158	28435	16317	15604	2796	2	0	4
6		37	A	63158	7320	53413		2423	1	0	1
6		37	B	63158	16664	30586	12841	3056	4	2	5
6		44	A	63158	29958	30133		3066	0	1	0
6		44	B	63158	17476	28274	13986	3411	1	3	7
6		53	A	63158	48981	11826		2347	1	0	3
6		53	B	63158	37576	10741	11995	2840	1	1	4
6		57	A	63158	38657	21343		3154	2	0	2
6		57	B	63158	31538	15186	12509	3920	1	1	3
6	A	67		2001	730	558	625	88	0	0	0
6	A	73		2001	635	707	549	110	0	0	0
6	B	67		2001	249	718	927	107	0	0	0
6	B	73		2001	1002	571	309	119	0	0	0
6	C	67		2001	1354	168	412	67	0	0	0
6	C	78		2001	1022	418	449	112	0	0	0

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-2 (cont.)  
Score Distribution for Mathematics \*

Grade	Form	Test Book Item No.	Part	N	Scores			Condition Codes**			
					0	1	2	A	B	C	D
7		7	A	65330	4669	57151		3506	4	0	0
7		7	B	65330	16598	10266	35118	3339	7	1	1
7		21	A	65330	39203	20605		5519	3	0	0
7		21	B	65330	37190	4103	15890	8136	5	1	5
7		29	A	65330	27262	34515		3546	1	0	6
7		29	B	65330	14528	14168	32058	4564	3	2	7
7		37	A	65330	26831	35749		2748	2	0	0
7		37	B	65330	26693	21067	12337	5225	4	0	4
7		44	A	65330	38705	23814		2808	2	0	1
7		44	B	65330	27742	31431	1021	5126	7	0	3
7		54	A	65330	20383	42185		2760	1	0	1
7		54	B	65330	42722	11476	2899	8224	6	0	3
7		60	A	65330	47177	13681		4468	4	0	0
7		60	B	65330	49676	5278	3288	7082	4	0	2
7	A	68		2001	257	282	1383	79	0	0	0
7	A	78		2001	1463	309	131	98	0	0	0
7	B	68		2001	1130	550	210	111	0	0	0
7	B	79		2001	758	968	190	85	0	0	0
7	C	67		2001	1300	456	134	111	0	0	0
7	C	77		2001	893	694	321	91	0	0	2
8		4	A	67034	15713	49291		2030	0	0	0
8		4	B	67034	15591	30569	18294	2577	2	0	1
8		19	A	67034	14050	50864		2119	0	0	1
8		19	B	67034	18068	12049	34215	2699	2	0	1
8		22	A	67034	51369	11574		4091	0	0	0
8		22	B	67034	44658	10665	5951	5757	2	0	1
8		25	A	67034	36862	27036		3135	0	0	1
8		25	B	67034	48944	9510	2603	5973	0	0	4
8		33	A	67034	42723	20497		3814	0	0	0
8		33	B	67034	45240	14457	2223	5114	0	0	0
8		38	A	67034	39068	24470		3496	0	0	0
8		38	B	67034	25263	16923	20080	4765	1	0	2
8		48	A	67034	24151	39072		3807	4	0	0
8		48	B	67034	31707	11981	15949	7391	4	0	2
8		54	A	67034	48567	11049		7417	1	0	0
8		54	B	67034	43810	3764	9415	10042	1	1	1
8	A	63		3881	2763	533	269	316	0	0	0

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-2 (Cont.)  
Score Distribution for Mathematics \*

Grade	Form	Test Book Item No.	N	Scores					Condition Codes**			
				0	1	2	3	4	A	B	C	D
8	B	63	3023	1957	688	197			181	0	0	0
8	B	68	3023	1874	366	461			322	0	0	0
8	C	63	2852	1334	979	354			185	0	0	0
8	C	67	2852	1658	388	554			252	0	0	0
10		9	73065	9541	11872	20870	15779	9304	5692	0	1	6
10		15	73065	11700	22564	33023			5754	6	0	18
10		19	73065	37381	25874	1868			7931	3	0	8
10		29	73065	25291	28745	11007			7988	4	6	24
10		37	73065	33802	14410	14199			10628	0	2	24
10		45	73065	39523	5527	16179			11815	2	2	17

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-3  
Score Distribution for Social Studies\*

Grade	Test Book Item No.	N	Scores			Condition Codes**			
			0	1	2	A	B	C	D
10	5	73065	38688	18911	6256	9147	11	3	49
10	13	73065	12190	24875	29011	6923	19	2	45
10	22	73065	33897	20627	6670	11767	14	2	88
10	40	73065	28208	23734	10751	10265	21	3	83
10	49	73065	18097	30336	14360	10193	11	1	67

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-4  
Score Distribution for Science \*

Grade	Test Book Item No.	N	Scores			Condition Codes**			
			0	1	2	A	B	C	D
10	17	73065	9591	24854	31573	6933	31	2	81
10	35	73065	15384	17439	31026	9101	50	2	63
10	27	73065	14393	21102	30612	6879	46	1	32
10	48	73065	10593	16625	37782	8003	28	2	32

\*This is the score distribution of the first read

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-5  
Score Distribution for Grade 4, 8, and 10 Operational Writing Convention

Grade	Total N	N	Scores			Condition Codes**		
			1	2	3	A	B	C
4	Rater1	60183	1759	56204	130	2086	4	0
	Rater2	60183	1744	56219	127	2091	1	1
	Diff*	0	15	-15	3	-5	3	-1
8	Rater1	67034	1360	61225	2237	2209	2	1
	Rater2	67034	1373	61187	2262	2211	0	1
	Diff	0	-13	38	-25	-2	2	0
10	Rater1	73065	2631	60969	5184	4279	1	1
	Rater2	73065	2569	61091	5122	4280	2	1
	Diff	0	62	-122	62	-1	-1	0

\*Diff = N of Rater1 – N of Rater 2.

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-6  
Percent for Grade 4, 8, and 10 Operational Writing Convention

Grade		Total N	Scores			Condition Codes**		
			1	2	3	A	B	C
4	Rater1	60183	2.92	93.39	0.22	3.47	0.01	0.00
	Rater2	60183	2.90	93.41	0.21	3.47	0.00	0.00
8	Rater1	67034	2.03	91.33	3.34	3.30	0.00	0.00
	Rater2	67034	2.05	91.28	3.37	3.30	0.00	0.00
10	Rater1	73065	3.60	83.44	7.10	5.86	0.00	0.00
	Rater2	73065	3.52	83.61	7.01	5.86	0.00	0.00

\*Diff = N of Rater1 – N of Rater 2.

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-7  
Score Distribution for Grade 4, 8, and 10 Operational Writing Total Score

Grade		Total N	Scores									
			0	1	2	3	4	5	6	7	8	9
4	Rater1	60183	2090	54	2049	1372	18153	31553	4689	193	30	0
	Rater2	60183	2093	49	2062	1357	18176	31558	4641	221	26	0
	Diff*	0	-3	5	-13	15	-23	-5	48	-28	4	0
8	Rater1	67034	2212	23	1179	743	8763	29060	21176	2270	1450	158
	Rater2	67034	2212	22	1160	759	8723	28870	21376	2225	1554	133
	Diff	0	0	1	19	-16	40	190	-200	45	-104	25
10	Rater1	73065	4281	232	1811	2050	11305	27000	20465	3205	2481	235
	Rater2	73065	4283	215	1782	2000	11241	27052	20571	3215	2485	221
	Diff	0	-2	17	29	50	64	-52	-106	-10	-4	14

\*Diff = N of Rater1 – N of Rater 2.

Table 6-8  
Percent for Grade 4, 8, and 10 operational Writing Total Score

Grade		Total N	Scores									
			0	1	2	3	4	5	6	7	8	9
4	Rater1	60183	3.47	0.09	3.40	2.28	30.16	52.43	7.79	0.32	0.05	0.00
	Rater2	60183	3.48	0.08	3.43	2.25	30.20	52.44	7.71	0.37	0.04	0.00
8	Rater1	67034	3.30	0.03	1.76	1.11	13.07	43.35	31.59	3.39	2.16	0.24
	Rater2	67034	3.30	0.03	1.73	1.13	13.01	43.07	31.89	3.32	2.32	0.20
10	Rater1	73065	5.86	0.32	2.48	2.81	15.47	36.95	28.01	4.39	3.40	0.32
	Diff*	73065	5.86	0.29	2.44	2.74	15.38	37.02	28.15	4.40	3.40	0.30

\*Diff = N of Rater1 – N of Rater 2.

\*\*A: No response or no attempt, B: Illegible, C: Another Language, D: Off-topic.

Table 6-9  
Score Distribution for Grade 4 and 8 Field Test Writing Composition\*

Grade	Form	Total N	Scores						Condition Codes		
			1	2	3	4	5	6	A	C	D
Grade 4	1	2001	111	543	795	332	92	18	101	1	8
	2	2001	178	597	786	225	49	3	107	.	56
	3	2001	71	433	893	405	99	7	78	.	15
	4	2001	105	431	943	366	56	2	76	.	22
	5	2001	65	387	932	434	70	4	80	.	29
	6	2001	119	558	869	291	30	4	102	.	28
Grade 8	1	2001	63	430	797	506	89	5	87	.	24
	2	2001	49	393	772	584	93	2	87	.	21
	3	2001	49	417	798	505	104	17	100	.	11
	4	2001	53	432	880	471	60	3	83	.	19
	5	2001	73	555	798	401	66	1	90	.	17
	6	2001	48	402	919	450	66	6	85	.	25

\*This is the score distribution of the first read

Table 6-10  
 Score Distribution for Grade 4 and 8 Field Test Writing Convention\*

Grade	Form	Total N	Scores			Condition Codes
			1	2	3	A
Grade 4	1	2001	180	1622	98	101
	2	2001	280	1570	44	107
	3	2001	143	1718	62	78
	4	2001	173	1730	22	76
	5	2001	134	1749	38	80
	6	2001	202	1665	32	102
Grade 8	1	2001	111	1730	74	86
	2	2001	67	1802	47	85
	3	2001	111	1709	82	99
	4	2001	69	1814	35	83
	5	2001	94	1788	29	90
	6	2001	61	1819	36	85

\*This is the score distribution of the first read

Table 6-11  
Score Distribution for Grade 4 and 8 Field Test Writing Total\*

Grade	Form	Total N	Scores									
			0	1	2	3	4	5	6	7	8	9
Grade 4	1	2001	101	.	102	91	481	766	326	77	43	14
	2	2001	107	24	176	131	515	765	211	54	15	3
	3	2001	78	3	63	96	368	876	397	79	35	6
	4	2001	76	7	84	113	373	924	361	46	16	1
	5	2001	80	12	65	81	331	923	421	67	17	4
	6	2001	102	6	108	126	482	848	277	40	10	2
Grade 8	1	2001	86	6	63	73	382	790	483	68	47	3
	2	2001	85	2	57	37	373	768	567	83	27	2
	3	2001	99	5	48	71	356	795	488	76	46	17
	4	2001	83	5	39	64	398	876	459	59	15	3
	5	2001	90	3	67	58	517	796	395	55	20	.
	6	2001	85	4	46	48	384	912	443	49	25	5

\*This is the score distribution of the first read

Table 6-12  
Inter-Rater Reliability Reading\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference							Frequency					
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2	3
3		16	3	82.66	15.84	1.50	7.22	0.92	0.83	0.74	0.93	2935	2062	2254	1441	113
3		52	3	73.15	21.23	5.62	6.44	0.86	0.71	0.58	1.29	2935	1502	1304	2929	135
3	A	87	3	74.96	24.71	0.33	10.54	0.86	0.71	0.58	0.82	607	397	642	171	4
3	B	87	3	74.75	23.25	2.00	10.25	0.86	0.73	0.60	0.77	400	335	327	123	15
4		16	3	70.49	27.37	2.14	5.01	0.87	0.74	0.55	0.96	2996	1908	2710	1060	314
4		42	3	77.84	21.36	0.80	6.31	0.86	0.71	0.60	0.53	2996	3269	2326	329	68
4	A	79	3	83.71	15.81	0.48	5.81	0.92	0.83	0.71	0.79	620	438	679	70	53
4	B	79	3	86.52	12.04	1.44	7.87	0.94	0.88	0.81	1.26	623	279	441	448	78
5		14	3	74.98	24.12	0.90	4.00	0.88	0.76	0.61	1.37	3002	687	2760	2220	337
5		35	3	69.69	29.35	0.97	5.90	0.89	0.78	0.56	1.18	3002	1533	2226	1891	354
5		53	3	68.39	30.78	0.83	4.70	0.85	0.70	0.51	1.35	3002	786	2564	2392	262
5	A	79	3	71.45	27.71	0.83	8.01	0.86	0.71	0.52	0.65	599	580	485	106	27
5	B	79	3	78.00	20.75	1.25	8.00	0.89	0.77	0.64	0.65	400	406	274	111	9
6		21	3	64.17	33.31	2.52	4.95	0.83	0.66	0.45	1.05	3173	1610	3083	1364	289
6		30	3	72.30	26.03	1.67	5.26	0.88	0.76	0.58	0.81	3173	2711	2295	1166	174
6		59	3	76.27	23.32	0.41	4.26	0.90	0.80	0.63	1.17	3173	1205	3181	1616	344
7		21	3	66.75	29.21	4.04	5.54	0.88	0.77	0.52	0.97	3215	2698	1894	1149	689
7		40	3	75.21	22.52	2.27	5.51	0.93	0.86	0.65	1.26	3215	2251	1030	2384	765
7		63	3	85.38	14.31	0.31	6.56	0.96	0.91	0.76	0.74	3215	3538	1359	1182	351
7	A	88	3	76.95	22.03	1.02	14.07	0.89	0.79	0.62	0.65	590	624	349	198	9
8		14	3	64.04	33.28	2.68	7.44	0.86	0.73	0.48	0.98	3359	2441	2375	1519	383
8		42	3	62.19	35.78	2.02	8.16	0.86	0.71	0.45	1.02	3359	2136	2712	1498	372
8		53	3	70.29	27.66	2.05	4.70	0.86	0.72	0.55	1.40	3359	861	2786	2565	506
8	A	88	3	75.61	22.46	1.94	16.64	0.91	0.81	0.62	0.87	619	569	273	378	18
10		15	3	71.31	27.65	1.04	6.80	0.92	0.83	0.59	1.90	3646	849	1344	2766	2333
10		22	3	68.98	28.55	2.47	7.68	0.91	0.82	0.58	1.63	3646	1078	2433	1855	1926
10		44	3	82.42	17.36	0.22	8.06	0.95	0.90	0.75	1.52	3646	1361	1910	2885	1136
10		59	3	68.95	29.35	1.70	9.74	0.91	0.83	0.58	1.31	3646	2016	2072	2165	1039

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-13  
Inter-Rater Reliability Mathematics\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference								Frequency			
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2
3		4A	1	99.32	0.68	0.00	4.63	0.99	0.98	0.98	0.72	2935	1668	4202	0
3		4B	2	89.00	8.76	2.25	5.25	0.94	0.88	0.79	1.38	2935	1428	787	3655
3		21A	1	98.94	1.06	0.00	5.86	0.99	0.98	0.98	0.52	2935	2821	3049	0
3		21B	2	86.64	12.40	0.95	7.67	0.92	0.84	0.78	0.65	2935	2875	2194	801
3		33A	1	99.73	0.27	0.00	4.87	1.00	0.99	0.99	0.39	2935	3564	2306	0
3		33B	2	92.81	7.16	0.03	6.27	0.96	0.93	0.87	0.55	2935	3349	1800	721
3		49A	1	99.15	0.85	0.00	4.40	0.99	0.98	0.98	0.64	2935	2123	3747	0
3		49B	2	94.07	5.72	0.20	5.11	0.93	0.86	0.85	0.88	2935	1066	4416	388
3		53A	1	99.05	0.95	0.00	5.15	0.99	0.98	0.98	0.71	2935	1674	4196	0
3		53B	2	91.07	6.20	2.73	6.68	0.95	0.91	0.84	1.04	2935	2634	358	2878
3	A	60	2	97.75	1.50	0.75	3.25	0.98	0.96	0.94	0.40	400	623	34	143
3	A	68	2	88.25	11.75	0.00	4.50	0.95	0.91	0.82	1.04	400	240	289	271
3	B	60	2	86.50	13.50	0.00	4.25	0.94	0.88	0.79	1.04	400	207	356	237
3	B	68	2	95.00	4.75	0.25	4.50	0.97	0.93	0.91	1.47	400	66	291	443
3	C	60	2	97.00	2.75	0.25	4.00	0.99	0.98	0.95	0.77	400	443	99	258
3	C	67	2	97.00	3.00	0.00	3.00	0.99	0.98	0.95	0.80	400	369	222	209
4		8A	1	99.33	0.67	0.00	3.30	0.99	0.99	0.99	0.55	2996	2712	3280	0
4		8B	2	79.84	19.69	0.47	4.97	0.89	0.78	0.67	1.18	2996	1005	2884	2103
4		20A	1	98.80	1.20	0.00	3.41	0.99	0.98	0.98	0.51	2996	2954	3038	0
4		20B	2	82.08	16.99	0.93	4.74	0.91	0.82	0.69	0.60	2996	3409	1555	1028
4		33A	1	98.83	1.17	0.00	7.08	0.99	0.98	0.98	0.44	2996	3369	2623	0
4		33B	2	82.84	15.49	1.67	6.24	0.92	0.84	0.72	0.75	2996	3018	1456	1518
4		37A	1	99.10	0.90	0.00	3.81	0.99	0.98	0.98	0.69	2996	1883	4109	0
4		37B	2	80.94	16.59	2.47	5.01	0.91	0.82	0.70	1.20	2996	1758	1297	2937
4		43A	1	99.50	0.50	0.00	3.41	0.99	0.99	0.99	0.36	2996	3839	2153	0
4		43B	2	80.77	18.56	0.67	4.21	0.91	0.83	0.71	0.92	2996	2080	2314	1598
4		54A	1	99.73	0.27	0.00	3.27	1.00	0.99	0.99	0.70	2996	1794	4198	0
4		54B	2	87.72	10.71	1.57	4.37	0.92	0.85	0.74	0.47	2996	4139	915	938
4	A	61	2	93.39	6.61	0.00	4.41	0.98	0.96	0.88	0.73	681	770	191	401

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-13 Cont'd  
Inter-Rater Reliability Mathematics\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference							Frequency				
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2
4	A	69	2	96.18	3.82	0.00	5.73	0.98	0.97	0.93	1.43	681	236	300	826
4	B	61	2	94.05	5.95	0.00	3.66	0.97	0.94	0.88	1.55	655	166	253	891
4	C	60A	1	98.84	1.16	0.00	4.64	0.97	0.95	0.95	0.88	603	149	1057	0
4	C	60B	2	73.96	24.05	1.99	4.64	0.87	0.73	0.60	1.00	603	358	491	357
4	C	69	2	97.51	2.16	0.33	4.81	0.98	0.97	0.96	1.42	603	190	317	699
5		10A	1	99.17	0.83	0.00	3.33	0.99	0.97	0.97	0.80	3002	1223	4781	0
5		10B	2	84.54	12.76	2.70	3.46	0.89	0.78	0.68	1.54	3002	838	1073	4093
5		20A	1	98.20	1.80	0.00	3.33	0.98	0.96	0.96	0.48	3002	3106	2898	0
5		20B	2	84.81	13.16	2.03	4.33	0.91	0.83	0.77	0.98	3002	1900	2317	1787
5		28A	1	98.83	1.17	0.00	5.36	0.99	0.97	0.97	0.33	3002	4023	1981	0
5		28B	2	76.62	20.45	2.93	6.73	0.79	0.59	0.42	0.33	3002	4501	998	505
5		32A	1	98.87	1.13	0.00	4.46	0.98	0.96	0.96	0.19	3002	4864	1140	0
5		32B	2	92.41	7.43	0.17	5.76	0.94	0.88	0.85	1.01	3002	1023	3921	1060
5		47A	1	99.60	0.40	0.00	3.70	1.00	0.99	0.99	0.49	3002	3066	2938	0
5		47B	2	90.87	7.96	1.17	5.40	0.96	0.93	0.85	1.02	3002	2603	655	2746
5		51A	1	99.30	0.70	0.00	3.90	0.99	0.98	0.98	0.32	3002	4075	1929	0
5		51B	2	96.54	2.86	0.60	4.86	0.98	0.97	0.92	0.64	3002	4001	134	1869
5		60A	1	99.40	0.60	0.00	3.10	0.98	0.97	0.97	0.90	3002	580	5424	0
5		60B	2	88.91	10.59	0.50	3.90	0.92	0.83	0.75	1.64	3002	447	1248	4309
5	A	67	2	97.50	2.50	0.00	4.25	0.99	0.98	0.94	0.47	400	595	38	167
5	A	74	2	95.50	4.00	0.50	3.50	0.97	0.95	0.93	1.19	400	173	300	327
5	B	67	2	97.50	2.50	0.00	3.25	0.99	0.99	0.96	1.17	400	292	78	430
5	B	77	2	94.50	5.25	0.25	2.50	0.97	0.93	0.91	1.41	400	93	289	418
5	C	67A	1	99.00	1.00	0.00	3.00	0.99	0.98	0.98	0.34	400	532	268	0
5	C	67B	2	86.25	13.25	0.50	4.00	0.93	0.87	0.79	0.97	400	238	345	217
6		8A	1	99.37	0.63	0.00	3.15	0.99	0.99	0.99	0.64	3173	2286	4060	0

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-13 Cont'd  
Inter-Rater Reliability Mathematics\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference							Frequency				
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2
6		8B	2	91.71	7.03	1.26	3.25	0.96	0.92	0.84	1.37	3173	1683	607	4056
6		23A	1	99.28	0.72	0.00	3.53	0.99	0.99	0.99	0.50	3173	3191	3155	0
6		23B	2	84.72	14.47	0.82	4.44	0.93	0.86	0.75	1.31	3173	1330	1713	3303
6		28A	1	97.13	2.87	0.00	4.13	0.97	0.94	0.94	0.39	3173	3855	2491	0
6		28B	2	84.49	14.56	0.95	4.98	0.93	0.86	0.75	0.75	3173	3149	1654	1543
6		37A	1	99.31	0.69	0.00	3.97	0.99	0.97	0.97	0.85	3173	932	5414	0
6		37B	2	75.67	23.67	0.66	4.82	0.87	0.74	0.61	0.91	3173	1925	3067	1354
6		44A	1	95.02	4.98	0.00	4.60	0.95	0.90	0.90	0.50	3173	3202	3144	0
6		44B	2	77.59	21.30	1.10	5.36	0.88	0.76	0.65	0.90	3173	2039	2906	1401
6		53A	1	99.50	0.50	0.00	3.59	0.99	0.98	0.98	0.19	3173	5124	1222	0
6		53B	2	91.40	7.85	0.76	4.79	0.96	0.91	0.84	0.56	3173	4020	1113	1213
6		57A	1	98.83	1.17	0.00	5.23	0.99	0.97	0.97	0.34	3173	4191	2155	0
6		57B	2	92.88	6.81	0.32	6.52	0.97	0.93	0.88	0.63	3173	3557	1594	1195
6	A	67	2	90.50	9.50	0.00	5.25	0.97	0.93	0.86	0.91	400	324	222	254
6	A	73	2	99.00	1.00	0.00	6.00	1.00	0.99	0.98	0.84	400	332	262	206
6	B	67	2	87.00	12.25	0.75	6.50	0.93	0.87	0.79	1.27	400	151	279	370
6	B	73	2	92.25	7.50	0.25	6.75	0.96	0.92	0.86	0.57	400	466	210	124
6	C	67	2	98.50	1.25	0.25	2.75	0.99	0.98	0.97	0.50	400	576	51	173
6	C	78	2	92.00	8.00	0.00	5.00	0.97	0.94	0.86	0.63	400	457	186	157
7		7A	1	99.01	1.00	0.00	6.07	0.98	0.95	0.95	0.88	3215	802	5628	0
7		7B	2	86.10	12.04	1.87	5.79	0.94	0.88	0.77	1.22	3215	1991	1047	3392
7		21A	1	98.04	1.96	0.00	8.77	0.98	0.95	0.95	0.32	3215	4387	2043	0
7		21B	2	95.40	4.26	0.34	13.94	0.98	0.96	0.90	0.53	3215	4510	405	1515
7		29A	1	98.38	1.62	0.00	6.25	0.98	0.97	0.97	0.52	3215	3084	3346	0
7		29B	2	88.52	10.20	1.28	7.99	0.95	0.90	0.82	1.19	3215	1907	1410	3113
7		37A	1	98.88	1.12	0.00	4.67	0.99	0.98	0.98	0.55	3215	2906	3524	0
7		37B	2	87.15	12.44	0.40	8.55	0.94	0.88	0.79	0.70	3215	3144	2090	1196
7		44A	1	99.19	0.81	0.00	4.26	0.99	0.98	0.98	0.37	3215	4070	2360	0
7		44B	2	95.24	4.76	0.00	8.49	0.96	0.91	0.91	0.51	3215	3265	3069	96
7		54A	1	99.13	0.87	0.00	4.20	0.99	0.98	0.98	0.64	3215	2332	4098	0
7		54B	2	93.03	6.63	0.34	13.38	0.93	0.86	0.81	0.27	3215	5006	1121	303

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-13 Cont'd  
Inter-Rater Reliability Mathematics\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference								Frequency			
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2
7		60A	1	99.07	0.93	0.00	7.12	0.99	0.97	0.97	0.21	3215	5066	1364	0
7		60B	2	93.38	6.53	0.09	11.26	0.93	0.86	0.71	0.18	3215	5606	510	314
7	A	68	2	98.25	1.75	0.00	3.75	0.99	0.98	0.96	1.58	400	111	115	574
7	A	78	2	96.50	3.50	0.00	5.75	0.97	0.95	0.91	0.29	400	620	128	52
7	B	68	2	93.25	6.75	0.00	7.00	0.96	0.92	0.87	0.44	400	516	215	69
7	B	79	2	90.50	9.50	0.00	4.25	0.94	0.88	0.83	0.68	400	327	400	73
7	C	67	2	94.75	5.25	0.00	5.00	0.96	0.92	0.88	0.37	400	554	199	47
7	C	77	2	99.50	0.50	0.00	4.25	1.00	1.00	0.99	0.65	400	415	252	133
8		4A	1	99.11	0.89	0.00	3.42	0.99	0.98	0.98	0.73	3359	1812	4906	0
8		4B	2	86.25	12.50	1.25	4.23	0.92	0.84	0.79	0.99	3359	1840	3126	1752
8		19A	1	99.23	0.77	0.00	3.42	0.99	0.98	0.98	0.76	3359	1602	5116	0
8		19B	2	81.69	14.38	3.93	4.29	0.90	0.81	0.70	1.19	3359	2104	1205	3409
8		22A	1	99.35	0.65	0.00	6.40	0.99	0.98	0.98	0.16	3359	5610	1108	0
8		22B	2	90.24	9.26	0.51	9.20	0.92	0.85	0.75	0.31	3359	5138	1057	523
8		25A	1	98.81	1.19	0.00	4.82	0.99	0.98	0.98	0.40	3359	4024	2694	0
8		25B	2	90.74	8.84	0.42	9.77	0.89	0.79	0.69	0.21	3359	5558	889	271
8		33A	1	98.84	1.16	0.00	5.72	0.99	0.97	0.97	0.31	3359	4665	2053	0
8		33B	2	89.37	10.39	0.24	8.13	0.89	0.79	0.72	0.28	3359	5063	1439	216
8		38A	1	99.29	0.71	0.00	5.48	0.99	0.98	0.98	0.36	3359	4296	2422	0
8		38B	2	86.93	12.65	0.42	7.47	0.95	0.90	0.80	0.84	3359	3041	1743	1934
8		48A	1	99.02	0.98	0.00	5.92	0.99	0.98	0.98	0.58	3359	2823	3895	0
8		48B	2	86.81	12.12	1.07	11.43	0.94	0.88	0.77	0.63	3359	4001	1181	1536
8		54A	1	99.82	0.18	0.00	11.13	1.00	0.99	0.99	0.16	3359	5642	1076	0
8		54B	2	96.79	2.95	0.27	14.77	0.98	0.96	0.90	0.32	3359	5467	361	890
8	A	63	2	93.03	6.58	0.39	9.29	0.94	0.88	0.78	0.26	775	1261	179	110
8	B	63	2	88.76	11.07	0.17	6.45	0.92	0.85	0.74	0.36	605	868	249	93
8	B	68	2	98.02	1.82	0.17	11.07	0.99	0.98	0.95	0.42	605	892	129	189
8	C	63	2	94.31	5.52	0.18	6.23	0.97	0.94	0.90	0.59	562	604	375	145
8	C	67	2	97.51	2.49	0.00	8.72	0.99	0.98	0.95	0.49	562	765	162	197

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-13 Cont'd  
Inter-Rater Reliability Mathematics\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference							Frequency						
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2	3	4
10		9	4	77.15	20.74	2.11	7.71	0.96	0.91	0.71	1.91	3646	1477	1234	2029	1590	962
10		15	2	88.40	11.33	0.27	7.98	0.95	0.90	0.82	1.22	3646	1733	2225	3334	0	0
10		19	2	97.97	2.00	0.03	10.86	0.98	0.96	0.96	0.40	3646	4546	2541	205	0	0
10		29	2	82.67	16.87	0.47	11.14	0.91	0.82	0.72	0.70	3646	3301	2853	1138	0	0
10		37	2	93.42	6.45	0.14	14.43	0.97	0.94	0.88	0.59	3646	4420	1447	1425	0	0
10		45	2	89.47	8.80	1.73	15.55	0.94	0.89	0.77	0.52	3646	5127	527	1638	0	0

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-14  
Inter-Rater Reliability Language Arts\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference				Intra. Corr.	Weighted Kappa	Kappa	Mean	N	Frequency							
				P	A	D	Codes						0	1	2	3	4	5	6	
4		1A	6	68.24	30.88	0.89	5.20	0.89	0.78	0.49	2.56	60183	6047	4148	37168	63272	9366	365	0	
4		1B	3	96.59	3.37	0.04	3.54	0.95	0.89	0.73	1.90	60183	4183	3503	112423	257	0	0	0	
4	A	1A	6	57.50	36.00	6.50	5.25	0.88	0.76	0.42	2.76	400	41	43	210	327	135	37	7	
4	A	1B	3	87.00	13.00	0.00	4.50	0.89	0.78	0.57	1.88	400	36	62	662	40	0	0	0	
4	B	1A	6	62.50	34.75	2.75	11.25	0.92	0.83	0.49	2.42	400	85	53	240	314	83	25	0	
4	B	1B	3	87.75	12.25	0.00	7.75	0.92	0.84	0.65	1.76	400	60	90	635	15	0	0	0	
4	C	1A	6	61.00	36.25	2.75	4.25	0.90	0.80	0.45	2.90	400	34	33	169	355	164	43	2	
4	C	1B	3	91.00	9.00	0.00	3.25	0.90	0.80	0.65	1.89	400	26	61	686	27	0	0	0	
4	D	1A	6	68.00	30.25	1.75	5.50	0.90	0.80	0.51	2.81	400	43	27	152	412	150	15	1	
4	D	1B	3	93.50	6.50	0.00	4.25	0.93	0.85	0.69	1.86	400	34	51	708	7	0	0	0	
4	E	1A	6	73.25	25.50	1.25	4.50	0.93	0.85	0.61	2.94	400	33	28	145	377	186	30	1	
4	E	1B	3	95.00	5.00	0.00	2.50	0.93	0.86	0.75	1.91	400	20	50	712	18	0	0	0	
4	F	1A	6	66.50	32.00	1.50	6.75	0.91	0.82	0.53	2.59	400	50	49	229	337	125	10	0	
4	F	1B	3	91.50	8.00	0.50	5.25	0.91	0.82	0.71	1.80	400	40	86	666	8	0	0	0	
8		1A	6	62.62	35.74	1.64	4.19	0.90	0.80	0.45	3.14	67034	5455	1847	18226	58323	43462	6449	306	
8		1B	3	93.03	6.95	0.02	3.33	0.90	0.81	0.57	1.95	67034	4424	2733	122412	4499	0	0	0	
8	A	1A	6	64.50	33.75	1.75	6.75	0.92	0.84	0.51	2.84	400	52	20	186	324	185	30	3	
8	A	1B	3	91.50	8.50	0.00	5.75	0.93	0.85	0.66	1.86	400	46	41	690	23	0	0	0	
8	B	1A	6	67.25	31.50	1.25	5.50	0.91	0.83	0.54	2.92	400	41	15	182	314	222	26	0	
8	B	1B	3	94.00	5.75	0.25	3.25	0.90	0.79	0.57	1.93	400	25	20	742	13	0	0	0	
8	C	1A	6	64.25	33.50	2.25	7.00	0.92	0.85	0.52	2.90	400	54	21	183	279	226	34	3	
8	C	1B	3	91.00	9.00	0.00	5.75	0.92	0.85	0.63	1.87	400	46	36	692	26	0	0	0	
8	D	1A	6	68.00	31.25	0.75	5.50	0.93	0.85	0.55	2.86	400	44	22	174	342	197	21	0	
8	D	1B	3	96.00	4.00	0.00	5.25	0.96	0.92	0.79	1.86	400	42	34	718	6	0	0	0	
8	E	1A	6	66.25	32.25	1.50	7.00	0.91	0.83	0.51	2.76	400	52	29	173	371	156	19	0	
8	E	1B	3	96.75	3.00	0.25	6.00	0.96	0.92	0.83	1.85	400	46	35	716	3	0	0	0	
8	F	1A	6	68.00	31.25	0.75	4.75	0.93	0.85	0.55	2.94	400	38	24	154	346	206	31	1	
8	F	1B	3	94.50	5.50	0.00	4.00	0.94	0.87	0.71	1.90	400	32	33	718	17	0	0	0	
10		1A	6	59.07	37.39	3.54	7.53	0.91	0.81	0.44	2.98	73065	10346	4318	24159	55267	44138	7424	478	
10		1B	3	86.81	13.13	0.07	5.93	0.90	0.80	0.55	1.92	73065	8564	5200	122060	10306	0	0	0	

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-15  
Inter-Rater Reliability Social Studies\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference							Frequency				
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2
10		5	2	80.88	17.86	1.26	13.03	0.86	0.73	0.62	0.43	3646	4771	1875	646
10		13	2	74.05	23.86	2.08	9.63	0.87	0.75	0.61	1.14	3646	1890	2518	2884
10		22	2	76.11	22.44	1.45	16.59	0.84	0.67	0.54	0.46	3646	4612	2002	678
10		40	2	70.27	27.76	1.97	14.40	0.83	0.66	0.50	0.62	3646	3849	2378	1065
10		49	2	74.11	24.47	1.43	14.26	0.86	0.72	0.59	0.80	3646	2820	3078	1394

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 6-16  
Inter-Rater Reliability Science\*

Grade	Form	Item No.	Max Score	Percentage Absolute Difference							Frequency				
				P	A	D	Codes	Intra. Corr.	Weighted Kappa	Kappa	Mean	N	0	1	2
10		17	2	79.05	19.86	1.10	10.45	0.90	0.81	0.68	1.19	3646	1727	2444	3121
10		27	2	81.19	17.77	1.04	9.63	0.92	0.84	0.71	1.13	3646	2138	2070	3084
10		35	2	83.05	15.41	1.54	12.78	0.93	0.86	0.74	1.08	3646	2476	1724	3092
10		48	2	88.48	10.97	0.55	11.36	0.95	0.91	0.81	1.25	3646	1920	1634	3738

\*P is percent perfect agreement, A is percent adjacent agreement, and D is percent discrepant. Intra. Corr. is intraclass correlation.

Table 7-1  
The Current 14 Calibration Districts

	District Name
1	ASHLAND
2	BUTTERNUT
3	KENOSHA
4	LA CROSSE
5	MADISON
6	PLATTEVILLE
7	RICHLAND
8	SHEBOYGAN
9	SHOREWOOD
10	VERONA
11	WABENO
12	WATERTOWN
13	WAUSAU
14	WAUWATOSA

Table 7-2  
 Number and Percent of Census and 14 CD Students, by Gender\*

Grade	Census		14CD	
	M	F	M	F
3	30071	28771	3359	3150
4	30957	29179	3367	3261
5	31064	29377	3448	3177
6	32231	30885	3455	3289
7	33701	31587	3573	3310
8	34558	32443	3661	3470
10	37062	35811	4000	3957

\* Students of unspecified gender or ethnicity are not counted

Grade	Census		14CD	
	M	F	M	F
3	51	49	52	48
4	51	49	51	49
5	51	49	52	48
6	51	49	51	49
7	52	48	52	48
8	52	48	51	49
10	51	49	50	50

\* Students of unspecified gender or ethnicity are not counted

Table 7-3  
 Number and Percent of Census and 14 CD Students, by Ethnicity\*

Grade	Census					14 CD				
	W	B	H	A	AI	W	B	H	A	AI
3	44872	6352	4663	2146	809	4318	835	680	604	72
4	45922	6538	4539	2269	867	4415	818	698	621	76
5	46353	6630	4405	2222	828	4418	817	689	608	93
6	48756	7012	4114	2268	959	4510	873	643	613	105
7	50775	7051	4101	2339	1020	4712	818	649	623	81
8	52415	7285	3988	2284	1029	4963	857	582	636	93
10	59050	6642	3552	2582	1043	5715	810	595	737	100

\* Students of unspecified ethnicity are not counted

Grade	Census**					14 CD				
	W	B	H	A	AI	W	B	H	A	AI
3	76	11	8	4	1	66	13	10	9	1
4	76	11	8	4	1	67	12	11	9	1
5	77	11	7	4	1	67	12	10	9	1
6	77	11	7	4	2	67	13	10	9	2
7	78	11	6	4	2	68	12	9	9	1
8	78	11	6	3	2	70	12	8	9	1
10	81	9	5	4	1	72	10	7	9	1

\* Students of unspecified ethnicity are not counted

\*\*There could be a round error so that the total percent may not be 100%

Table 7-4  
 Number and Percent of Census and 14 CD Students, by SES

Grade	Census		14CD	
	Yes	No	Yes	No
3	19990	38853	2519	3990
4	20137	39999	2505	4123
5	20103	40340	2461	4165
6	20507	42611	2612	4132
7	20484	44805	2448	4435
8	20162	46841	2516	4616
10	17464	55412	2345	5612

Grade	Census		14CD	
	Yes	No	Yes	No
3	34	66	39	61
4	33	67	38	62
5	33	67	37	63
6	32	68	39	61
7	31	69	36	64
8	30	70	35	65
10	24	76	29	71

Table 7-5  
 Number and Percent of Census and 14 CD Students, by Disability

Grade	Census		14CD	
	Yes	No	Yes	No
3	7769	51074	897	5612
4	8352	51784	901	5727
5	8487	51956	977	5649
6	8949	54169	1026	5718
7	9345	55944	1063	5820
8	9608	57395	1155	5977
10	9744	63132	1188	6769

Grade	Census		14CD	
	Yes	No	Yes	No
3	13	87	14	86
4	14	86	14	86
5	14	86	15	85
6	14	86	15	85
7	14	86	15	85
8	14	86	16	84
10	13	87	15	85

Table 7-6  
 Number and Percent of Census and 14 CD Students, by ELP

Grade	Census		14CD	
	Yes	No	Yes	No
3	55065	3778	5694	815
4	56434	3702	5749	879
5	57008	3435	5768	858
6	60055	3063	5919	825
7	62500	2789	6144	739
8	64412	2591	6410	722
10	70511	2365	7188	769

Grade	Census		14CD	
	Yes	No	Yes	No
3	94	6	87	13
4	94	6	87	13
5	94	6	87	13
6	95	5	88	12
7	96	4	89	11
8	96	4	90	10
10	97	3	90	10

Table 7-7  
Scale Score Mean and Standard Deviation for Census and 14 CD Results

Content	Grade	14CD Mean	Census Mean	Diff= 14CD-Census	14CD Standard deviation	Census Standard deviation	Diff= 14CD-Census
Reading	3	458.61	457.89	<b>0.72</b>	40.06	37.60	<b>2.46</b>
	4	478.28	476.80	<b>1.48</b>	47.95	46.13	<b>1.82</b>
	5	487.48	484.81	<b>2.67</b>	49.88	47.14	<b>2.74</b>
	6	500.57	500.74	<b>-0.17</b>	51.10	48.68	<b>2.42</b>
	7	512.22	510.69	<b>1.53</b>	49.45	46.86	<b>2.59</b>
	8	527.48	525.84	<b>1.64</b>	52.43	50.10	<b>2.33</b>
	10	543.17	540.08	<b>3.09</b>	65.26	63.18	<b>2.08</b>
Mathematics	3	435.82	431.33	<b>4.49</b>	48.96	45.21	<b>3.75</b>
	4	465.05	462.89	<b>2.16</b>	46.88	45.58	<b>1.30</b>
	5	488.62	484.06	<b>4.56</b>	44.56	42.66	<b>1.90</b>
	6	511.44	507.49	<b>3.95</b>	44.71	43.49	<b>1.22</b>
	7	532.85	527.76	<b>5.09</b>	47.81	45.22	<b>2.59</b>
	8	544.63	540.01	<b>4.62</b>	50.77	48.91	<b>1.86</b>
	10	566.06	563.49	<b>2.57</b>	52.61	50.15	<b>2.46</b>
Language Arts	4	298.31	297.92	<b>0.39</b>	33.83	32.27	<b>1.56</b>
	8	398.19	396.96	<b>1.23</b>	39.61	37.17	<b>2.44</b>
	10	450.72	449.12	<b>1.60</b>	44.42	41.37	<b>3.05</b>
Social Studies	4	298.45	297.58	<b>0.87</b>	31.79	30.29	<b>1.50</b>
	8	398.57	397.68	<b>0.89</b>	41.32	39.69	<b>1.63</b>
	10	446.96	445.11	<b>1.85</b>	51.65	48.28	<b>3.37</b>
Science	4	298.87	299.50	<b>-0.63</b>	30.85	30.23	<b>0.62</b>
	8	398.87	398.09	<b>0.78</b>	40.89	39.23	<b>1.66</b>
	10	446.30	447.19	<b>-0.89</b>	52.91	49.10	<b>3.81</b>

Table 7-8  
Total Number of Students for Census and CD14

<b>Grade</b>	<b>Census</b>	<b>CD14</b>
3	58843	6509
4	60136	6628
5	60443	6626
6	63118	6744
7	65289	6883
8	67003	7132
10	72876	7957

Table 7-9  
 Test Configuration of Operational (OP) and Field Test (FT) Items

Content	Grade	N of OP MC Items	N of OP CR Items					Total Score Point	FT MC Items	FT CR Items
			1 point	2 point	3 point	4 point	6 point			
Reading	3	60			2			66	24	2
	4	60			2			66	24	2
	5	60			3			69	24	2
	6	60			3			69	24	
	7	60			3			69	24	1
	8	60			3			69	24	1
	10	55			4			67		
Math	3	50	5	5				65	45	6
	4	50	6	6				68	45	6
	5	55	7	7				76	45	6
	6	55	7	7				76	45	6
	7	55	7	7				76	45	6
	8	50	8	8				74	45	5
	10	55		5		1		69		
Language Arts	4	30						30	19	12
	8	30						30	20	12
	10	30			1		1	39		
Social Studies	4	38						38		
	8	45						45		
	10	60		5				70		
Science	4	40						40		
	8	40						40		
	10	60		4				68		

Table 7-10  
Raw Score Descriptive Statistics based on Census Data

<b>Content</b>	<b>Grade</b>	<b>N Count</b>	<b>Mean # of Items Correct</b>	<b>Mean P-Value</b>	<b>SD</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>Min Obtained</b>	<b>Max Obtained</b>	<b>Max Possible</b>	<b>Alpha</b>	<b>SEM</b>
<b>Reading</b>	3	56591	42.44	0.64	12.05	-0.65	-0.29	0	66	66	0.93	3.30
	4	58341	40.47	0.61	12.51	-0.41	-0.69	0	66	66	0.93	3.36
	5	58854	45.32	0.66	11.57	-0.68	-0.12	0	68	69	0.92	3.35
	6	61655	43.85	0.64	11.26	-0.66	-0.11	0	68	69	0.91	3.41
	7	63705	42.33	0.61	11.74	-0.50	-0.44	0	68	69	0.91	3.55
	8	65333	42.54	0.62	11.30	-0.51	-0.25	0	69	69	0.90	3.50
	10	70433	42.55	0.64	12.17	-0.60	-0.26	0	67	67	0.92	3.55
<b>Mathematics</b>	3	56824	43.48	0.67	10.74	-0.60	-0.10	0	65	65	0.91	3.23
	4	58490	45.88	0.67	11.52	-0.49	-0.31	0	68	68	0.92	3.34
	5	58904	47.35	0.62	12.30	-0.31	-0.37	0	76	76	0.91	3.66
	6	61654	44.44	0.58	13.83	-0.13	-0.67	0	76	76	0.92	3.79
	7	63680	42.74	0.56	13.61	-0.13	-0.61	0	76	76	0.93	3.65
	8	65300	36.49	0.49	13.38	0.26	-0.63	0	74	74	0.93	3.66
	10	70394	35.75	0.52	14.29	0.11	-0.93	0	69	69	0.93	3.70
<b>Language Arts</b>	4	58357	20.49	0.68	5.40	-0.48	-0.46	0	30	30	0.83	2.21
	8	65136	21.95	0.73	5.23	-0.89	0.40	0	30	30	0.84	2.09
	10	70048	23.74	0.61	6.63	-0.45	-0.38	0	39	39	0.85	2.57
<b>Social Studies</b>	4	58617	30.87	0.81	5.82	-1.41	1.98	0	38	38	0.87	2.14
	8	65167	32.76	0.73	8.23	-0.76	-0.06	0	45	45	0.90	2.60
	10	69940	41.06	0.59	13.83	-0.21	-0.84	0	70	70	0.93	3.63
<b>Science</b>	4	58634	28.31	0.71	6.26	-0.72	0.11	0	40	40	0.84	2.53
	8	65198	27.05	0.68	6.86	-0.51	-0.37	0	40	40	0.86	2.55
	10	70017	39.60	0.58	13.08	-0.23	-0.79	0	68	68	0.92	3.69

Table 7-11  
Raw Score Descriptive Statistics based on 14 Districts

<b>Content</b>	<b>Grade</b>	<b>N Count</b>	<b>Mean # of Items Correct</b>	<b>Mean P-Value</b>	<b>SD</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>Min Obtained</b>	<b>Max Obtained</b>	<b>Max Possible</b>	<b>Alpha</b>	<b>SEM</b>
<b>Reading</b>	3	6183	42.60	0.65	12.55	-0.67	-0.35	0	66	66	0.93	3.29
	4	6340	40.84	0.62	12.94	-0.39	-0.78	0	66	66	0.93	3.34
	5	6360	46.00	0.67	12.04	-0.68	-0.20	3	68	69	0.92	3.35
	6	6508	43.83	0.64	11.65	-0.60	-0.18	0	68	69	0.91	3.42
	7	6685	42.69	0.62	12.18	-0.46	-0.55	1	67	69	0.92	3.55
	8	6913	42.96	0.62	11.69	-0.49	-0.32	0	68	69	0.91	3.50
	10	7512	43.08	0.64	12.38	-0.59	-0.30	2	67	67	0.92	3.54
<b>Mathematics</b>	3	6215	44.34	0.68	11.17	-0.65	-0.07	0	65	65	0.92	3.21
	4	6316	46.31	0.68	11.75	-0.49	-0.32	0	68	68	0.92	3.34
	5	6325	48.66	0.64	12.54	-0.36	-0.31	0	75	76	0.91	3.66
	6	6468	45.65	0.60	14.07	-0.17	-0.67	0	75	76	0.93	3.78
	7	6649	44.28	0.58	14.19	-0.20	-0.63	0	75	76	0.93	3.63
	8	6884	37.93	0.51	14.15	0.24	-0.73	0	74	74	0.93	3.69
	10	7513	36.60	0.53	14.95	0.10	-1.03	0	69	69	0.94	3.70
<b>Language Arts</b>	4	6340	20.50	0.68	5.55	-0.46	-0.55	1	30	30	0.84	2.20
	8	6885	22.01	0.73	5.36	-0.85	0.28	0	30	30	0.85	2.08
	10	7461	24.00	0.62	6.85	-0.46	-0.36	0	39	39	0.86	2.59
<b>Social Studies</b>	4	6328	30.90	0.81	5.89	-1.38	1.86	1	38	38	0.87	2.13
	8	6865	32.78	0.73	8.40	-0.73	-0.10	0	45	45	0.91	2.58
	10	7407	41.75	0.60	14.42	-0.23	-0.87	0	70	70	0.94	3.61
<b>Science</b>	4	6335	28.07	0.70	6.41	-0.63	-0.07	0	40	40	0.84	2.55
	8	6868	27.11	0.68	6.98	-0.47	-0.43	1	40	40	0.87	2.55
	10	7420	39.50	0.58	13.69	-0.20	-0.86	0	68	68	0.93	3.68

Table 7-12  
Raw Score Descriptive Statistics by Gender

Content	Grade	Male					Female				
		N Count	Mean	Mean P-Value	SD	Alpha	N Count	Mean	Mean P-Value	SD	Alpha
Reading	3	28782	41.21	0.62	12.38	0.93	27808	43.71	0.66	11.56	0.92
	4	29866	39.88	0.60	12.73	0.93	28475	41.08	0.62	12.25	0.93
	5	30114	44.73	0.65	11.76	0.92	28739	45.93	0.67	11.33	0.91
	6	31350	42.72	0.62	11.50	0.91	30303	45.01	0.65	10.89	0.90
	7	32757	41.16	0.60	11.88	0.91	30947	43.57	0.63	11.46	0.91
	8	33585	41.62	0.60	11.51	0.91	31747	43.53	0.63	10.99	0.90
	10	35660	41.03	0.61	12.54	0.92	34770	44.10	0.66	11.58	0.91
Mathematics	3	28965	43.94	0.68	10.88	0.91	27859	43.01	0.66	10.56	0.91
	4	29995	46.34	0.68	11.53	0.92	28495	45.39	0.67	11.49	0.91
	5	30186	47.42	0.62	12.47	0.91	28718	47.27	0.62	12.13	0.91
	6	31373	44.25	0.58	14.08	0.93	30280	44.64	0.59	13.57	0.92
	7	32762	42.93	0.56	13.84	0.93	30918	42.54	0.56	13.35	0.93
	8	33576	36.58	0.49	13.69	0.93	31722	36.40	0.49	13.04	0.92
	10	35630	36.07	0.52	14.72	0.94	34761	35.42	0.51	13.82	0.93
Language Arts	4	29883	19.80	0.66	5.45	0.83	28474	21.22	0.71	5.25	0.83
	8	33452	21.30	0.71	5.51	0.85	31683	22.63	0.75	4.82	0.82
	10	35425	22.58	0.58	6.83	0.85	34620	24.93	0.64	6.19	0.84
Social Studies	4	30078	30.82	0.81	5.98	0.87	28539	30.92	0.81	5.65	0.86
	8	33472	32.76	0.73	8.53	0.91	31694	32.76	0.73	7.91	0.89
	10	35394	40.99	0.59	14.54	0.94	34545	41.13	0.59	13.07	0.92
Science	4	30078	28.56	0.71	6.36	0.84	28556	28.04	0.70	6.15	0.83
	8	33501	27.35	0.68	6.99	0.87	31696	26.74	0.67	6.71	0.85
	10	35435	40.63	0.60	13.43	0.93	34580	38.54	0.57	12.62	0.91

Table 7-13  
Raw Score Descriptive Statistics for Reading by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	Mean P-Value	SD	Alpha
Reading	W	3	44084	44.24	0.67	11.33	0.92
		4	45155	42.54	0.64	11.82	0.92
		5	45584	47.25	0.68	10.70	0.91
		6	48072	45.94	0.67	10.19	0.89
		7	50047	44.42	0.64	10.82	0.90
		8	51637	44.58	0.65	10.39	0.89
		10	57885	44.33	0.66	11.31	0.90
	AA	3	6155	33.45	0.51	12.21	0.92
		4	6302	30.96	0.47	11.80	0.91
		5	6445	36.14	0.52	11.85	0.91
		6	6800	33.90	0.49	11.60	0.90
		7	6772	32.40	0.47	11.40	0.90
		8	6956	32.19	0.47	10.83	0.88
		10	6138	31.06	0.46	12.37	0.91
	H	3	3660	37.37	0.57	11.73	0.91
		4	3972	34.06	0.52	11.72	0.91
		5	3953	39.50	0.57	11.51	0.91
		6	3736	37.83	0.55	11.19	0.90
		7	3692	35.85	0.52	11.72	0.90
		8	3591	36.29	0.53	10.93	0.89
		10	3097	35.68	0.53	11.96	0.90
	A	3	1893	41.38	0.63	12.14	0.92
		4	2071	38.35	0.58	12.82	0.93
		5	2056	43.98	0.64	11.20	0.91
		6	2095	41.06	0.60	11.30	0.90
		7	2201	38.27	0.55	11.83	0.91
		8	2151	39.89	0.58	10.99	0.89
		10	2328	39.70	0.59	11.80	0.90
	AI	3	798	38.37	0.58	11.56	0.91
		4	840	36.02	0.55	11.76	0.91
		5	812	41.28	0.60	11.34	0.91
		6	943	38.95	0.56	11.10	0.90
7		990	37.87	0.55	11.43	0.90	
8		997	37.47	0.54	10.82	0.89	
10		979	37.70	0.56	11.92	0.90	

Table 7-14  
Raw Score Descriptive Statistics for Mathematics by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	Mean P-Value	SD	Alpha
Mathematics	W	3	44232	45.22	0.70	9.82	0.90
		4	45290	47.88	0.70	10.60	0.90
		5	45652	49.43	0.65	11.47	0.90
		6	48120	46.80	0.62	13.04	0.92
		7	50075	45.14	0.59	12.72	0.92
		8	51655	38.72	0.52	12.90	0.92
		10	57903	37.89	0.55	13.74	0.93
	AA	3	6180	33.58	0.52	11.48	0.91
		4	6349	35.47	0.52	11.59	0.91
		5	6453	36.53	0.48	11.72	0.90
		6	6797	31.93	0.42	12.08	0.90
		7	6765	29.59	0.39	11.76	0.90
		8	6948	24.65	0.33	9.88	0.87
		10	6105	21.70	0.31	10.25	0.88
	H	3	3722	39.48	0.61	9.96	0.89
		4	3934	40.61	0.60	10.82	0.90
		5	3930	41.31	0.54	11.38	0.89
		6	3704	38.07	0.50	12.26	0.90
		7	3653	36.18	0.48	12.12	0.91
		8	3556	29.27	0.40	10.92	0.89
		10	3080	26.77	0.39	11.54	0.90
	A	3	1893	44.65	0.69	10.35	0.91
		4	2066	45.79	0.67	11.38	0.91
		5	2053	48.29	0.64	12.03	0.91
		6	2082	44.99	0.59	13.64	0.92
		7	2192	42.01	0.55	13.73	0.93
		8	2141	36.38	0.49	13.53	0.93
		10	2321	34.05	0.49	14.09	0.93
	AI	3	797	40.12	0.62	10.38	0.90
		4	850	41.24	0.61	10.70	0.90
		5	813	42.92	0.56	11.25	0.89
		6	943	38.22	0.50	13.06	0.91
		7	993	36.76	0.48	12.18	0.91
		8	998	29.93	0.40	11.67	0.90
		10	979	28.95	0.42	12.47	0.91

Table 7-15  
Raw Score Descriptive Statistics for Language Arts by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	Mean P-Value	SD	Alpha
Language Arts	W	4	45179	21.32	0.71	5.08	0.82
		8	51565	22.75	0.76	4.81	0.82
		10	57736	24.60	0.63	6.27	0.84
	AA	4	6299	16.47	0.55	5.45	0.81
		8	6868	17.99	0.60	5.71	0.83
		10	5978	18.15	0.47	6.53	0.82
	H	4	3971	18.22	0.61	5.22	0.80
		8	3565	19.25	0.64	5.44	0.82
		10	3040	20.28	0.52	6.48	0.83
	A	4	2068	19.82	0.66	5.37	0.82
		8	2149	20.72	0.69	5.01	0.81
		10	2321	22.55	0.58	6.55	0.84
	AI	4	839	18.44	0.61	5.23	0.80
		8	988	19.65	0.65	5.42	0.83
		10	967	20.46	0.52	6.36	0.82

Table 7-16  
Raw Score Descriptive Statistics for Social Studies by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	Mean P-Value	SD	Alpha
Social Studies	W	4	45384	31.84	0.84	5.08	0.84
		8	51641	34.28	0.76	7.39	0.88
		10	57758	43.10	0.62	13.12	0.92
	AA	4	6354	25.75	0.68	7.29	0.88
		8	6855	24.58	0.55	8.50	0.88
		10	5902	27.39	0.39	11.76	0.90
	H	4	3963	28.80	0.76	6.09	0.85
		8	3544	28.31	0.63	8.24	0.88
		10	3001	33.17	0.47	12.66	0.91
	A	4	2064	30.14	0.79	5.66	0.84
		8	2136	31.28	0.70	7.90	0.88
		10	2309	37.89	0.54	13.15	0.92
	AI	4	851	28.79	0.76	6.20	0.86
		8	990	29.14	0.65	8.04	0.88
		10	966	34.98	0.50	12.93	0.92

Table 7-17  
 Raw Score Descriptive Statistics for Science by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	Mean P-Value	SD	Alpha
Science	W	4	45389	29.49	0.74	5.61	0.81
		8	51649	28.43	0.71	6.16	0.84
		10	57774	41.86	0.62	12.07	0.91
	AA	4	6359	22.35	0.56	6.72	0.83
		8	6872	20.04	0.50	6.56	0.82
		10	5948	24.80	0.36	10.82	0.88
	H	4	3966	25.28	0.63	6.02	0.80
		8	3544	22.71	0.57	6.54	0.83
		10	3010	31.03	0.46	11.74	0.89
	A	4	2067	27.29	0.68	6.11	0.82
		8	2138	24.96	0.62	6.76	0.85
		10	2313	35.03	0.52	13.10	0.92
	AI	4	852	26.02	0.65	6.20	0.81
		8	994	23.74	0.59	6.62	0.83
		10	968	33.35	0.49	11.98	0.90

Table 7-18  
Raw Score Descriptive Statistics by Socioeconomic Status

Content	Grade	Economically Disadvantaged					Not Economically Disadvantaged				
		N Count	Mean	Mean P-Value	SD	Alpha	N Count	Mean	Mean P-Value	SD	Alpha
Reading	3	18430	36.75	0.56	12.26	0.92	38161	45.19	0.68	10.93	0.91
	4	19000	34.17	0.52	12.24	0.92	39341	43.51	0.66	11.46	0.92
	5	19102	39.63	0.57	11.76	0.91	39752	48.05	0.70	10.42	0.90
	6	19608	37.79	0.55	11.53	0.90	42047	46.67	0.68	9.94	0.89
	7	19550	36.05	0.52	11.80	0.91	44155	45.11	0.65	10.58	0.89
	8	19187	36.28	0.53	11.22	0.89	46146	45.15	0.65	10.26	0.89
	10	16170	35.68	0.53	12.38	0.91	54263	44.59	0.67	11.33	0.91
Mathematics	3	18573	38.39	0.59	11.10	0.91	38251	45.96	0.71	9.63	0.89
	4	19064	40.19	0.59	11.66	0.91	39426	48.63	0.72	10.39	0.90
	5	19118	41.19	0.54	11.94	0.90	39786	50.31	0.66	11.34	0.90
	6	19590	37.35	0.49	12.98	0.91	42064	47.75	0.63	12.94	0.92
	7	19513	35.40	0.47	12.75	0.92	44167	45.98	0.61	12.68	0.92
	8	19150	29.43	0.40	11.51	0.90	46150	39.42	0.53	13.00	0.92
	10	16140	27.32	0.40	12.32	0.91	54254	38.26	0.55	13.86	0.93
Language Arts	4	19011	17.96	0.60	5.40	0.81	39346	21.72	0.72	4.96	0.81
	8	19051	19.35	0.65	5.55	0.83	46085	23.02	0.77	4.69	0.82
	10	15950	20.11	0.52	6.56	0.83	54098	24.81	0.64	6.26	0.84
Social Studies	4	19141	28.15	0.74	6.61	0.87	39476	32.19	0.85	4.88	0.83
	8	19031	28.09	0.62	8.58	0.89	46136	34.69	0.77	7.26	0.88
	10	15892	32.93	0.47	12.93	0.92	54048	43.45	0.62	13.17	0.93
Science	4	19155	25.20	0.63	6.60	0.83	39479	29.82	0.75	5.49	0.80
	8	19059	23.21	0.58	6.98	0.85	46139	28.64	0.72	6.15	0.84
	10	15943	31.52	0.46	12.51	0.91	54074	41.98	0.62	12.26	0.91

Table 7-19  
Raw Score Descriptive Statistics by Disability

Content	Grade	Disabled					Not Disabled				
		N Count	Mean	Mean P-Value	SD	Alpha	N Count	Mean	Mean P-Value	SD	Alpha
Reading	3	6671	31.83	0.48	13.31	0.93	49920	43.86	0.66	11.13	0.91
	4	7227	29.54	0.45	12.77	0.92	51114	42.02	0.64	11.68	0.92
	5	7451	33.57	0.49	12.53	0.92	51403	47.02	0.68	10.37	0.90
	6	8006	31.43	0.46	11.60	0.90	53649	45.70	0.66	9.96	0.89
	7	8354	29.31	0.42	11.25	0.90	55351	44.30	0.64	10.49	0.89
	8	8567	29.99	0.43	10.95	0.89	56766	44.44	0.64	10.08	0.88
	10	8608	28.26	0.42	11.33	0.89	61825	44.54	0.66	10.89	0.90
Mathematics	3	6849	37.02	0.57	12.04	0.92	49975	44.37	0.68	10.23	0.90
	4	7445	38.11	0.56	12.45	0.92	51045	47.01	0.69	10.93	0.91
	5	7579	37.26	0.49	12.63	0.91	51325	48.84	0.64	11.53	0.90
	6	8044	31.72	0.42	12.88	0.91	53610	46.35	0.61	12.93	0.91
	7	8378	29.47	0.39	12.25	0.91	55302	44.75	0.59	12.64	0.92
	8	8571	24.03	0.32	10.07	0.88	56729	38.38	0.52	12.79	0.92
	10	8595	21.44	0.31	9.78	0.87	61799	37.74	0.55	13.67	0.93
Language Arts	4	7302	16.55	0.55	5.37	0.80	51055	21.05	0.70	5.16	0.82
	8	8504	16.28	0.54	5.75	0.82	56632	22.80	0.76	4.57	0.80
	10	8491	16.26	0.42	5.67	0.76	61557	24.77	0.64	6.06	0.83
Social Studies	4	7624	27.64	0.73	6.94	0.88	50993	31.35	0.83	5.47	0.85
	8	8586	24.45	0.54	8.68	0.88	56581	34.02	0.76	7.39	0.88
	10	8526	27.48	0.39	11.63	0.90	61414	42.95	0.61	13.04	0.92
Science	4	7628	24.78	0.62	6.90	0.84	51006	28.83	0.72	5.99	0.83
	8	8597	20.88	0.52	7.04	0.84	56601	27.99	0.70	6.33	0.84
	10	8549	27.30	0.40	11.28	0.89	61468	41.31	0.61	12.38	0.91

Table 7-20  
Raw Score Descriptive Statistics by English Language Proficiency

Content	Grade	Proficient					Not Proficient				
		N Count	Mean	Mean P-Value	SD	Alpha	N Count	Mean	Mean P-Value	SD	Alpha
Reading	3	54055	42.75	0.65	12.00	0.92	2536	35.88	0.54	11.21	0.90
	4	55384	40.96	0.62	12.40	0.93	2957	31.20	0.47	10.82	0.89
	5	56030	45.72	0.66	11.45	0.92	2824	37.34	0.54	11.04	0.89
	6	59102	44.24	0.64	11.12	0.91	2553	34.79	0.50	10.56	0.88
	7	61420	42.74	0.62	11.58	0.91	2285	31.33	0.45	10.59	0.88
	8	63206	42.85	0.62	11.21	0.90	2127	33.37	0.48	10.05	0.86
	10	68676	42.83	0.64	12.08	0.91	1757	31.39	0.47	10.52	0.87
Mathematics	3	54233	43.63	0.67	10.76	0.91	2591	40.38	0.62	9.79	0.88
	4	55586	46.16	0.68	11.50	0.92	2904	40.41	0.59	10.68	0.90
	5	56109	47.63	0.63	12.28	0.91	2795	41.71	0.55	11.41	0.89
	6	59152	44.72	0.59	13.81	0.92	2502	37.85	0.50	12.53	0.91
	7	61438	43.04	0.57	13.57	0.93	2242	34.49	0.45	11.96	0.90
	8	63227	36.74	0.50	13.39	0.93	2073	29.04	0.39	10.66	0.88
	10	68668	36.02	0.52	14.26	0.93	1726	25.10	0.36	10.90	0.89
Language Arts	4	55404	20.67	0.69	5.37	0.83	2953	17.14	0.57	4.92	0.76
	8	63024	22.08	0.74	5.18	0.84	2112	17.90	0.60	5.02	0.78
	10	68314	23.89	0.61	6.58	0.85	1734	17.98	0.46	5.68	0.77
Social Studies	4	55696	31.01	0.82	5.78	0.87	2921	28.07	0.74	5.95	0.84
	8	63097	32.96	0.73	8.18	0.90	2070	26.84	0.60	7.66	0.85
	10	68245	41.35	0.59	13.78	0.93	1695	29.47	0.42	10.85	0.88
Science	4	55708	28.50	0.71	6.23	0.84	2926	24.60	0.62	5.74	0.77
	8	63128	27.25	0.68	6.81	0.86	2070	21.20	0.53	6.02	0.79
	10	68327	39.91	0.59	12.99	0.92	1690	27.16	0.40	10.28	0.86

Table 7-21  
Item Analysis Grade 3 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.35	0.23	0.21%				
OP		2	MC	0.88	0.54	0.13%				
OP		3	MC	0.94	0.41	0.23%				
OP		4	MC	0.80	0.54	0.15%				
OP		5	MC	0.75	0.42	0.32%				
OP		6	MC	0.67	0.50	0.73%				
OP		7	MC	0.85	0.58	0.47%				
OP		8	MC	0.87	0.51	0.49%				
OP		9	MC	0.83	0.53	0.70%				
OP		10	MC	0.59	0.40	0.91%				
OP		11	MC	0.80	0.51	0.39%				
OP		12	MC	0.79	0.59	1.10%				
OP		13	MC	0.81	0.54	1.96%				
OP		14	MC	0.79	0.52	0.71%				
OP		15	MC	0.26	0.12	1.44%	+	+		+
OP		16	CR	0.37	0.54	2.64%				
OP		17	MC	0.34	0.33	3.23%				
OP		18	MC	0.81	0.46	3.19%				
OP		19	MC	0.62	0.49	4.00%				
OP		20	MC	0.53	0.45	4.02%				
OP		21	MC	0.71	0.39	4.23%				
OP		22	MC	0.40	0.27	0.37%				
OP		23	MC	0.85	0.47	0.28%				
OP		24	MC	0.58	0.48	0.50%				
OP		25	MC	0.71	0.38	0.45%				
OP		26	MC	0.78	0.55	0.34%				

Table 7-21 Cont'd  
Item Analysis Grade 3 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.59	0.44	0.66%				
OP		28	MC	0.69	0.41	0.75%				
OP		29	MC	0.80	0.58	0.78%				
OP		30	MC	0.62	0.46	1.26%				
OP		31	MC	0.56	0.30	1.69%				
OP		32	MC	0.63	0.45	1.43%				
OP		33	MC	0.62	0.48	2.17%				
OP		34	MC	0.54	0.38	2.87%				
OP		35	MC	0.62	0.48	1.43%				
OP		36	MC	0.66	0.33	1.64%				
OP		37	MC	0.54	0.36	2.14%				
OP		38	MC	0.63	0.44	2.16%				
OP		39	MC	0.75	0.50	2.56%				
OP		40	MC	0.64	0.36	2.17%				
OP		41	MC	0.55	0.45	2.64%				
OP		42	MC	0.84	0.58	0.47%				
OP		43	MC	0.38	0.28	0.57%				
OP		44	MC	0.79	0.41	0.63%				
OP		45	MC	0.77	0.60	1.05%				
OP		46	MC	0.90	0.49	0.50%				
OP		47	MC	0.82	0.61	1.01%				
OP		48	MC	0.34	0.21	0.79%				
OP		49	MC	0.88	0.45	1.65%				
OP		50	MC	0.93	0.38	0.76%				
OP		51	MC	0.77	0.42	0.34%				
OP		52	CR	0.45	0.51	2.14%				

Table 7-21 Cont'd  
Item Analysis Grade 3 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.69	0.53	0.89%				
OP		54	MC	0.74	0.27	1.07%				
OP		55	MC	0.75	0.53	1.44%				
OP		56	MC	0.52	0.44	2.11%				
OP		57	MC	0.66	0.44	2.63%				
OP		58	MC	0.31	0.34	1.54%				
OP		59	MC	0.52	0.35	1.73%				
OP		60	MC	0.70	0.60	2.14%				
OP		61	MC	0.51	0.44	1.96%				
OP		62	MC	0.65	0.51	2.25%				
FT	A	63	MC	0.49	0.33	0.50%				
FT	A	64	MC	0.90	0.35	0.56%				
FT	A	65	MC	0.91	0.40	0.88%				
FT	A	66	MC	0.85	0.49	0.71%				
FT	A	67	MC	0.62	0.43	1.21%				
FT	A	68	MC	0.42	0.43	0.42%				
FT	A	69	MC	0.66	0.53	0.53%				
FT	A	70	MC	0.59	0.40	0.64%				
FT	A	71	MC	0.64	0.49	0.36%				
FT	A	72	MC	0.63	0.55	0.70%				
FT	A	73	MC	0.64	0.52	0.59%				
FT	A	74	MC	0.81	0.56	1.79%				
FT	A	75	MC	0.57	0.42	0.55%				
FT	A	76	MC	0.49	0.37	0.69%				
FT	A	77	MC	0.53	0.31	1.89%				
FT	A	78	MC	0.42	0.25	0.85%				

Table 7-21 Cont'd  
Item Analysis Grade 3 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	79	MC	0.65	0.57	1.29%				
FT	A	80	MC	0.35	0.29	0.72%				
FT	A	81	MC	0.61	0.56	1.02%				
FT	A	82	MC	0.71	0.52	1.93%				
FT	A	83	MC	0.55	0.45	1.71%				
FT	A	84	MC	0.60	0.44	2.37%				
FT	A	85	MC	0.71	0.50	1.08%				
FT	A	86	MC	0.59	0.54	1.25%				
FT	A	87	CR	0.32	0.36	5.04%			+	
FT	B	63	MC	0.50	0.34	0.50%				
FT	B	64	MC	0.91	0.33	0.55%				
FT	B	65	MC	0.92	0.40	0.82%				
FT	B	66	MC	0.86	0.48	0.68%				
FT	B	67	MC	0.62	0.44	1.13%				
FT	B	68	MC	0.43	0.44	0.46%				
FT	B	69	MC	0.65	0.51	0.61%				
FT	B	70	MC	0.59	0.40	0.83%				
FT	B	71	MC	0.65	0.49	0.39%				
FT	B	72	MC	0.64	0.54	0.60%				
FT	B	73	MC	0.64	0.51	0.63%				
FT	B	74	MC	0.82	0.56	1.97%				
FT	B	75	MC	0.58	0.41	0.59%				
FT	B	76	MC	0.50	0.38	0.67%				
FT	B	77	MC	0.54	0.32	1.76%				
FT	B	78	MC	0.43	0.25	0.80%				
FT	B	79	MC	0.65	0.56	1.28%				

Table 7-21 Cont'd  
Item Analysis Grade 3 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	80	MC	0.36	0.29	0.89%				
FT	B	81	MC	0.62	0.56	1.15%				
FT	B	82	MC	0.71	0.52	2.04%				
FT	B	83	MC	0.56	0.46	1.79%				
FT	B	84	MC	0.61	0.44	2.29%				
FT	B	85	MC	0.72	0.50	1.13%				
FT	B	86	MC	0.60	0.54	1.23%				
FT	B	87	CR	0.28	0.51	4.04%				+
FT	C	63	MC	0.50	0.33	0.29%				
FT	C	64	MC	0.91	0.34	0.38%				
FT	C	65	MC	0.92	0.38	0.64%				
FT	C	66	MC	0.86	0.49	0.51%				
FT	C	67	MC	0.62	0.42	0.90%				
FT	C	68	MC	0.42	0.43	0.58%				
FT	C	69	MC	0.65	0.51	0.66%				
FT	C	70	MC	0.58	0.40	0.86%				
FT	C	71	MC	0.64	0.49	0.45%				
FT	C	72	MC	0.63	0.54	0.81%				
FT	C	73	MC	0.64	0.51	0.78%				
FT	C	74	MC	0.81	0.55	2.12%				
FT	C	75	MC	0.58	0.42	0.57%				
FT	C	76	MC	0.49	0.36	0.70%				
FT	C	77	MC	0.54	0.31	1.96%				
FT	C	78	MC	0.42	0.26	0.88%				
FT	C	79	MC	0.65	0.56	1.47%				
FT	C	80	MC	0.35	0.29	0.86%				

Table 7-21 Cont'd  
Item Analysis Grade 3 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
FT	C	81	MC	0.61	0.56	1.16%				
FT	C	82	MC	0.70	0.51	2.11%				
FT	C	83	MC	0.56	0.46	1.88%				
FT	C	84	MC	0.60	0.44	2.48%				
FT	C	85	MC	0.72	0.48	1.11%				
FT	C	86	MC	0.60	0.55	1.32%				
FT	C	87	CR	0.31	0.32	5.38%				+

Table 7-22  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.64	0.35	0.22%				
OP		2	MC	0.62	0.54	0.22%				
OP		3	MC	0.58	0.49	0.17%				
OP		4	MC	0.77	0.39	0.66%				
OP		5	MC	0.75	0.47	0.28%				
OP		6	MC	0.76	0.49	0.50%				
OP		7	MC	0.58	0.40	0.80%				
OP		8	MC	0.80	0.41	1.70%				
OP		9	MC	0.40	0.44	0.55%				
OP		10	MC	0.77	0.47	0.60%				
OP		11	MC	0.60	0.42	0.84%				
OP		12	MC	0.70	0.44	1.42%				
OP		13	MC	0.38	0.28	0.39%				
OP		14	MC	0.39	0.42	0.60%		+		
OP		15	MC	0.68	0.34	0.87%				
OP		16	CR	0.33	0.56	2.33%				
OP		17	MC	0.72	0.37	2.24%				
OP		18	MC	0.73	0.33	2.62%				
OP		19	MC	0.79	0.57	2.67%				
OP		20	MC	0.81	0.30	2.93%				
OP		21	MC	0.74	0.52	3.01%				
OP		22	MC	0.72	0.53	0.49%				
OP		23	MC	0.62	0.36	0.54%				
OP		24	MC	0.57	0.49	0.79%				
OP		25	MC	0.46	0.28	1.34%				
OP		26	MC	0.60	0.49	1.58%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.58	0.41	0.44%				
OP		28	MC	0.73	0.60	0.88%				
OP		29	MC	0.69	0.45	0.73%				
OP		30	MC	0.86	0.47	1.18%				
OP		31	MC	0.49	0.47	0.62%				
OP		32	MC	0.31	0.25	0.90%		+		
OP		33	MC	0.39	0.38	1.34%				
OP		34	MC	0.73	0.56	2.67%				
OP		35	MC	0.76	0.53	0.79%				
OP		36	MC	0.58	0.42	1.09%				
OP		37	MC	0.72	0.46	1.17%				
OP		38	MC	0.77	0.46	1.42%				
OP		39	MC	0.58	0.44	2.15%				
OP		40	MC	0.67	0.49	1.69%				
OP		41	MC	0.47	0.27	2.16%		+		
OP		42	CR	0.24	0.55	3.79%				+
OP		43	MC	0.87	0.42	0.16%				
OP		44	MC	0.41	0.37	0.50%				
OP		45	MC	0.70	0.43	0.35%				
OP		46	MC	0.71	0.31	0.80%				
OP		47	MC	0.44	0.44	1.26%				
OP		48	MC	0.72	0.51	0.21%				
OP		49	MC	0.71	0.45	0.50%				
OP		50	MC	0.84	0.49	0.90%				
OP		51	MC	0.86	0.54	0.35%				
OP		52	MC	0.87	0.48	0.58%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.64	0.43	0.79%				
OP		54	MC	0.55	0.48	1.03%				
OP		55	MC	0.61	0.55	0.91%				
OP		56	MC	0.45	0.53	1.40%				
OP		57	MC	0.78	0.39	1.06%				
OP		58	MC	0.84	0.54	1.37%				
OP		59	MC	0.62	0.46	1.53%				
OP		60	MC	0.74	0.56	1.91%				
OP		61	MC	0.62	0.48	1.45%				
OP		62	MC	0.66	0.40	1.63%				
FT	A	63	MC	0.88	0.47	0.29%				
FT	A	64	MC	0.43	0.29	0.32%				
FT	A	65	MC	0.54	0.45	0.43%				
FT	A	66	MC	0.85	0.53	0.44%				
FT	A	67	MC	0.77	0.53	0.62%				
FT	A	68	MC	0.51	0.51	0.99%				
FT	A	69	MC	0.51	0.38	3.22%				
FT	A	70	MC	0.87	0.40	3.16%				
FT	A	71	MC	0.79	0.47	0.50%				
FT	A	72	MC	0.51	0.48	0.86%				
FT	A	73	MC	0.71	0.45	1.49%				
FT	A	74	MC	0.47	0.24	0.72%				
FT	A	75	MC	0.54	0.45	1.42%				
FT	A	76	MC	0.63	0.43	0.58%				
FT	A	77	MC	0.66	0.51	0.65%				
FT	A	78	MC	0.39	0.35	1.03%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	79	CR	0.25	0.31	2.39%				+
FT	A	80	MC	0.72	0.58	1.65%				
FT	A	81	MC	0.69	0.48	1.67%				
FT	A	82	MC	0.74	0.50	1.96%				
FT	A	83	MC	0.58	0.53	2.22%				
FT	A	84	MC	0.70	0.52	2.37%				
FT	A	85	MC	0.60	0.49	3.07%				
FT	A	86	MC	0.56	0.46	3.47%				
FT	A	87	MC	0.52	0.52	3.72%				
FT	B	63	MC	0.90	0.45	0.19%				
FT	B	64	MC	0.44	0.28	0.25%				
FT	B	65	MC	0.55	0.45	0.31%				
FT	B	66	MC	0.87	0.50	0.22%				
FT	B	67	MC	0.79	0.52	0.36%				
FT	B	68	MC	0.54	0.52	0.84%				
FT	B	69	MC	0.52	0.39	2.83%				
FT	B	70	MC	0.89	0.37	2.68%				
FT	B	71	MC	0.81	0.46	0.29%				
FT	B	72	MC	0.53	0.47	0.70%				
FT	B	73	MC	0.74	0.43	1.20%				
FT	B	74	MC	0.49	0.21	0.55%				
FT	B	75	MC	0.57	0.43	1.14%				
FT	B	76	MC	0.67	0.41	0.67%				
FT	B	77	MC	0.69	0.50	0.66%				
FT	B	78	MC	0.40	0.35	1.08%				
FT	B	79	CR	0.44	0.51	2.54%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	80	MC	0.75	0.57	1.41%				
FT	B	81	MC	0.72	0.46	1.51%				
FT	B	82	MC	0.76	0.49	1.55%				
FT	B	83	MC	0.61	0.53	1.86%				
FT	B	84	MC	0.72	0.50	1.89%				
FT	B	85	MC	0.63	0.49	2.62%				
FT	B	86	MC	0.58	0.46	2.93%				
FT	B	87	MC	0.55	0.51	3.09%				
FT	C	63	MC	0.89	0.47	0.19%				
FT	C	64	MC	0.43	0.28	0.24%				
FT	C	65	MC	0.56	0.46	0.35%				
FT	C	66	MC	0.86	0.51	0.42%				
FT	C	67	MC	0.79	0.51	0.59%				
FT	C	68	MC	0.53	0.53	0.98%				
FT	C	69	MC	0.51	0.39	3.02%				
FT	C	70	MC	0.89	0.37	2.89%				
FT	C	71	MC	0.80	0.46	0.54%				
FT	C	72	MC	0.53	0.48	0.85%				
FT	C	73	MC	0.73	0.47	1.42%				
FT	C	74	MC	0.49	0.21	0.67%				
FT	C	75	MC	0.57	0.45	1.32%				
FT	C	76	MC	0.66	0.42	0.45%				
FT	C	77	MC	0.68	0.51	0.50%				
FT	C	78	MC	0.41	0.36	1.04%				
FT	C	79	CR	0.29	0.29	2.77%				+
FT	C	80	MC	0.75	0.57	1.34%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	81	MC	0.71	0.46	1.43%				
FT	C	82	MC	0.76	0.50	1.44%				
FT	C	83	MC	0.61	0.55	1.76%				
FT	C	84	MC	0.72	0.53	1.88%				
FT	C	85	MC	0.62	0.50	2.49%				
FT	C	86	MC	0.58	0.47	2.59%				
FT	C	87	MC	0.55	0.51	2.97%				
FT	D	63	MC	0.90	0.45	0.32%				
FT	D	64	MC	0.44	0.26	0.38%				
FT	D	65	MC	0.56	0.46	0.51%				
FT	D	66	MC	0.87	0.50	0.48%				
FT	D	67	MC	0.79	0.51	0.64%				
FT	D	68	MC	0.55	0.53	1.10%				
FT	D	69	MC	0.51	0.40	3.31%				
FT	D	70	MC	0.89	0.36	3.29%				
FT	D	71	MC	0.81	0.44	0.58%				
FT	D	72	MC	0.53	0.48	0.80%				
FT	D	73	MC	0.73	0.45	1.45%				
FT	D	74	MC	0.49	0.22	0.72%				
FT	D	75	MC	0.56	0.46	1.51%				
FT	D	76	MC	0.67	0.41	0.67%				
FT	D	77	MC	0.70	0.49	0.66%				
FT	D	78	MC	0.41	0.34	1.15%				
FT	D	79	CR	0.47	0.47	1.86%				
FT	D	80	MC	0.75	0.57	1.51%				
FT	D	81	MC	0.72	0.45	1.63%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	D	82	MC	0.77	0.48	1.75%				
FT	D	83	MC	0.62	0.53	2.21%				
FT	D	84	MC	0.73	0.51	2.13%				
FT	D	85	MC	0.63	0.49	2.77%				
FT	D	86	MC	0.58	0.46	3.10%				
FT	D	87	MC	0.55	0.52	3.49%				
FT	E	63	MC	0.90	0.44	0.27%				
FT	E	64	MC	0.44	0.29	0.31%				
FT	E	65	MC	0.57	0.45	0.38%				
FT	E	66	MC	0.87	0.50	0.48%				
FT	E	67	MC	0.80	0.52	0.59%				
FT	E	68	MC	0.55	0.51	0.98%				
FT	E	69	MC	0.51	0.40	3.23%				
FT	E	70	MC	0.89	0.36	3.14%				
FT	E	71	MC	0.81	0.46	0.55%				
FT	E	72	MC	0.55	0.46	0.95%				
FT	E	73	MC	0.74	0.44	1.48%				
FT	E	74	MC	0.49	0.21	0.87%				
FT	E	75	MC	0.58	0.45	1.54%				
FT	E	76	MC	0.66	0.41	0.55%				
FT	E	77	MC	0.69	0.49	0.50%				
FT	E	78	MC	0.42	0.35	1.05%				
FT	E	79	CR	0.28	0.32	1.92%				+
FT	E	80	MC	0.76	0.56	1.50%				
FT	E	81	MC	0.73	0.46	1.59%				
FT	E	82	MC	0.77	0.48	1.68%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	E	83	MC	0.62	0.54	1.95%				
FT	E	84	MC	0.73	0.51	2.01%				
FT	E	85	MC	0.63	0.50	2.70%				
FT	E	86	MC	0.59	0.46	2.89%				
FT	E	87	MC	0.55	0.50	3.44%				
FT	F	63	MC	0.90	0.46	0.29%				
FT	F	64	MC	0.44	0.28	0.34%				
FT	F	65	MC	0.58	0.45	0.49%				
FT	F	66	MC	0.87	0.50	0.54%				
FT	F	67	MC	0.80	0.50	0.66%				
FT	F	68	MC	0.54	0.52	1.04%				
FT	F	69	MC	0.52	0.40	3.28%				
FT	F	70	MC	0.89	0.37	3.22%				
FT	F	71	MC	0.81	0.46	0.68%				
FT	F	72	MC	0.54	0.46	0.97%				
FT	F	73	MC	0.73	0.44	1.47%				
FT	F	74	MC	0.49	0.20	0.83%				
FT	F	75	MC	0.58	0.44	1.60%				
FT	F	76	MC	0.66	0.41	0.80%				
FT	F	77	MC	0.69	0.49	0.79%				
FT	F	78	MC	0.41	0.37	1.31%				
FT	F	79	CR	0.45	0.48	1.04%				
FT	F	80	MC	0.75	0.57	1.76%				
FT	F	81	MC	0.72	0.47	1.87%				
FT	F	82	MC	0.77	0.49	2.03%				
FT	F	83	MC	0.62	0.54	2.41%				

Table 7-22 Cont'd  
Item Analysis Grade 4 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
FT	F	84	MC	0.73	0.51	2.44%				
FT	F	85	MC	0.64	0.49	3.00%				
FT	F	86	MC	0.59	0.46	3.26%				
FT	F	87	MC	0.55	0.51	3.52%				

Table 7-23  
Item Analysis Grade 5 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.70	0.47	0.16%				
OP		2	MC	0.96	0.34	0.09%				
OP		3	MC	0.80	0.40	1.90%				
OP		4	MC	0.83	0.47	0.17%				
OP		5	MC	0.83	0.51	0.19%				
OP		6	MC	0.95	0.39	0.44%				
OP		7	MC	0.85	0.46	1.15%				
OP		8	MC	0.53	0.42	0.36%				
OP		9	MC	0.78	0.43	0.27%				
OP		10	MC	0.92	0.45	0.39%				
OP		11	MC	0.73	0.45	0.46%				
OP		12	MC	0.84	0.50	0.58%				
OP		13	MC	0.80	0.45	2.31%				
OP		14	CR	0.51	0.50	1.35%				
OP		15	MC	0.41	0.13	0.94%	+	+		
OP		16	MC	0.84	0.35	1.07%				
OP		17	MC	0.67	0.38	1.54%				
OP		18	MC	0.72	0.47	1.05%				
OP		19	MC	0.57	0.31	1.37%				
OP		20	MC	0.75	0.49	1.68%				
OP		21	MC	0.59	0.40	1.43%				
OP		22	MC	0.46	0.28	1.86%				
OP		23	MC	0.65	0.30	0.19%		+		
OP		24	MC	0.92	0.46	0.14%				
OP		25	MC	0.82	0.44	0.33%				
OP		26	MC	0.62	0.46	0.25%				

Table 7-23 Cont'd  
Item Analysis Grade 5 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.74	0.51	0.50%				
OP		28	MC	0.90	0.52	0.16%				
OP		29	MC	0.67	0.51	0.39%				
OP		30	MC	0.58	0.53	1.49%				
OP		31	MC	0.57	0.50	0.71%				
OP		32	MC	0.62	0.39	0.75%				
OP		33	MC	0.73	0.62	1.42%				
OP		34	MC	0.83	0.47	0.36%				
OP		35	CR	0.45	0.61	2.56%				
OP		36	MC	0.56	0.35	1.46%				
OP		37	MC	0.35	0.34	1.38%				
OP		38	MC	0.79	0.48	1.67%				
OP		39	MC	0.73	0.35	1.87%				
OP		40	MC	0.41	0.20	3.41%				
OP		41	MC	0.39	0.17	2.23%		+		
OP		42	MC	0.50	0.35	2.42%				
OP		43	MC	0.38	0.33	0.41%				
OP		44	MC	0.97	0.27	0.22%				
OP		45	MC	0.87	0.42	0.30%				
OP		46	MC	0.86	0.47	0.44%				
OP		47	MC	0.87	0.51	0.64%				
OP		48	MC	0.85	0.35	0.80%				
OP		49	MC	0.57	0.32	0.27%				
OP		50	MC	0.74	0.47	0.55%				
OP		51	MC	0.76	0.50	0.49%				
OP		52	MC	0.61	0.52	1.92%				

Table 7-23 Cont'd  
Item Analysis Grade 5 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	CR	0.51	0.54	1.75%				
OP		54	MC	0.60	0.30	0.42%				
OP		55	MC	0.71	0.48	0.49%				
OP		56	MC	0.52	0.48	0.83%				
OP		57	MC	0.57	0.40	0.82%				
OP		58	MC	0.83	0.43	1.02%				
OP		59	MC	0.61	0.34	1.43%				
OP		60	MC	0.54	0.48	0.55%				
OP		61	MC	0.54	0.42	0.69%				
OP		62	MC	0.59	0.52	1.13%				
OP		63	MC	0.70	0.51	1.15%				
FT	A	64	MC	0.68	0.32	0.70%				
FT	A	65	MC	0.36	0.37	0.76%				
FT	A	66	MC	0.54	0.32	1.03%				
FT	A	67	MC	0.68	0.49	1.21%				
FT	A	68	MC	0.41	0.21	1.52%				
FT	A	69	MC	0.23	0.16	1.06%		+		+
FT	A	70	MC	0.63	0.35	1.12%				
FT	A	71	MC	0.42	0.27	1.27%				
FT	A	72	MC	0.42	0.24	1.11%		+		
FT	A	73	MC	0.64	0.42	2.32%				
FT	A	74	MC	0.54	0.46	0.58%				
FT	A	75	MC	0.51	0.52	0.82%				
FT	A	76	MC	0.65	0.43	0.82%				
FT	A	77	MC	0.71	0.44	0.61%				
FT	A	78	MC	0.69	0.39	0.82%				

Table 7-23 Cont'd  
Item Analysis Grade 5 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	79	CR	0.24	0.52	3.29%				+
FT	A	80	MC	0.65	0.48	0.68%				
FT	A	81	MC	0.71	0.37	0.91%				
FT	A	82	MC	0.68	0.49	1.36%				
FT	A	83	MC	0.79	0.48	1.17%				
FT	A	84	MC	0.76	0.36	1.35%				
FT	A	85	MC	0.68	0.48	1.59%				
FT	A	86	MC	0.66	0.50	1.00%				
FT	A	87	MC	0.42	0.22	1.31%				
FT	A	88	MC	0.49	0.19	1.66%				
FT	B	64	MC	0.68	0.33	0.50%				
FT	B	65	MC	0.36	0.38	0.62%				
FT	B	66	MC	0.55	0.33	0.91%				
FT	B	67	MC	0.69	0.48	1.09%				
FT	B	68	MC	0.42	0.22	1.38%				
FT	B	69	MC	0.23	0.16	0.79%		+		+
FT	B	70	MC	0.65	0.36	0.96%				
FT	B	71	MC	0.43	0.26	1.20%				
FT	B	72	MC	0.43	0.22	0.94%		+		
FT	B	73	MC	0.65	0.43	2.20%				
FT	B	74	MC	0.55	0.47	0.54%				
FT	B	75	MC	0.52	0.52	0.73%				
FT	B	76	MC	0.66	0.41	0.65%				
FT	B	77	MC	0.72	0.43	0.47%				
FT	B	78	MC	0.70	0.38	0.79%				
FT	B	79	CR	0.23	0.50	2.07%				+

Table 7-23 Cont'd  
Item Analysis Grade 5 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	80	MC	0.66	0.46	0.58%				
FT	B	81	MC	0.73	0.37	0.88%				
FT	B	82	MC	0.70	0.49	1.35%				
FT	B	83	MC	0.80	0.46	1.05%				
FT	B	84	MC	0.77	0.35	1.17%				
FT	B	85	MC	0.69	0.46	1.41%				
FT	B	86	MC	0.68	0.50	0.78%				
FT	B	87	MC	0.42	0.20	1.04%		+		
FT	B	88	MC	0.50	0.20	1.33%				
FT	C	64	MC	0.69	0.32	0.33%				
FT	C	65	MC	0.36	0.37	0.48%				
FT	C	66	MC	0.55	0.33	0.65%				
FT	C	67	MC	0.69	0.47	0.90%				
FT	C	68	MC	0.41	0.22	1.29%				
FT	C	69	MC	0.23	0.17	0.59%		+		+
FT	C	70	MC	0.64	0.36	0.67%				
FT	C	71	MC	0.43	0.26	0.87%				
FT	C	72	MC	0.43	0.24	0.71%				
FT	C	73	MC	0.65	0.43	1.81%				
FT	C	74	MC	0.55	0.46	0.41%				
FT	C	75	MC	0.52	0.51	0.54%				
FT	C	76	MC	0.66	0.41	0.61%				
FT	C	77	MC	0.72	0.43	0.39%				
FT	C	78	MC	0.70	0.39	0.72%				
FT	C	79	CR	0.25	0.52	3.58%				+
FT	C	80	MC	0.66	0.47	0.60%				

Table 7-23 Cont'd  
Item Analysis Grade 5 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	81	MC	0.72	0.35	0.96%				
FT	C	82	MC	0.69	0.48	1.51%				
FT	C	83	MC	0.80	0.48	1.18%				
FT	C	84	MC	0.76	0.35	1.30%				
FT	C	85	MC	0.68	0.46	1.73%				
FT	C	86	MC	0.67	0.50	0.96%				
FT	C	87	MC	0.42	0.21	1.34%		+		
FT	C	88	MC	0.50	0.19	1.58%				

Table 7-24  
Item Analysis Grade 6 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.75	0.31	0.06%				
OP		2	MC	0.76	0.48	0.15%				
OP		3	MC	0.84	0.32	0.15%				
OP		4	MC	0.91	0.40	0.18%				
OP		5	MC	0.73	0.25	0.43%				
OP		6	MC	0.71	0.52	0.48%				
OP		7	MC	0.78	0.38	0.48%				
OP		8	MC	0.45	0.35	0.52%				
OP		9	MC	0.60	0.47	0.82%				
OP		10	MC	0.30	0.25	1.00%				+
OP		11	MC	0.78	0.39	0.40%				
OP		12	MC	0.61	0.40	0.71%				
OP		13	MC	0.74	0.37	0.60%				
OP		14	MC	0.49	0.41	0.85%				
OP		15	MC	0.58	0.40	0.60%				
OP		16	MC	0.51	0.40	0.78%		+		
OP		17	MC	0.29	0.03	1.17%	+	+		+
OP		18	MC	0.74	0.41	0.89%				
OP		19	MC	0.52	0.31	1.42%				
OP		20	MC	0.65	0.39	2.26%				
OP		21	CR	0.37	0.51	2.42%				
OP		22	MC	0.79	0.40	0.32%				
OP		23	MC	0.76	0.50	0.42%				
OP		24	MC	0.75	0.30	0.65%				
OP		25	MC	0.95	0.40	0.37%				
OP		26	MC	0.54	0.45	0.68%				

Table 7-24 Cont'd  
Item Analysis Grade 6 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.81	0.48	0.45%				
OP		28	MC	0.76	0.48	0.52%				
OP		29	MC	0.33	0.18	1.26%		+		
OP		30	CR	0.29	0.49	2.91%				+
OP		31	MC	0.55	0.40	1.31%		+		
OP		32	MC	0.86	0.34	1.48%				
OP		33	MC	0.80	0.27	3.86%				
OP		34	MC	0.70	0.28	1.34%				
OP		35	MC	0.75	0.46	1.40%				
OP		36	MC	0.77	0.46	1.88%				
OP		37	MC	0.69	0.32	2.20%				
OP		38	MC	0.69	0.52	1.46%				
OP		39	MC	0.84	0.40	1.55%				
OP		40	MC	0.76	0.36	2.71%				
OP		41	MC	0.46	0.26	1.62%				
OP		42	MC	0.73	0.51	1.82%				
OP		43	MC	0.88	0.46	0.35%				
OP		44	MC	0.62	0.36	0.69%				
OP		45	MC	0.91	0.47	0.45%				
OP		46	MC	0.80	0.31	0.71%				
OP		47	MC	0.49	0.49	0.80%				
OP		48	MC	0.48	0.31	0.85%				
OP		49	MC	0.70	0.35	0.37%				
OP		50	MC	0.36	0.22	0.58%				
OP		51	MC	0.81	0.33	0.46%				
OP		52	MC	0.81	0.53	1.37%				

Table 7-24 Cont'd  
Item Analysis Grade 6 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.82	0.43	0.43%				
OP		54	MC	0.69	0.55	0.49%				
OP		55	MC	0.77	0.49	0.62%				
OP		56	MC	0.74	0.24	0.46%				
OP		57	MC	0.55	0.36	0.85%				
OP		58	MC	0.66	0.55	0.95%				
OP		59	CR	0.40	0.61	2.25%				
OP		60	MC	0.52	0.47	0.77%				
OP		61	MC	0.54	0.52	0.89%				
OP		62	MC	0.68	0.42	0.62%				
OP		63	MC	0.80	0.51	0.91%				
FT	A	64	MC	0.59	0.28	0.39%		+		
FT	A	65	MC	0.43	0.42	0.43%				
FT	A	66	MC	0.44	0.34	11.74%			+	
FT	A	67	MC	0.63	0.38	0.55%				
FT	A	68	MC	0.81	0.52	0.49%				
FT	A	69	MC	0.53	0.12	0.62%	+	+		
FT	A	70	MC	0.67	0.50	0.70%				
FT	A	71	MC	0.63	0.51	0.77%				
FT	A	72	MC	0.79	0.43	1.10%				
FT	A	73	MC	0.50	0.20	1.23%		+		
FT	A	74	MC	0.59	0.41	1.99%				
FT	A	76	MC	0.59	0.50	0.80%				
FT	A	77	MC	0.46	0.42	0.90%				
FT	A	78	MC	0.56	0.49	1.00%				

Table 7-24 Cont'd  
Item Analysis Grade 6 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	79	MC	0.52	0.47	1.35%				
FT	A	80	MC	0.70	0.42	0.99%				
FT	A	81	MC	0.46	0.37	1.18%				
FT	A	82	MC	0.52	0.49	1.93%				
FT	A	83	MC	0.76	0.56	2.12%				
FT	A	84	MC	0.73	0.45	1.42%				
FT	A	85	MC	0.63	0.51	1.63%				
FT	A	86	MC	0.65	0.55	2.83%				
FT	A	87	MC	0.48	0.39	1.58%				
FT	A	88	MC	0.34	0.33	1.91%				
FT	B	64	MC	0.59	0.28	0.28%				
FT	B	65	MC	0.44	0.42	0.33%				
FT	B	66	MC	0.44	0.32	11.41%			+	
FT	B	67	MC	0.64	0.38	0.52%				
FT	B	68	MC	0.82	0.51	0.39%				
FT	B	69	MC	0.54	0.12	0.47%	+	+		
FT	B	70	MC	0.68	0.49	0.60%				
FT	B	71	MC	0.64	0.51	0.79%				
FT	B	72	MC	0.80	0.42	1.08%				
FT	B	73	MC	0.51	0.20	1.18%		+		
FT	B	74	MC	0.60	0.40	2.01%				
FT	B	76	MC	0.60	0.50	0.62%				
FT	B	77	MC	0.48	0.43	0.70%				
FT	B	78	MC	0.57	0.50	0.89%				
FT	B	79	MC	0.52	0.47	1.17%				

Table 7-24 Cont'd  
Item Analysis Grade 6 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	80	MC	0.72	0.41	0.76%				
FT	B	81	MC	0.46	0.38	0.94%				
FT	B	82	MC	0.54	0.49	1.72%				
FT	B	83	MC	0.78	0.54	1.98%				
FT	B	84	MC	0.75	0.42	1.24%				
FT	B	85	MC	0.64	0.51	1.44%				
FT	B	86	MC	0.67	0.54	2.65%				
FT	B	87	MC	0.49	0.38	1.32%				
FT	B	88	MC	0.35	0.33	1.56%				
FT	C	64	MC	0.59	0.27	0.27%				
FT	C	65	MC	0.43	0.42	0.39%				
FT	C	66	MC	0.44	0.32	11.43%			+	
FT	C	67	MC	0.63	0.37	0.52%				
FT	C	68	MC	0.81	0.52	0.44%				
FT	C	69	MC	0.54	0.12	0.59%	+	+		
FT	C	70	MC	0.68	0.49	0.63%				
FT	C	71	MC	0.64	0.51	0.76%				
FT	C	72	MC	0.80	0.42	1.05%				
FT	C	73	MC	0.51	0.20	1.09%			+	
FT	C	74	MC	0.59	0.41	1.89%				
FT	C	76	MC	0.60	0.48	0.71%				
FT	C	77	MC	0.47	0.42	0.79%				
FT	C	78	MC	0.57	0.49	0.87%				
FT	C	79	MC	0.52	0.46	1.30%				
FT	C	80	MC	0.71	0.40	0.85%				

Table 7-24 Cont'd  
Item Analysis Grade 6 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
FT	C	81	MC	0.45	0.38	1.06%				
FT	C	82	MC	0.52	0.50	1.73%				
FT	C	83	MC	0.77	0.54	1.93%				
FT	C	84	MC	0.74	0.43	1.32%				
FT	C	85	MC	0.63	0.50	1.54%				
FT	C	86	MC	0.66	0.55	2.80%				
FT	C	87	MC	0.49	0.39	1.48%				
FT	C	88	MC	0.34	0.32	1.81%				

Table 7-25  
Item Analysis Grade 7 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.92	0.34	0.06%				
OP		2	MC	0.66	0.47	0.27%				
OP		3	MC	0.88	0.31	0.10%				
OP		4	MC	0.52	0.46	0.43%		+		
OP		5	MC	0.55	0.48	0.49%				
OP		6	MC	0.91	0.48	0.70%				
OP		7	MC	0.91	0.39	0.12%				
OP		8	MC	0.44	0.41	0.33%				
OP		9	MC	0.87	0.39	0.31%				
OP		10	MC	0.33	0.08	0.57%	+	+		
OP		11	MC	0.69	0.33	0.45%				
OP		12	MC	0.63	0.33	1.33%				
OP		13	MC	0.39	0.43	0.46%				
OP		14	MC	0.69	0.41	0.45%				
OP		15	MC	0.81	0.48	0.52%				
OP		16	MC	0.81	0.45	0.63%				
OP		17	MC	0.81	0.35	0.91%				
OP		18	MC	0.65	0.53	0.79%				
OP		19	MC	0.48	0.20	0.84%				
OP		20	MC	0.52	0.48	1.05%				
OP		21	CR	0.40	0.63	2.92%				
OP		22	MC	0.64	0.46	0.39%				
OP		23	MC	0.37	0.38	0.31%		+		
OP		24	MC	0.45	0.40	0.45%				
OP		25	MC	0.80	0.31	0.91%				
OP		26	MC	0.83	0.53	0.70%				

Table 7-25 Cont'd  
Item Analysis Grade 7 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.71	0.56	0.82%				
OP		28	MC	0.53	0.39	3.05%				
OP		29	MC	0.93	0.34	3.35%				
OP		30	MC	0.68	0.39	0.96%				
OP		31	MC	0.83	0.47	0.93%				
OP		32	MC	0.75	0.39	1.05%				
OP		33	MC	0.47	0.34	2.02%				
OP		34	MC	0.85	0.48	0.28%				
OP		35	MC	0.71	0.37	0.48%				
OP		36	MC	0.76	0.43	0.57%				
OP		37	MC	0.26	0.13	0.49%	+	+		+
OP		38	MC	0.78	0.50	0.67%				
OP		39	MC	0.46	0.35	1.27%				
OP		40	CR	0.42	0.61	2.92%				
OP		41	MC	0.26	0.22	2.05%		+		+
OP		42	MC	0.63	0.40	2.13%				
OP		43	MC	0.71	0.43	0.19%				
OP		44	MC	0.70	0.52	0.16%				
OP		45	MC	0.51	0.47	0.27%				
OP		46	MC	0.62	0.33	0.33%				
OP		47	MC	0.89	0.32	0.49%				
OP		48	MC	0.91	0.44	1.90%				
OP		49	MC	0.82	0.40	0.27%				
OP		50	MC	0.83	0.26	0.33%				
OP		51	MC	0.71	0.55	0.85%				
OP		52	MC	0.95	0.41	0.42%				

Table 7-25 Cont'd  
Item Analysis Grade 7 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.50	0.40	0.39%				
OP		54	MC	0.69	0.57	0.25%				
OP		55	MC	0.71	0.52	0.69%				
OP		56	MC	0.71	0.46	0.63%				
OP		57	MC	0.62	0.57	0.40%				
OP		58	MC	0.67	0.60	0.43%				
OP		59	MC	0.59	0.39	0.63%				
OP		60	MC	0.26	0.22	1.75%		+		+
OP		61	MC	0.38	0.25	0.46%				
OP		62	MC	0.49	0.10	0.58%	+	+		
OP		63	CR	0.28	0.47	3.70%				+
FT	A	64	MC	0.91	0.32	0.60%				
FT	A	65	MC	0.86	0.46	0.58%				
FT	A	66	MC	0.55	0.60	0.85%				
FT	A	67	MC	0.64	0.50	1.54%				
FT	A	68	MC	0.91	0.43	1.44%				
FT	A	69	MC	0.79	0.38	0.69%				
FT	A	70	MC	0.57	0.38	0.81%				
FT	A	71	MC	0.73	0.54	1.12%				
FT	A	72	MC	0.73	0.52	0.88%				
FT	A	73	MC	0.42	0.29	1.01%				
FT	A	74	MC	0.40	0.41	1.04%				
FT	A	75	MC	0.63	0.26	0.88%				
FT	A	76	MC	0.34	0.21	1.14%		+		
FT	A	77	MC	0.59	0.31	1.21%				
FT	A	78	MC	0.95	0.34	0.67%				

Table 7-25 Cont'd  
Item Analysis Grade 7 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	79	MC	0.78	0.35	0.70%				
FT	A	80	MC	0.45	0.43	0.78%				
FT	A	81	MC	0.88	0.47	1.20%				
FT	A	82	MC	0.41	-0.12	0.58%	+	+		
FT	A	83	MC	0.41	0.15	0.60%		+		
FT	A	84	MC	0.29	0.21	0.78%				+
FT	A	85	MC	0.57	0.42	0.62%				
FT	A	86	MC	0.57	0.46	0.78%				
FT	A	87	MC	0.38	0.24	0.79%		+		
FT	A	88	CR	0.25	0.44	9.35%			+	+
FT	B	64	MC	0.91	0.33	1.13%				
FT	B	65	MC	0.86	0.44	1.19%				
FT	B	66	MC	0.56	0.60	1.35%				
FT	B	67	MC	0.65	0.51	2.07%				
FT	B	68	MC	0.91	0.43	2.05%				
FT	B	69	MC	0.79	0.38	1.22%				
FT	B	70	MC	0.58	0.38	1.39%				
FT	B	71	MC	0.73	0.54	1.58%				
FT	B	72	MC	0.74	0.52	0.46%				
FT	B	73	MC	0.42	0.28	0.58%				
FT	B	74	MC	0.41	0.42	0.62%				
FT	B	75	MC	0.63	0.24	0.44%				
FT	B	76	MC	0.34	0.22	0.59%		+		
FT	B	77	MC	0.60	0.30	0.78%				
FT	B	78	MC	0.95	0.32	0.51%				
FT	B	79	MC	0.79	0.34	0.51%				

Table 7-25 Cont'd  
Item Analysis Grade 7 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	80	MC	0.46	0.42	0.56%				
FT	B	81	MC	0.89	0.46	1.01%				
FT	B	82	MC	0.41	-0.12	0.50%	+	+		
FT	B	83	MC	0.42	0.15	0.46%	+	+		
FT	B	84	MC	0.30	0.22	0.59%		+		+
FT	B	85	MC	0.58	0.41	0.52%				
FT	B	86	MC	0.58	0.46	0.59%				
FT	B	87	MC	0.39	0.24	0.70%		+		
FT	B	88	CR	0.27	0.45	8.38%			+	+
FT	C	64	MC	0.91	0.32	0.44%				
FT	C	65	MC	0.86	0.46	0.43%				
FT	C	66	MC	0.56	0.60	0.73%				
FT	C	67	MC	0.65	0.51	1.47%				
FT	C	68	MC	0.92	0.43	1.45%				
FT	C	69	MC	0.79	0.37	0.50%				
FT	C	70	MC	0.58	0.37	0.67%				
FT	C	71	MC	0.74	0.54	0.90%				
FT	C	72	MC	0.74	0.52	0.51%				
FT	C	73	MC	0.42	0.27	0.66%				
FT	C	74	MC	0.40	0.41	0.68%				
FT	C	75	MC	0.63	0.24	0.50%				
FT	C	76	MC	0.34	0.21	0.68%		+		
FT	C	77	MC	0.60	0.31	0.92%				
FT	C	78	MC	0.95	0.33	0.43%				
FT	C	79	MC	0.79	0.34	0.44%				
FT	C	80	MC	0.45	0.42	0.54%				

Table 7-25 Cont'd  
Item Analysis Grade 7 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
FT	C	81	MC	0.89	0.47	0.90%				
FT	C	82	MC	0.41	-0.11	0.41%	+	+		
FT	C	83	MC	0.42	0.15	0.46%		+		
FT	C	84	MC	0.30	0.22	0.59%		+		
FT	C	85	MC	0.58	0.40	0.48%				
FT	C	86	MC	0.58	0.46	0.62%				
FT	C	87	MC	0.39	0.23	0.62%		+		
FT	C	88	CR	0.27	0.43	9.90%			+	+

Table 7-26  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.79	0.34	0.10%				
OP		2	MC	0.49	0.28	0.01%				
OP		3	MC	0.72	0.40	0.41%				
OP		4	MC	0.76	0.33	0.20%				
OP		5	MC	0.51	0.44	0.38%				
OP		6	MC	0.70	0.45	0.13%				
OP		7	MC	0.65	0.43	0.16%				
OP		8	MC	0.81	0.49	0.29%				
OP		9	MC	0.43	0.31	0.71%				
OP		10	MC	0.78	0.35	1.07%				
OP		11	MC	0.73	0.43	0.20%				
OP		12	MC	0.81	0.50	0.14%				
OP		13	MC	0.56	0.47	0.23%				
OP		14	CR	0.37	0.56	4.46%				
OP		15	MC	0.62	0.38	0.33%				
OP		16	MC	0.53	0.31	0.39%				
OP		17	MC	0.69	0.25	0.42%				
OP		18	MC	0.56	0.34	0.71%				
OP		19	MC	0.59	0.39	0.48%				
OP		20	MC	0.19	0.12	0.56%	+	+		+
OP		21	MC	0.59	0.48	1.20%				
OP		22	MC	0.67	0.52	0.43%				
OP		23	MC	0.88	0.38	0.19%				
OP		24	MC	0.66	0.43	0.33%				
OP		25	MC	0.86	0.52	0.32%				
OP		26	MC	0.82	0.43	0.22%				

Table 7-26  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.58	0.36	0.32%				
OP		28	MC	0.35	0.12	0.49%	+	+		
OP		29	MC	0.44	0.35	0.71%				
OP		30	MC	0.78	0.51	0.33%				
OP		31	MC	0.34	0.29	0.42%		+		
OP		32	MC	0.63	0.49	1.94%				
OP		33	MC	0.54	0.45	2.74%				
OP		34	MC	0.84	0.46	0.58%				
OP		35	MC	0.73	0.44	0.52%				
OP		36	MC	0.50	0.49	0.96%				
OP		37	MC	0.48	0.40	0.58%				
OP		38	MC	0.77	0.37	0.78%				
OP		39	MC	0.74	0.58	0.78%				
OP		40	MC	0.62	0.48	0.61%				
OP		41	MC	0.59	0.31	0.87%				
OP		42	CR	0.38	0.57	6.43%			+	
OP		43	MC	0.45	0.12	0.42%	+	+		
OP		44	MC	0.91	0.39	0.33%				
OP		45	MC	0.86	0.39	0.45%				
OP		46	MC	0.90	0.35	0.42%				
OP		47	MC	0.94	0.38	0.55%				
OP		48	MC	0.23	0.19	0.70%		+		+
OP		49	MC	0.77	0.29	0.42%				
OP		50	MC	0.71	0.35	0.51%				
OP		51	MC	0.83	0.46	0.45%				
OP		52	MC	0.71	0.45	0.93%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	CR	0.49	0.51	2.36%				
OP		54	MC	0.67	0.30	0.42%				
OP		55	MC	0.66	0.51	0.62%				
OP		56	MC	0.59	0.31	0.41%				
OP		57	MC	0.78	0.35	0.43%				
OP		58	MC	0.76	0.41	0.42%				
OP		59	MC	0.75	0.50	0.46%				
OP		60	MC	0.89	0.43	1.19%				
OP		61	MC	0.57	0.38	0.51%				
OP		62	MC	0.53	0.30	0.56%				
OP		63	MC	0.42	0.17	0.85%				
FT	A	64	MC	0.80	0.54	0.54%				
FT	A	65	MC	0.80	0.53	1.00%				
FT	A	66	MC	0.86	0.44	0.44%				
FT	A	67	MC	0.76	0.42	0.66%				
FT	A	68	MC	0.53	0.42	1.23%				
FT	A	69	MC	0.76	0.49	0.54%				
FT	A	70	MC	0.66	0.51	0.87%				
FT	A	71	MC	0.52	0.34	0.57%				
FT	A	72	MC	0.75	0.51	0.64%				
FT	A	73	MC	0.59	0.36	0.54%				
FT	A	74	MC	0.78	0.44	0.64%				
FT	A	75	MC	0.41	0.27	0.83%				
FT	A	76	MC	0.39	0.33	0.72%				
FT	A	77	MC	0.77	0.49	0.79%				
FT	A	78	MC	0.52	0.42	0.73%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	79	MC	0.38	0.23	1.00%				
FT	A	80	MC	0.63	0.28	0.66%				
FT	A	81	MC	0.76	0.45	0.80%				
FT	A	82	MC	0.79	0.49	0.95%				
FT	A	83	MC	0.72	0.44	0.71%				
FT	A	84	MC	0.42	0.38	0.64%				
FT	A	85	MC	0.62	0.33	0.99%				
FT	A	86	MC	0.68	0.24	1.60%				
FT	A	87	MC	0.47	0.27	2.04%				
FT	A	88	CR	0.35	0.53	7.98%			+	
FT	B	64	MC	0.82	0.53	0.35%				
FT	B	65	MC	0.81	0.51	0.95%				
FT	B	66	MC	0.88	0.44	0.32%				
FT	B	67	MC	0.77	0.41	0.36%				
FT	B	68	MC	0.56	0.42	0.92%				
FT	B	69	MC	0.78	0.48	0.32%				
FT	B	70	MC	0.68	0.49	0.70%				
FT	B	71	MC	0.53	0.33	0.49%				
FT	B	72	MC	0.76	0.50	0.52%				
FT	B	73	MC	0.62	0.37	0.48%				
FT	B	74	MC	0.79	0.42	0.56%				
FT	B	75	MC	0.42	0.28	0.47%				
FT	B	76	MC	0.40	0.34	0.54%				
FT	B	77	MC	0.78	0.48	0.56%				
FT	B	78	MC	0.54	0.42	0.55%				
FT	B	79	MC	0.38	0.25	0.75%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	80	MC	0.64	0.25	0.49%				
FT	B	81	MC	0.78	0.44	0.62%				
FT	B	82	MC	0.81	0.47	0.76%				
FT	B	83	MC	0.74	0.44	0.44%				
FT	B	84	MC	0.43	0.36	0.49%				
FT	B	85	MC	0.63	0.32	0.77%				
FT	B	86	MC	0.68	0.24	1.34%				
FT	B	87	MC	0.48	0.27	1.89%				
FT	B	88	CR	0.34	0.57	8.43%			+	
FT	C	64	MC	0.82	0.52	0.37%				
FT	C	65	MC	0.82	0.50	0.90%				
FT	C	66	MC	0.88	0.44	0.29%				
FT	C	67	MC	0.78	0.40	0.39%				
FT	C	68	MC	0.56	0.42	0.88%				
FT	C	69	MC	0.78	0.48	0.33%				
FT	C	70	MC	0.69	0.50	0.66%				
FT	C	71	MC	0.53	0.33	0.56%				
FT	C	72	MC	0.77	0.50	0.61%				
FT	C	73	MC	0.62	0.37	0.48%				
FT	C	74	MC	0.80	0.41	0.53%				
FT	C	75	MC	0.42	0.27	0.61%				
FT	C	76	MC	0.41	0.35	0.62%				
FT	C	77	MC	0.78	0.49	0.72%				
FT	C	78	MC	0.56	0.42	0.56%				
FT	C	79	MC	0.40	0.26	0.85%				
FT	C	80	MC	0.65	0.26	0.51%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	81	MC	0.78	0.43	0.57%				
FT	C	82	MC	0.82	0.46	0.71%				
FT	C	83	MC	0.75	0.43	0.50%				
FT	C	84	MC	0.43	0.37	0.54%				
FT	C	85	MC	0.63	0.35	1.03%				
FT	C	86	MC	0.67	0.23	1.56%				
FT	C	87	MC	0.49	0.26	2.05%				
FT	C	88	CR	0.35	0.51	11.02%			+	
FT	D	64	MC	0.82	0.52	0.48%				
FT	D	65	MC	0.82	0.50	0.95%				
FT	D	66	MC	0.88	0.44	0.50%				
FT	D	67	MC	0.78	0.40	0.61%				
FT	D	68	MC	0.56	0.41	1.17%				
FT	D	69	MC	0.78	0.48	0.52%				
FT	D	70	MC	0.68	0.49	0.87%				
FT	D	71	MC	0.54	0.34	0.53%				
FT	D	72	MC	0.77	0.49	0.59%				
FT	D	73	MC	0.62	0.35	0.50%				
FT	D	74	MC	0.81	0.41	0.56%				
FT	D	75	MC	0.43	0.27	0.81%				
FT	D	76	MC	0.40	0.34	0.82%				
FT	D	77	MC	0.78	0.49	0.76%				
FT	D	78	MC	0.55	0.41	0.73%				
FT	D	79	MC	0.39	0.26	1.00%				
FT	D	80	MC	0.64	0.25	0.61%				
FT	D	81	MC	0.78	0.43	0.67%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	D	82	MC	0.82	0.46	0.89%				
FT	D	83	MC	0.75	0.44	0.66%				
FT	D	84	MC	0.43	0.38	0.71%				
FT	D	85	MC	0.63	0.32	1.02%				
FT	D	86	MC	0.69	0.20	1.59%				
FT	D	87	MC	0.49	0.27	2.06%				
FT	D	88	CR	0.36	0.44	8.47%			+	
FT	E	64	MC	0.83	0.52	0.40%				
FT	E	65	MC	0.82	0.52	1.00%				
FT	E	66	MC	0.88	0.43	0.41%				
FT	E	67	MC	0.78	0.40	0.58%				
FT	E	68	MC	0.57	0.41	1.18%				
FT	E	69	MC	0.78	0.49	0.50%				
FT	E	70	MC	0.68	0.50	0.75%				
FT	E	71	MC	0.53	0.34	0.50%				
FT	E	72	MC	0.77	0.51	0.61%				
FT	E	73	MC	0.62	0.36	0.49%				
FT	E	74	MC	0.80	0.43	0.62%				
FT	E	75	MC	0.42	0.26	0.94%				
FT	E	76	MC	0.40	0.34	0.84%				
FT	E	77	MC	0.78	0.49	0.86%				
FT	E	78	MC	0.55	0.41	0.80%				
FT	E	79	MC	0.40	0.24	1.01%				
FT	E	80	MC	0.64	0.27	0.62%				
FT	E	81	MC	0.78	0.44	0.78%				
FT	E	82	MC	0.82	0.48	0.87%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	E	83	MC	0.76	0.44	0.67%				
FT	E	84	MC	0.43	0.37	0.66%				
FT	E	85	MC	0.63	0.33	0.95%				
FT	E	86	MC	0.68	0.23	1.62%				
FT	E	87	MC	0.48	0.28	2.22%				
FT	E	88	CR	0.35	0.50	11.04%			+	
FT	F	64	MC	0.82	0.51	0.52%				
FT	F	65	MC	0.82	0.49	1.04%				
FT	F	66	MC	0.88	0.43	0.47%				
FT	F	67	MC	0.77	0.40	0.65%				
FT	F	68	MC	0.56	0.42	1.19%				
FT	F	69	MC	0.78	0.48	0.49%				
FT	F	70	MC	0.69	0.49	0.85%				
FT	F	71	MC	0.53	0.34	0.76%				
FT	F	72	MC	0.76	0.50	0.87%				
FT	F	73	MC	0.62	0.38	0.73%				
FT	F	74	MC	0.80	0.40	0.79%				
FT	F	75	MC	0.42	0.25	0.62%				
FT	F	76	MC	0.40	0.34	0.50%				
FT	F	77	MC	0.78	0.48	0.56%				
FT	F	78	MC	0.55	0.42	0.45%				
FT	F	79	MC	0.39	0.24	0.73%				
FT	F	80	MC	0.65	0.26	0.61%				
FT	F	81	MC	0.79	0.43	0.71%				
FT	F	82	MC	0.82	0.45	0.78%				
FT	F	83	MC	0.75	0.44	0.59%				

Table 7-26 Cont'd  
Item Analysis Grade 8 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	F	84	MC	0.43	0.36	0.62%				
FT	F	85	MC	0.64	0.32	0.90%				
FT	F	86	MC	0.68	0.21	1.52%				
FT	F	87	MC	0.49	0.28	1.92%				
FT	F	88	CR	0.35	0.50	8.28%			+	

Table 7-27  
Item Analysis Grade 10 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.81	0.51	0.13%				
OP		2	MC	0.84	0.41	0.08%				
OP		3	MC	0.59	0.54	0.13%				
OP		4	MC	0.82	0.44	0.48%				
OP		5	MC	0.65	0.51	0.05%				
OP		6	MC	0.77	0.48	0.05%				
OP		7	MC	0.59	0.46	0.13%				
OP		8	MC	0.79	0.52	0.20%				
OP		9	MC	0.64	0.39	0.31%				
OP		10	MC	0.60	0.51	0.57%				
OP		11	MC	0.53	0.15	0.17%		+		
OP		12	MC	0.88	0.47	0.23%				
OP		13	MC	0.45	0.28	0.25%				
OP		14	MC	0.90	0.43	0.12%				
OP		15	CR	0.68	0.59	3.34%				
OP		16	MC	0.66	0.42	0.31%				
OP		17	MC	0.56	0.46	0.28%				
OP		18	MC	0.85	0.40	0.25%				
OP		19	MC	0.54	0.36	0.75%				
OP		20	MC	0.34	0.16	0.31%		+		
OP		21	MC	0.51	0.36	0.44%				
OP		22	CR	0.58	0.57	3.93%				
OP		23	MC	0.59	0.33	0.24%				
OP		24	MC	0.81	0.46	0.32%				
OP		25	MC	0.38	0.28	0.43%		+		
OP		26	MC	0.72	0.34	0.36%				

Table 7-27 Cont'd  
Item Analysis Grade 10 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.55	0.38	0.59%				
OP		28	MC	0.44	0.32	0.88%				
OP		29	MC	0.56	0.23	0.37%		+		
OP		30	MC	0.66	0.46	0.31%				
OP		31	MC	0.70	0.40	0.51%				
OP		32	MC	0.67	0.48	0.63%				
OP		33	MC	0.64	0.40	0.72%				
OP		34	MC	0.58	0.28	0.75%				
OP		35	MC	0.86	0.46	0.41%				
OP		36	MC	0.77	0.40	0.41%				
OP		37	MC	0.75	0.47	0.63%				
OP		38	MC	0.77	0.54	0.71%				
OP		39	MC	0.57	0.14	0.81%	+	+		
OP		40	MC	0.60	0.33	0.57%				
OP		41	MC	0.50	0.41	0.60%				
OP		42	MC	0.19	0.16	0.57%		+		+
OP		43	MC	0.60	0.38	0.69%				
OP		44	CR	0.55	0.69	4.74%				
OP		45	MC	0.79	0.44	0.32%				
OP		46	MC	0.77	0.43	0.40%				
OP		47	MC	0.54	0.20	0.44%		+		
OP		48	MC	0.57	0.40	0.51%				
OP		49	MC	0.74	0.42	0.36%				
OP		50	MC	0.53	0.42	0.47%				
OP		51	MC	0.61	0.52	1.03%				
OP		52	MC	0.80	0.51	0.44%				

Table 7-27 Cont'd  
Item Analysis Grade 10 Reading

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.76	0.51	0.44%				
OP		54	MC	0.71	0.52	0.63%				
OP		55	MC	0.72	0.51	1.00%				
OP		56	MC	0.93	0.44	0.39%				
OP		57	MC	0.87	0.47	0.40%				
OP		58	MC	0.64	0.39	0.64%				
OP		59	CR	0.48	0.61	5.50%				+

Table 7-28  
Item Analysis Grade 3 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.62	0.39	0.84%				
OP		2	MC	0.81	0.51	0.47%				
OP		3	MC	0.80	0.38	0.69%				
OP		4A	CR	0.76	0.51	1.08%				
OP		4B	CR	0.76	0.54	1.43%				
OP		5	MC	0.93	0.41	0.43%				
OP		6	MC	0.54	0.47	0.84%				
OP		7	MC	0.52	0.44	1.67%				
OP		8	MC	0.74	0.49	1.01%				
OP		9	MC	0.79	0.48	1.85%				
OP		10	MC	0.63	0.42	3.22%				
OP		11	MC	0.60	0.45	3.93%				
OP		12	MC	0.47	0.52	4.41%				
OP		13	MC	0.76	0.48	4.59%				
OP		14	MC	0.72	0.45	5.91%			+	
OP		15	MC	0.38	0.39	7.37%			+	
OP		16	MC	0.81	0.44	7.26%			+	
OP		17	MC	0.79	0.53	0.39%				
OP		18	MC	0.80	0.41	0.47%				
OP		19	MC	0.89	0.37	0.48%				
OP		20	MC	0.76	0.47	0.64%				
OP		21A	CR	0.60	0.53	2.77%				
OP		21B	CR	0.37	0.51	4.28%				
OP		22	MC	0.33	0.29	0.82%				
OP		23	MC	0.98	0.22	0.81%				
OP		24	MC	0.72	0.39	1.66%				

Table 7-28 Cont'd  
Item Analysis Grade 3 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		25	MC	0.94	0.30	1.01%				
OP		26	MC	0.87	0.39	0.42%				
OP		27	MC	0.58	0.48	0.47%				
OP		28	MC	0.82	0.45	0.21%				
OP		29	MC	0.32	0.20	1.18%		+		
OP		30	MC	0.48	0.43	0.71%				
OP		31	MC	0.72	0.46	1.03%				
OP		32	MC	0.95	0.35	0.98%				
OP		33A	CR	0.40	0.35	1.34%				
OP		33B	CR	0.31	0.39	2.88%				
OP		34	MC	0.97	0.17	0.84%				
OP		35	MC	0.95	0.36	0.81%				
OP		36	MC	0.84	0.47	1.71%				
OP		37	MC	0.78	0.42	1.00%				
OP		38	MC	0.86	0.41	0.90%				
OP		39	MC	0.80	0.46	0.26%				
OP		40	MC	0.27	0.40	0.26%		+		+
OP		41	MC	0.96	0.25	0.66%				
OP		42	MC	0.49	0.44	0.55%				
OP		43	MC	0.66	0.29	0.85%				
OP		44	MC	0.55	0.35	1.11%				
OP		45	MC	0.46	0.51	1.43%				
OP		46	MC	0.78	0.38	2.17%				
OP		47	MC	0.79	0.29	0.82%				
OP		48	MC	0.96	0.26	1.19%				
OP		49A	CR	0.69	0.35	0.90%				

Table 7-28 Cont'd  
Item Analysis Grade 3 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		49B	CR	0.49	0.36	1.48%				
OP		50	MC	0.79	0.38	0.47%				
OP		51	MC	0.91	0.36	0.71%				
OP		52	MC	0.76	0.47	0.68%				
OP		53A	CR	0.74	0.47	1.64%				
OP		53B	CR	0.51	0.57	3.12%				
OP		54	MC	0.77	0.49	0.90%				
OP		55	MC	0.88	0.39	1.29%				
FT	A	56	MC	0.52	0.48	0.35%				
FT	A	57	MC	0.66	0.42	0.37%				
FT	A	58	MC	0.71	0.52	0.80%				
FT	A	59	MC	0.83	0.42	1.16%				
FT	A	60	CR	0.23	0.51	1.09%				+
FT	A	61	MC	0.60	0.46	1.01%				
FT	A	62	MC	0.85	0.49	0.31%				
FT	A	63	MC	0.29	0.32	0.42%				+
FT	A	64	MC	0.26	0.35	2.76%				+
FT	A	65	MC	0.86	0.48	0.33%				
FT	A	66	MC	0.85	0.43	0.45%				
FT	A	67	MC	0.51	0.28	0.78%				
FT	A	68	CR	0.56	0.46	1.97%				
FT	A	69	MC	0.92	0.39	0.63%				
FT	A	70	MC	0.98	0.24	0.70%				
FT	A	71	MC	0.70	0.51	0.90%				
FT	A	72	MC	0.86	0.21	0.69%				
FT	B	56	MC	0.85	0.47	0.19%				

Table 7-28 Cont'd  
Item Analysis Grade 3 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	B	57	MC	0.35	0.46	0.43%				
FT	B	58	MC	0.80	0.42	1.10%				
FT	B	59	MC	0.63	0.52	1.88%				
FT	B	60	CR	0.56	0.50	0.63%				
FT	B	61	MC	0.59	0.50	1.89%				
FT	B	62	MC	0.57	0.40	0.40%				
FT	B	63	MC	0.76	0.49	0.61%				
FT	B	64	MC	0.70	0.45	0.90%				
FT	B	65	MC	0.95	0.27	0.74%				
FT	B	66	MC	0.44	0.39	0.74%				
FT	B	67	MC	0.63	0.45	1.33%				
FT	B	68	CR	0.78	0.42	1.52%				
FT	B	69	MC	0.82	0.45	0.71%				
FT	B	70	MC	0.75	0.48	1.14%				
FT	B	71	MC	0.81	0.47	1.08%				
FT	B	72	MC	0.78	0.44	1.58%				
FT	C	56	MC	0.86	0.48	0.15%				
FT	C	57	MC	0.76	0.31	0.49%				
FT	C	58	MC	0.82	0.45	0.53%				
FT	C	59	MC	0.77	0.43	0.61%				
FT	C	60	CR	0.40	0.57	0.98%				
FT	C	61	MC	0.78	0.51	0.90%				
FT	C	62	MC	0.81	0.37	0.47%				
FT	C	63	MC	0.50	0.24	0.35%		+		
FT	C	64	MC	0.88	0.18	1.25%				
FT	C	65	MC	0.98	0.19	0.90%				

Table 7-28 Cont'd  
Item Analysis Grade 3 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	66	MC	0.92	0.28	0.46%				
FT	C	67	CR	0.41	0.41	0.46%				
FT	C	68	MC	0.96	0.31	0.43%				
FT	C	69	MC	0.75	0.29	0.78%				
FT	C	70	MC	0.78	0.51	0.55%				
FT	C	71	MC	0.23	0.25	0.82%		+		+
FT	C	72	MC	0.70	0.42	0.74%				

Table 7-29  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.60	0.47	1.05%				
OP		2	MC	0.56	0.51	0.33%				
OP		3	MC	0.87	0.31	0.24%				
OP		4	MC	0.72	0.49	0.62%				
OP		5	MC	0.66	0.53	0.79%				
OP		6	MC	0.79	0.44	0.65%				
OP		7	MC	0.80	0.22	0.86%				
OP		8A	CR	0.58	0.49	1.14%				
OP		8B	CR	0.63	0.50	2.36%				
OP		9	MC	0.89	0.29	1.19%				
OP		10	MC	0.54	0.39	2.01%				
OP		11	MC	0.71	0.56	2.30%				
OP		12	MC	0.83	0.34	3.16%				
OP		13	MC	0.57	0.50	4.17%				
OP		14	MC	0.88	0.38	4.93%				
OP		15	MC	0.62	0.56	5.01%				+
OP		16	MC	0.76	0.42	6.98%				+
OP		17	MC	0.87	0.47	0.21%				
OP		18	MC	0.74	0.47	0.51%				
OP		19	MC	0.90	0.20	0.41%				
OP		20A	CR	0.55	0.45	0.68%				
OP		20B	CR	0.35	0.58	2.32%				
OP		21	MC	0.94	0.40	0.78%				
OP		22	MC	0.81	0.37	1.05%				
OP		23	MC	0.88	0.42	0.76%				
OP		24	MC	0.97	0.23	0.82%				

Table 7-29 Cont'd  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		25	MC	0.44	0.37	1.08%				
OP		26	MC	0.71	0.43	1.41%				
OP		27	MC	0.64	0.30	0.87%				
OP		28	MC	0.83	0.34	0.40%				
OP		29	MC	0.26	0.21	0.48%				+
OP		30	MC	0.96	0.24	0.67%				
OP		31	MC	0.86	0.29	0.41%				
OP		32	MC	0.81	0.43	0.75%				
OP		33A	CR	0.47	0.53	4.71%				
OP		33B	CR	0.40	0.56	4.15%				
OP		34	MC	0.76	0.46	1.06%				
OP		35	MC	0.78	0.53	1.25%				
OP		36	MC	0.93	0.36	0.78%				
OP		37A	CR	0.72	0.49	1.55%				
OP		37B	CR	0.62	0.54	3.00%				
OP		38	MC	0.71	0.31	1.19%				
OP		39	MC	0.53	0.44	1.67%				
OP		40	MC	0.64	0.34	0.60%				
OP		41	MC	0.91	0.44	1.92%				
OP		42	MC	0.94	0.23	0.59%				
OP		43A	CR	0.39	0.45	0.73%				
OP		43B	CR	0.47	0.58	1.67%				
OP		44	MC	0.65	0.31	0.30%				
OP		45	MC	0.92	0.30	0.62%				
OP		46	MC	0.95	0.19	1.38%				
OP		47	MC	0.95	0.31	0.65%				

Table 7-29 Cont'd  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		48	MC	0.65	0.49	1.49%				
OP		49	MC	0.85	0.29	0.48%				
OP		50	MC	0.65	0.47	1.51%				
OP		51	MC	0.98	0.13	0.70%	+			
OP		52	MC	0.40	0.53	0.63%				
OP		53	MC	0.76	0.53	0.51%				
OP		54A	CR	0.70	0.33	1.02%				
OP		54B	CR	0.27	0.51	2.20%				+
OP		55	MC	0.43	0.40	0.65%				
OP		56	MC	0.65	0.33	1.00%				
FT	A	57	MC	0.51	0.29	0.26%				
FT	A	58	MC	0.83	0.43	0.75%				
FT	A	59	MC	0.71	0.50	1.66%				
FT	A	60	MC	0.42	0.42	2.27%				
FT	A	61	CR	0.38	0.53	0.68%				
FT	A	62	MC	0.71	0.45	1.04%				
FT	A	63	MC	0.92	0.35	0.28%				
FT	A	64	MC	0.49	0.36	0.31%				
FT	A	65	MC	0.33	0.37	0.92%				
FT	A	66	MC	0.67	0.45	1.15%				
FT	A	67	MC	0.68	0.56	2.64%				
FT	A	68	MC	0.92	0.29	0.37%				
FT	A	69	CR	0.74	0.35	1.70%				
FT	A	70	MC	0.84	0.38	0.48%				
FT	A	71	MC	0.85	0.40	0.70%				
FT	A	72	MC	0.98	0.18	0.55%				

Table 7-29 Cont'd  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	73	MC	0.53	0.51	0.70%				
FT	B	57	MC	0.96	0.16	0.16%				
FT	B	58	MC	0.87	0.40	0.16%				
FT	B	59	MC	0.77	0.48	1.28%				
FT	B	60	MC	0.81	0.38	1.36%				
FT	B	61	CR	0.78	0.53	0.57%				
FT	B	62	MC	0.63	0.48	2.11%				
FT	B	63	MC	0.54	0.29	0.26%				
FT	B	64	MC	0.84	0.33	0.34%				
FT	B	65	MC	0.64	0.43	0.90%				
FT	B	66	MC	0.89	0.30	1.31%				
FT	B	68	MC	0.80	0.34	0.47%				
FT	B	69	MC	0.93	0.36	0.72%				
FT	B	70	MC	0.60	0.40	1.51%				
FT	B	71	MC	0.71	0.41	0.52%				
FT	B	72	MC	0.47	0.27	0.62%				
FT	B	73	MC	0.66	0.46	1.16%				
FT	C	57	MC	0.63	0.47	0.16%				
FT	C	58	MC	0.97	0.30	0.39%				
FT	C	59	MC	0.83	0.38	2.08%				
FT	C	60A	CR	0.94	0.24	0.47%				
FT	C	60B	CR	0.51	0.45	1.34%				
FT	C	61	MC	0.73	0.36	0.53%				
FT	C	62	MC	0.72	0.45	0.56%				
FT	C	63	MC	0.89	0.33	0.31%				

Table 7-29 Cont'd  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	64	MC	0.63	0.43	0.44%	+			
FT	C	65	MC	0.66	0.14	0.58%				
FT	C	66	MC	0.75	0.38	1.57%				
FT	C	67	MC	0.88	0.38	0.35%				
FT	C	68	MC	0.92	0.34	0.52%				
FT	C	69	CR	0.75	0.45	0.94%				
FT	C	70	MC	0.67	0.46	0.47%				
FT	C	71	MC	0.46	0.48	1.42%				
FT	C	72	MC	0.88	0.35	0.36%				
FT	C	73	MC	0.65	0.30	0.42%				
FT	D	57	MC	0.51	0.29	0.27%				
FT	D	58	MC	0.85	0.45	0.69%				
FT	D	59	MC	0.74	0.46	1.75%				
FT	D	60	MC	0.44	0.41	2.24%				
FT	D	61	CR	0.40	0.51	0.82%				
FT	D	62	MC	0.72	0.45	1.20%				
FT	D	63	MC	0.93	0.35	0.30%				
FT	D	64	MC	0.50	0.34	0.47%				
FT	D	65	MC	0.34	0.36	1.05%				
FT	D	66	MC	0.68	0.44	1.35%				
FT	D	67	MC	0.70	0.56	2.92%				
FT	D	68	MC	0.93	0.30	0.36%				
FT	D	69	CR	0.76	0.35	1.34%				
FT	D	70	MC	0.85	0.38	0.59%				
FT	D	71	MC	0.86	0.40	0.77%				
FT	D	72	MC	0.98	0.16	0.69%				

Table 7-29 Cont'd  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	D	73	MC	0.56	0.50	0.86%	+			
FT	E	57	MC	0.96	0.14	0.08%				
FT	E	58	MC	0.87	0.40	0.22%				
FT	E	59	MC	0.77	0.48	1.26%				
FT	E	60	MC	0.81	0.40	1.23%				
FT	E	61	CR	0.79	0.53	0.51%				
FT	E	62	MC	0.62	0.48	2.08%				
FT	E	63	MC	0.54	0.28	0.24%				
FT	E	64	MC	0.85	0.35	0.27%				
FT	E	65	MC	0.65	0.42	0.81%				
FT	E	66	MC	0.89	0.27	1.32%				
FT	E	68	MC	0.80	0.35	0.62%				
FT	E	69	MC	0.93	0.36	0.85%				
FT	E	70	MC	0.61	0.41	1.76%				
FT	E	71	MC	0.70	0.43	0.90%				
FT	E	72	MC	0.47	0.27	0.77%				
FT	E	73	MC	0.67	0.47	1.40%				
FT	F	57	MC	0.63	0.47	0.31%				
FT	F	58	MC	0.97	0.28	0.40%				
FT	F	59	MC	0.83	0.39	2.36%				
FT	F	60A	CR	0.92	0.30	0.28%				
FT	F	60B	CR	0.53	0.49	1.04%				
FT	F	61	MC	0.72	0.36	0.77%				
FT	F	62	MC	0.70	0.48	0.69%				
FT	F	63	MC	0.89	0.34	0.38%				

Table 7-29 Cont'd  
Item Analysis Grade 4 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
FT	F	64	MC	0.64	0.43	0.55%				
FT	F	65	MC	0.67	0.15	0.61%				
FT	F	66	MC	0.75	0.39	1.63%				
FT	F	67	MC	0.88	0.38	0.45%				
FT	F	68	MC	0.92	0.36	0.61%				
FT	F	69	CR	0.76	0.46	0.48%				
FT	F	70	MC	0.67	0.45	0.53%				
FT	F	71	MC	0.47	0.49	1.44%				
FT	F	72	MC	0.87	0.37	0.56%				
FT	F	73	MC	0.65	0.29	0.56%				

Table 7-30  
Item Analysis Grade 5 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.22	-0.03	0.41%	+	+		+
OP		2	MC	0.62	0.38	0.43%				
OP		3	MC	0.59	0.44	0.17%				
OP		4	MC	0.90	0.26	0.33%				
OP		5	MC	0.77	0.45	0.38%				
OP		6	MC	0.87	0.37	0.62%				
OP		7	MC	0.51	0.52	0.85%				
OP		8	MC	0.92	0.26	0.93%				
OP		9	MC	0.81	0.47	1.01%				
OP		10A	CR	0.82	0.46	1.12%				
OP		10B	CR	0.79	0.40	1.27%				
OP		11	MC	0.68	0.53	0.40%				
OP		12	MC	0.87	0.41	0.51%				
OP		13	MC	0.65	0.48	0.47%				
OP		14	MC	0.65	0.55	0.84%				
OP		15	MC	0.68	0.47	1.04%				
OP		16	MC	0.76	0.42	0.84%				
OP		17	MC	0.95	0.21	0.19%				
OP		18	MC	0.96	0.25	0.27%				
OP		19	MC	0.78	0.39	0.30%				
OP		20A	CR	0.52	0.45	1.01%				
OP		20B	CR	0.58	0.54	1.71%				
OP		21	MC	0.48	0.39	1.11%				
OP		22	MC	0.63	0.28	1.34%				
OP		23	MC	0.78	0.39	0.65%				
OP		24	MC	0.47	0.26	0.70%				

Table 7-30 Cont'd  
Item Analysis Grade 5 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		25	MC	0.90	0.23	0.87%				
OP		26	MC	0.49	0.37	1.12%				
OP		27	MC	0.88	0.32	1.49%				
OP		28A	CR	0.35	0.45	2.75%				
OP		28B	CR	0.21	0.43	4.49%				+
OP		29	MC	0.91	0.29	0.95%				
OP		30	MC	0.72	0.35	2.02%				
OP		31	MC	0.83	0.43	1.79%				
OP		32A	CR	0.23	0.52	2.33%				+
OP		32B	CR	0.53	0.53	3.38%				
OP		33	MC	0.25	0.05	1.30%	+	+		+
OP		34	MC	0.70	0.43	1.69%				
OP		35	MC	0.57	0.48	1.87%				
OP		36	MC	0.69	0.50	1.79%				
OP		37	MC	0.33	0.27	2.06%				
OP		38	MC	0.87	0.25	2.15%				
OP		39	MC	0.68	0.48	2.10%				
OP		40	MC	0.48	0.64	0.57%				
OP		41	MC	0.73	0.21	0.55%				
OP		42	MC	0.90	0.35	0.55%				
OP		43	MC	0.37	0.38	0.92%				
OP		44	MC	0.72	0.40	0.16%				
OP		45	MC	0.79	0.24	0.38%				
OP		46	MC	0.50	0.33	0.68%				
OP		47A	CR	0.54	0.52	1.28%				
OP		47B	CR	0.56	0.55	2.25%				

Table 7-30 Cont'd  
Item Analysis Grade 5 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		48	MC	0.94	0.18	0.55%				
OP		49	MC	0.38	0.29	1.23%		+		
OP		50	MC	0.47	0.40	1.30%				
OP		51A	CR	0.37	0.53	1.46%				
OP		51B	CR	0.36	0.53	2.06%				
OP		52	MC	0.64	0.43	0.74%				
OP		53	MC	0.81	0.32	0.49%				
OP		54	MC	0.93	0.28	0.44%				
OP		55	MC	0.50	0.34	0.85%		+		
OP		56	MC	0.76	0.54	1.23%				
OP		57	MC	0.39	0.36	8.35%			+	
OP		58	MC	0.60	0.30	0.55%				
OP		59	MC	0.70	0.29	0.62%		+		
OP		60A	CR	0.93	0.19	0.59%				
OP		60B	CR	0.83	0.33	1.17%				
OP		61	MC	0.51	0.47	0.40%				
OP		62	MC	0.77	0.45	0.57%				
FT	A	63	MC	0.88	0.39	0.17%				
FT	A	64	MC	0.90	0.41	0.19%				
FT	A	65	MC	0.12	0.36	0.55%				+
FT	A	66	MC	0.39	0.38	0.86%				
FT	A	67	CR	0.29	0.49	2.21%				+
FT	A	68	MC	0.72	0.35	1.01%				
FT	A	69	MC	0.47	0.41	0.47%		+		
FT	A	70	MC	0.40	0.41	0.51%				
FT	A	71	MC	0.89	0.18	0.81%				

Table 7-30 Cont'd  
Item Analysis Grade 5 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	72	MC	0.51	0.26	0.41%				
FT	A	73	MC	0.70	0.32	0.58%				
FT	A	74	CR	0.61	0.37	0.57%				
FT	A	75	MC	0.61	0.39	0.46%				
FT	A	76	MC	0.55	0.45	0.69%				
FT	A	77	MC	0.33	0.38	1.76%				
FT	A	78	MC	0.26	0.36	0.64%				+
FT	A	79	MC	0.72	0.39	0.84%				
FT	B	63	MC	0.84	0.24	0.23%				
FT	B	64	MC	0.58	0.31	0.58%				
FT	B	65	MC	0.83	0.45	0.45%				
FT	B	66	MC	0.32	0.46	0.79%				
FT	B	67	CR	0.60	0.65	1.07%				
FT	B	68	MC	0.58	0.42	0.98%				
FT	B	69	MC	0.26	0.28	0.57%				+
FT	B	70	MC	0.39	0.45	0.56%				
FT	B	71	MC	0.95	0.24	0.95%				
FT	B	72	MC	0.71	0.40	0.33%				
FT	B	73	MC	0.94	0.29	0.43%				
FT	B	74	MC	0.97	0.19	0.35%				
FT	B	75	MC	0.69	0.41	0.50%				
FT	B	76	MC	0.61	0.31	0.51%				
FT	B	77	CR	0.70	0.26	0.66%				
FT	B	78	MC	0.91	0.31	0.59%				
FT	B	79	MC	0.89	0.37	0.83%				
FT	C	63	MC	0.79	0.39	0.18%				

Table 7-30 Cont'd  
Item Analysis Grade 5 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	64	MC	0.56	0.36	0.32%				
FT	C	65	MC	0.64	0.37	1.04%				
FT	C	66	MC	0.83	0.34	1.23%				
FT	C	67A	CR	0.34	0.52	1.33%				
FT	C	67B	CR	0.51	0.63	2.05%				
FT	C	68	MC	0.69	0.47	0.60%				
FT	C	69	MC	0.74	0.31	0.33%				
FT	C	70	MC	0.34	0.51	0.55%				
FT	C	71	MC	0.23	0.40	0.57%				+
FT	C	72	MC	0.57	0.27	1.53%				
FT	C	74	MC	0.72	0.39	0.28%				
FT	C	75	MC	0.52	0.41	0.38%				
FT	C	76	MC	0.60	0.54	0.37%				
FT	C	77	MC	0.56	0.46	0.51%				
FT	C	78	MC	0.64	0.34	0.48%				
FT	C	79	MC	0.69	0.46	0.70%				

Table 7-31  
Item Analysis Grade 6 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.86	0.40	0.12%				
OP		2	MC	0.67	0.40	0.46%				
OP		3	MC	0.48	0.38	0.51%				
OP		4	MC	0.95	0.26	0.56%				
OP		5	MC	0.89	0.40	0.66%				
OP		6	MC	0.54	0.49	0.56%				
OP		7	MC	0.94	0.15	0.96%				
OP		8A	CR	0.69	0.53	0.84%				
OP		8B	CR	0.71	0.55	1.21%				
OP		9	MC	0.35	0.55	0.43%				
OP		10	MC	0.94	0.27	0.39%				
OP		11	MC	0.87	0.43	0.36%				
OP		12	MC	0.33	0.54	0.59%				
OP		13	MC	0.50	0.51	1.21%				
OP		14	MC	0.87	0.45	0.96%				
OP		15	MC	0.89	0.31	0.71%				
OP		16	MC	0.72	0.51	0.84%				
OP		17	MC	0.64	0.31	0.65%				
OP		18	MC	0.62	0.42	0.62%				
OP		19	MC	0.63	0.47	0.60%				
OP		20	MC	0.36	0.36	0.71%				
OP		21	MC	0.91	0.29	1.11%				
OP		22	MC	0.45	0.37	1.04%				
OP		23A	CR	0.52	0.44	1.36%				
OP		23B	CR	0.65	0.50	2.15%				
OP		24	MC	0.65	0.54	1.36%				

Table 7-31 Cont'd  
Item Analysis Grade 6 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		25	MC	0.66	0.38	0.71%				
OP		26	MC	0.75	0.34	0.53%				
OP		27	MC	0.86	0.36	0.57%				
OP		28A	CR	0.40	0.44	1.66%				
OP		28B	CR	0.38	0.47	2.54%				
OP		29	MC	0.46	0.34	0.97%				
OP		30	MC	0.59	0.56	0.70%				
OP		31	MC	0.66	0.35	1.33%				
OP		32	MC	0.62	0.52	0.74%				
OP		33	MC	0.61	0.36	0.31%				
OP		34	MC	0.52	0.41	0.29%				
OP		35	MC	0.61	0.32	0.28%				
OP		36	MC	0.57	0.45	0.49%				
OP		37A	CR	0.88	0.33	1.67%				
OP		37B	CR	0.45	0.46	2.92%				
OP		38	MC	0.63	0.33	1.24%				
OP		39	MC	0.56	0.37	0.54%				
OP		40	MC	0.79	0.44	3.68%				
OP		41	MC	0.48	0.36	0.73%				
OP		42	MC	0.64	0.29	0.48%				
OP		43	MC	0.47	0.52	0.46%				
OP		44A	CR	0.49	0.42	2.81%				
OP		44B	CR	0.44	0.45	3.79%				
OP		45	MC	0.72	0.57	0.74%				
OP		46	MC	0.66	0.34	0.70%				
OP		47	MC	0.65	0.36	0.59%				

Table 7-31 Cont'd  
Item Analysis Grade 6 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		48	MC	0.81	0.41	0.59%				
OP		49	MC	0.64	0.32	0.85%				
OP		50	MC	0.76	0.31	0.62%				
OP		51	MC	0.43	0.42	1.14%				
OP		52	MC	0.51	0.38	1.18%				
OP		53A	CR	0.24	0.50	1.83%				+
OP		53B	CR	0.33	0.57	2.83%				
OP		54	MC	0.52	0.50	0.76%				
OP		55	MC	0.68	0.31	1.07%				
OP		56	MC	0.71	0.33	1.30%				
OP		57A	CR	0.35	0.52	3.46%				
OP		57B	CR	0.33	0.56	5.04%			+	
OP		58	MC	0.63	0.49	0.65%				
OP		59	MC	0.97	0.21	0.62%				
OP		60	MC	0.46	0.20	0.66%				
OP		61	MC	0.49	0.38	1.07%				
OP		62	MC	0.34	0.45	0.80%		+		
FT	A	63	MC	0.88	0.29	0.29%				
FT	A	64	MC	0.89	0.33	0.33%				
FT	A	65	MC	0.76	0.49	0.69%				
FT	A	66	MC	0.65	0.46	1.44%				
FT	A	67	CR	0.47	0.57	1.96%				
FT	A	68	MC	0.83	0.30	1.13%				
FT	A	69	MC	0.54	0.51	0.73%				
FT	A	70	MC	0.80	0.29	0.51%				
FT	A	71	MC	0.77	0.47	0.47%				

Table 7-31 Cont'd  
Item Analysis Grade 6 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	72	MC	0.85	0.26	0.64%				
FT	A	73	CR	0.48	0.55	3.09%				
FT	A	74	MC	0.71	0.23	0.66%				
FT	A	75	MC	0.48	0.47	0.75%				
FT	A	76	MC	0.50	0.36	0.88%				
FT	A	77	MC	0.60	0.26	0.50%				
FT	A	78	MC	0.56	0.53	0.56%				
FT	A	79	MC	0.78	0.42	0.67%				
FT	B	63	MC	0.89	0.40	0.27%				
FT	B	64	MC	0.74	0.32	0.60%				
FT	B	65	MC	0.80	0.51	1.13%				
FT	B	66	MC	0.78	0.45	1.57%				
FT	B	67	CR	0.68	0.27	1.72%				
FT	B	68	MC	0.30	0.52	1.13%				+
FT	B	69	MC	0.84	0.19	0.32%				
FT	B	70	MC	0.80	0.42	0.58%				
FT	B	71	MC	0.70	0.42	0.38%				
FT	B	72	MC	0.47	0.42	0.47%				
FT	B	73	CR	0.32	0.59	2.34%				
FT	B	74	MC	0.51	0.20	0.92%		+		
FT	B	75	MC	0.42	0.28	0.75%				
FT	B	76	MC	0.60	0.38	0.61%		+		
FT	B	77	MC	0.73	0.44	0.50%				
FT	B	78	MC	0.59	0.52	0.55%				
FT	B	79	MC	0.55	0.47	0.67%				
FT	C	63	MC	0.65	0.49	0.57%				

Table 7-31 Cont'd  
Item Analysis Grade 6 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	64	MC	0.67	0.59	0.42%				
FT	C	65	MC	0.39	0.41	1.86%				
FT	C	66	MC	0.28	0.54	2.37%				+
FT	C	67	CR	0.26	0.33	0.82%				+
FT	C	68	MC	0.67	0.49	0.42%				
FT	C	69	MC	0.48	0.51	0.49%				
FT	C	70	MC	0.53	0.48	0.70%				
FT	C	71	MC	0.47	0.46	0.62%				
FT	C	72	MC	0.83	0.36	0.52%				
FT	C	73	MC	0.53	0.32	0.78%				
FT	C	74	MC	0.49	0.30	1.05%				
FT	C	75	MC	0.72	0.32	1.12%				
FT	C	76	MC	0.67	0.45	0.97%				
FT	C	77	MC	0.77	0.45	0.61%				
FT	C	78	CR	0.35	0.57	3.13%				
FT	C	79	MC	0.66	0.43	2.47%				

Table 7-32  
Item Analysis Grade 7 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.31	0.48	0.21%		+		
OP		2	MC	0.94	0.36	0.33%				
OP		3	MC	0.74	0.47	0.26%				
OP		4	MC	0.75	0.30	0.48%				
OP		5	MC	0.60	0.34	0.93%				
OP		6	MC	0.67	0.35	0.60%				
OP		7A	CR	0.90	0.33	2.29%				
OP		7B	CR	0.68	0.57	2.88%				
OP		8	MC	0.84	0.27	0.50%				
OP		9	MC	0.32	0.51	1.10%				
OP		10	MC	0.53	0.48	0.57%				
OP		11	MC	0.86	0.36	0.62%				
OP		12	MC	0.94	0.25	0.69%				
OP		13	MC	0.76	0.38	0.87%				
OP		14	MC	0.76	0.40	0.54%				
OP		15	MC	0.79	0.39	2.56%				
OP		16	MC	0.73	0.41	0.56%				
OP		17	MC	0.53	0.59	0.26%				
OP		18	MC	0.46	0.43	0.23%				
OP		19	MC	0.37	0.36	0.57%				
OP		20	MC	0.83	0.42	0.38%				
OP		21A	CR	0.28	0.44	7.89%			+	+
OP		21B	CR	0.27	0.51	12.47%			+	+
OP		22	MC	0.68	0.32	0.78%				
OP		23	MC	0.56	0.41	0.63%				
OP		24	MC	0.08	0.09	0.48%	+	+		+

Table 7-32 Cont'd  
Item Analysis Grade 7 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		25	MC	0.50	0.47	0.36%				
OP		26	MC	0.45	0.40	0.90%				
OP		27	MC	0.86	0.41	0.71%				
OP		28	MC	0.60	0.37	0.62%				
OP		29A	CR	0.57	0.53	3.51%				
OP		29B	CR	0.66	0.57	5.25%			+	
OP		30	MC	0.64	0.59	0.71%				
OP		31	MC	0.70	0.42	0.75%				
OP		32	MC	0.50	0.54	0.81%				
OP		33	MC	0.66	0.49	0.29%				
OP		34	MC	0.70	0.19	0.86%				
OP		35	MC	0.67	0.40	0.44%				
OP		36	MC	0.65	0.27	0.72%				
OP		37A	CR	0.60	0.61	1.96%				
OP		37B	CR	0.40	0.59	6.02%			+	
OP		38	MC	0.77	0.44	0.42%				
OP		39	MC	0.86	0.45	0.69%				
OP		40	MC	0.37	0.37	1.27%				
OP		41	MC	0.76	0.41	0.74%				
OP		42	MC	0.76	0.50	0.92%				
OP		43	MC	0.33	0.31	1.78%				
OP		44A	CR	0.46	0.49	2.11%				
OP		44B	CR	0.31	0.53	6.04%			+	
OP		45	MC	0.42	0.38	0.66%				
OP		46	MC	0.80	0.46	0.60%				
OP		47	MC	0.80	0.31	0.71%				

Table 7-32 Cont'd  
Item Analysis Grade 7 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		48	MC	0.60	0.52	2.44%				
OP		49	MC	0.41	0.42	0.32%				
OP		50	MC	0.88	0.34	2.29%				
OP		51	MC	0.69	0.56	0.54%				
OP		52	MC	0.40	0.34	0.47%				
OP		53	MC	0.90	0.41	0.63%				
OP		54A	CR	0.72	0.34	1.63%				
OP		54B	CR	0.18	0.57	11.10%			+	+
OP		55	MC	0.43	0.33	0.78%				
OP		56	MC	0.90	0.35	0.56%				
OP		57	MC	0.79	0.35	0.84%				
OP		58	MC	0.44	0.53	1.99%				
OP		59	MC	0.41	0.40	2.32%				
OP		60A	CR	0.28	0.59	5.27%			+	+
OP		60B	CR	0.14	0.54	10.34%			+	+
OP		61	MC	0.67	0.47	0.53%				
OP		62	MC	0.89	0.36	0.65%				
FT	A	63	MC	0.63	0.42	0.40%				
FT	A	64	MC	0.44	0.40	0.62%				
FT	A	65	MC	0.59	0.54	1.07%				
FT	A	66	MC	0.51	0.60	1.34%				
FT	A	67	MC	0.53	0.35	0.51%				
FT	A	68	CR	0.79	0.55	1.84%				
FT	A	69	MC	0.67	0.35	0.40%				
FT	A	70	MC	0.64	0.51	0.51%				
FT	A	71	MC	0.78	0.40	0.48%				

Table 7-32 Cont'd  
Item Analysis Grade 7 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	72	MC	0.61	0.55	0.77%				
FT	A	73	MC	0.44	0.47	1.00%				
FT	A	74	MC	0.50	0.39	1.08%				
FT	A	75	MC	0.68	0.40	0.56%		+		
FT	A	76	MC	0.81	0.34	0.50%				
FT	A	77	MC	0.06	0.11	0.75%	+	+		+
FT	A	78	CR	0.15	0.39	2.76%				+
FT	A	79	MC	0.60	0.52	1.03%				
FT	B	63	MC	0.65	0.49	0.51%				
FT	B	64	MC	0.46	0.52	0.83%				
FT	B	65	MC	0.43	0.22	1.09%		+		
FT	B	66	MC	0.73	0.40	1.15%				
FT	B	67	MC	0.53	0.56	0.63%				
FT	B	68	CR	0.26	0.23	3.82%				+
FT	B	69	MC	0.57	0.44	0.64%				
FT	B	70	MC	0.51	0.44	0.61%				
FT	B	71	MC	0.53	0.50	0.83%				
FT	B	72	MC	0.63	0.47	0.81%				
FT	B	73	MC	0.78	0.06	1.08%	+	+		
FT	B	74	MC	0.49	0.42	2.49%				
FT	B	75	MC	0.53	0.20	1.36%				
FT	B	76	MC	0.61	0.40	0.71%				
FT	B	77	MC	0.93	0.34	0.58%				
FT	B	78	MC	0.41	0.34	0.91%		+		
FT	B	79	CR	0.35	0.49	2.49%				
FT	C	63	MC	0.50	0.51	0.69%				

Table 7-32 Cont'd  
Item Analysis Grade 7 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	64	MC	0.94	0.22	0.28%				
FT	C	65	MC	0.54	0.45	1.20%				
FT	C	66	MC	0.60	0.32	0.76%				
FT	C	67	CR	0.19	0.39	2.73%				+
FT	C	68	MC	0.59	0.43	0.66%				
FT	C	69	MC	0.81	0.43	0.60%				
FT	C	70	MC	0.72	0.33	0.53%				
FT	C	71	MC	0.40	0.33	0.65%		+		
FT	C	72	MC	0.67	0.52	1.20%				
FT	C	73	MC	0.24	0.41	1.16%				+
FT	C	74	MC	0.55	0.30	0.87%				
FT	C	75	MC	0.32	0.33	0.73%				
FT	C	76	MC	0.49	0.34	0.69%				
FT	C	77	CR	0.35	0.61	1.70%				
FT	C	78	MC	0.51	0.35	0.93%		+		
FT	C	79	MC	0.95	0.26	0.82%				

Table 7-33  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.82	0.34	0.17%				
OP		2	MC	0.67	0.55	0.26%				
OP		3	MC	0.89	0.31	0.12%				
OP		4A	CR	0.78	0.30	0.28%				
OP		4B	CR	0.57	0.53	1.09%				
OP		5	MC	0.91	0.30	0.07%				
OP		6	MC	0.34	0.53	0.20%				
OP		7	MC	0.49	0.41	0.20%				
OP		8	MC	0.83	0.44	0.16%				
OP		9	MC	0.56	0.50	0.36%				
OP		10	MC	0.60	0.55	0.58%				
OP		11	MC	0.71	0.56	0.17%				
OP		12	MC	0.69	0.55	0.47%				
OP		13	MC	0.52	0.38	0.77%				
OP		14	MC	0.72	0.44	0.44%				
OP		15	MC	0.84	0.39	0.52%				
OP		16	MC	0.47	0.44	0.54%				
OP		17	MC	0.42	0.43	0.36%				
OP		18	MC	0.66	0.56	0.31%				
OP		19A	CR	0.78	0.30	0.44%				
OP		19B	CR	0.66	0.46	1.43%				
OP		20	MC	0.66	0.47	0.35%				
OP		21	MC	0.49	0.44	0.36%				
OP		22A	CR	0.21	0.56	4.14%				+
OP		22B	CR	0.22	0.66	6.90%			+	+
OP		23	MC	0.48	0.37	0.33%				

Table 7-33 Cont'd  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		24	MC	0.45	0.43	0.50%				
OP		25A	CR	0.40	0.49	2.02%				
OP		25B	CR	0.13	0.54	6.67%			+	+
OP		26	MC	0.76	0.41	0.66%				
OP		27	MC	0.95	0.24	0.33%				
OP		28	MC	0.45	0.25	0.71%		+		
OP		29	MC	0.19	0.44	0.45%				+
OP		30	MC	0.89	0.22	0.50%				
OP		31	MC	0.52	0.40	0.50%				
OP		32	MC	0.67	0.55	0.48%				
OP		33A	CR	0.31	0.58	3.92%				
OP		33B	CR	0.16	0.59	6.26%			+	+
OP		34	MC	0.93	0.26	0.48%				
OP		35	MC	0.33	0.02	1.02%	+	+		
OP		36	MC	0.56	0.48	0.47%				
OP		37	MC	0.69	0.29	0.71%				
OP		38A	CR	0.43	0.61	3.03%				
OP		38B	CR	0.49	0.68	4.98%				
OP		39	MC	0.62	0.29	0.48%				
OP		40	MC	0.56	0.52	0.67%				
OP		41	MC	0.31	0.39	0.70%				
OP		42	MC	0.53	0.46	0.74%				
OP		43	MC	0.65	0.44	0.83%				
OP		44	MC	0.86	0.23	0.57%				
OP		45	MC	0.32	0.22	0.67%				
OP		46	MC	0.58	0.35	0.79%				

Table 7-33 Cont'd  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		47	MC	0.58	0.22	0.67%				
OP		48A	CR	0.62	0.55	3.86%				
OP		48B	CR	0.38	0.65	10.31%			+	
OP		49	MC	0.49	0.42	0.79%				
OP		50	MC	0.42	0.34	0.63%				
OP		51	MC	0.33	0.39	1.11%		+		
OP		52	MC	0.35	0.15	1.14%	+	+		
OP		53	MC	0.28	0.26	1.49%		+		+
OP		54A	CR	0.21	0.57	10.76%			+	+
OP		54B	CR	0.21	0.60	14.94%			+	+
OP		55	MC	0.76	0.49	0.92%				
OP		56	MC	0.31	0.56	1.05%				
OP		57	MC	0.35	0.21	2.01%				
OP		58	MC	0.17	0.32	1.31%				+
FT	A	59	MC	0.29	0.28	0.66%		+		+
FT	A	60	MC	0.80	0.47	0.57%				
FT	A	61	MC	0.64	0.37	0.91%				
FT	A	62	MC	0.49	0.44	1.11%				
FT	A	63	CR	0.14	0.51	5.53%			+	+
FT	A	64	MC	0.25	0.16	1.00%		+		+
FT	A	65	MC	0.76	0.37	1.17%				
FT	A	66	MC	0.70	0.45	0.85%				
FT	A	67	MC	0.44	0.27	1.11%		+		
FT	A	68	MC	0.22	0.06	1.03%	+	+		+
FT	A	70	MC	0.51	0.35	1.59%				

Table 7-33 Cont'd  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	A	71	MC	0.60	0.56	1.81%				
FT	A	72	MC	0.36	0.24	1.42%				
FT	A	73	MC	0.54	0.36	1.30%				
FT	A	74	MC	0.52	0.34	1.33%				
FT	A	75	MC	0.83	0.36	1.67%				
FT	B	59	MC	0.48	0.15	0.41%				
FT	B	60	MC	0.58	0.48	0.65%				
FT	B	61	MC	0.76	0.47	1.22%				
FT	B	62	MC	0.63	0.42	1.54%				
FT	B	63	CR	0.19	0.56	2.31%				+
FT	B	64	MC	0.39	0.23	0.98%		+		
FT	B	65	MC	0.69	0.38	0.66%				
FT	B	66	MC	0.79	0.23	0.45%				
FT	B	67	MC	0.69	0.51	2.96%				
FT	B	68	CR	0.23	0.61	7.07%			+	+
FT	B	69	MC	0.77	0.43	0.64%				
FT	B	70	MC	0.44	0.27	2.69%				
FT	B	71	MC	0.68	0.51	0.60%				
FT	B	72	MC	0.74	0.32	0.79%				
FT	B	73	MC	0.37	0.33	0.95%				
FT	B	74	MC	0.45	0.37	1.54%				
FT	B	75	MC	0.67	0.36	0.90%				
FT	C	59	MC	0.41	0.34	0.41%				
FT	C	60	MC	0.70	0.58	0.30%				
FT	C	61	MC	0.36	0.22	0.80%		+		
FT	C	62	MC	0.76	0.25	0.91%				

Table 7-33 Cont'd  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	C	63	CR	0.32	0.57	2.89%				
FT	C	64	MC	0.63	0.47	0.61%				
FT	C	65	MC	0.81	0.43	0.41%				
FT	C	66	MC	0.23	-0.10	4.47%	+	+		+
FT	C	67	CR	0.29	0.62	5.57%			+	+
FT	C	68	MC	0.70	0.32	0.58%				
FT	C	69	MC	0.54	0.33	0.54%				
FT	C	70	MC	0.27	0.10	0.81%	+	+		+
FT	C	71	MC	0.53	0.45	0.84%				
FT	C	72	MC	0.63	0.40	0.94%				
FT	C	73	MC	0.44	0.48	0.81%				
FT	C	74	MC	0.59	0.57	1.20%				
FT	C	75	MC	0.63	0.42	1.39%				
FT	D	59	MC	0.30	0.29	0.59%		+		
FT	D	60	MC	0.83	0.42	0.41%				
FT	D	61	MC	0.66	0.34	0.67%				
FT	D	62	MC	0.51	0.43	0.99%				
FT	D	63	CR	0.16	0.52	4.59%				+
FT	D	64	MC	0.26	0.15	0.91%		+		+
FT	D	65	MC	0.77	0.36	1.04%				
FT	D	66	MC	0.72	0.42	0.56%				
FT	D	67	MC	0.45	0.29	0.88%				
FT	D	68	MC	0.21	0.08	0.99%	+	+		+
FT	D	70	MC	0.52	0.36	1.41%				
FT	D	71	MC	0.63	0.54	1.64%				

Table 7-33 Cont'd  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	D	72	MC	0.37	0.25	1.17%				
FT	D	73	MC	0.56	0.36	1.13%				
FT	D	74	MC	0.55	0.36	1.25%				
FT	D	75	MC	0.85	0.35	1.53%				
FT	E	59	MC	0.48	0.15	0.43%		+		
FT	E	60	MC	0.58	0.49	0.64%				
FT	E	61	MC	0.77	0.48	1.29%				
FT	E	62	MC	0.64	0.42	1.65%				
FT	E	63	CR	0.19	0.57	3.05%				+
FT	E	64	MC	0.39	0.23	1.02%		+		
FT	E	65	MC	0.69	0.38	0.69%				
FT	E	66	MC	0.79	0.22	0.63%				
FT	E	67	MC	0.70	0.51	3.25%				
FT	E	68	CR	0.24	0.64	8.03%			+	+
FT	E	69	MC	0.76	0.44	0.91%				
FT	E	70	MC	0.44	0.27	2.51%				
FT	E	71	MC	0.67	0.51	0.78%				
FT	E	72	MC	0.74	0.32	0.86%				
FT	E	73	MC	0.37	0.33	0.98%				
FT	E	74	MC	0.45	0.38	1.41%				
FT	E	75	MC	0.67	0.36	1.07%				
FT	F	59	MC	0.41	0.35	0.33%				
FT	F	60	MC	0.70	0.57	0.35%				
FT	F	61	MC	0.35	0.19	0.88%		+		
FT	F	62	MC	0.75	0.26	0.91%				
FT	F	63	CR	0.32	0.54	3.15%				

Table 7-33 Cont'd  
Item Analysis Grade 8 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	F	64	MC	0.63	0.47	0.53%				
FT	F	65	MC	0.80	0.43	0.43%				
FT	F	66	MC	0.23	-0.09	4.24%	+	+		+
FT	F	67	CR	0.29	0.61	5.43%			+	+
FT	F	68	MC	0.70	0.31	0.58%				
FT	F	69	MC	0.52	0.33	0.65%				
FT	F	70	MC	0.27	0.12	0.68%	+	+		+
FT	F	71	MC	0.52	0.46	0.66%				
FT	F	72	MC	0.63	0.43	0.77%				
FT	F	73	MC	0.44	0.47	0.58%				
FT	F	74	MC	0.59	0.56	1.03%				
FT	F	75	MC	0.62	0.44	1.07%				

Table 7-34  
Item Analysis Grade 10 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.78	0.34	0.17%				
OP		2	MC	0.65	0.34	0.73%				
OP		3	MC	0.39	0.48	0.23%				
OP		4	MC	0.46	0.49	0.64%				
OP		5	MC	0.67	0.52	0.47%				
OP		6	MC	0.53	0.33	0.57%				
OP		7	MC	0.49	0.24	0.57%				
OP		8	MC	0.52	0.53	0.80%				
OP		9	CR	0.50	0.68	5.17%			+	
OP		10	MC	0.49	0.58	1.98%				
OP		11	MC	0.25	0.23	3.46%				+
OP		12	MC	0.59	0.47	2.98%				
OP		13	MC	0.63	0.41	0.52%				
OP		14	MC	0.61	0.53	0.24%				
OP		15	CR	0.64	0.44	5.51%			+	
OP		16	MC	0.74	0.53	0.35%				
OP		17	MC	0.50	0.55	0.68%				
OP		18	MC	0.33	0.21	0.89%				
OP		19	CR	0.22	0.48	8.91%			+	+
OP		20	MC	0.71	0.38	0.31%				
OP		21	MC	0.59	0.48	2.73%				
OP		22	MC	0.42	0.47	0.72%				
OP		23	MC	0.66	0.57	0.47%				
OP		24	MC	0.56	0.44	0.53%				
OP		25	MC	0.93	0.33	0.48%				
OP		26	MC	0.70	0.55	0.49%				

Table 7-34  
Item Analysis Grade 10 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.69	0.55	0.47%				
OP		28	MC	0.53	0.53	1.04%				
OP		29	CR	0.38	0.60	9.19%			+	
OP		30	MC	0.58	0.41	0.60%				
OP		31	MC	0.35	0.40	0.83%				
OP		32	MC	0.45	0.49	0.89%				
OP		33	MC	0.58	0.59	0.63%				
OP		34	MC	0.63	0.60	0.67%				
OP		35	MC	0.35	0.09	0.99%	+	+		
OP		36	MC	0.64	0.42	1.01%				
OP		37	CR	0.32	0.65	13.47%			+	
OP		38	MC	0.77	0.52	0.55%				
OP		39	MC	0.76	0.54	0.76%				
OP		40	MC	0.48	0.64	0.93%				
OP		41	MC	0.35	0.32	1.25%				
OP		42	MC	0.34	0.43	0.56%				
OP		43	MC	0.40	0.41	0.88%				
OP		44	MC	0.65	0.48	0.92%				
OP		45	CR	0.32	0.69	14.16%			+	
OP		46	MC	0.43	0.42	0.71%		+		
OP		47	MC	0.36	0.48	0.75%				
OP		48	MC	0.53	0.40	0.83%				
OP		49	MC	0.41	0.30	0.77%				
OP		50	MC	0.44	0.36	0.87%				
OP		51	MC	0.68	0.46	0.76%				
OP		52	MC	0.66	0.52	0.71%				

Table 7-34  
Item Analysis Grade 10 Mathematics

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.53	0.29	0.73%				
OP		54	MC	0.71	0.51	1.00%				
OP		55	MC	0.62	0.46	1.41%				
OP		56	MC	0.33	0.49	0.88%		+		
OP		57	MC	0.53	0.61	1.09%				
OP		58	MC	0.74	0.43	1.04%				
OP		59	MC	0.72	0.39	1.04%				
OP		60	MC	0.78	0.48	1.32%				
OP		61	MC	0.58	0.49	1.52%				

Table 7-35  
Item Analysis Grade 4 Language Arts\*

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.90	0.45	0.21%				
OP		2	MC	0.82	0.39	0.35%				
OP		3	MC	0.90	0.32	0.39%				
OP		4	MC	0.90	0.24	0.33%				
OP		5	MC	0.52	0.25	0.63%				
OP		6	MC	0.82	0.40	0.33%				
OP		7	MC	0.86	0.37	0.62%				
OP		8	MC	0.45	0.45	0.52%				
OP		9	MC	0.73	0.40	1.36%				
OP		10	MC	0.95	0.30	1.10%				
OP		11	MC	0.55	0.47	0.77%				
OP		12	MC	0.88	0.43	0.95%				
OP		13	MC	0.87	0.49	0.88%				
OP		14	MC	0.85	0.48	0.62%				
OP		15	MC	0.59	0.45	0.66%				
OP		16	MC	0.56	0.46	2.02%				
OP		17	MC	0.70	0.52	0.90%				
OP		18	MC	0.59	0.46	1.74%				
OP		19	MC	0.51	0.46	2.78%				
OP		20	MC	0.66	0.43	0.93%				
OP		21	MC	0.50	0.36	1.25%				
OP		22	MC	0.80	0.51	0.60%				
OP		23	MC	0.58	0.39	0.57%				
OP		24	MC	0.67	0.51	1.17%				
OP		26	MC	0.67	0.54	1.10%				

\* Operational Writing prompt items are included here. Writing raw score is based on these items, but they do not contribute to the operational (scale) score.

Table 7-35 Cont'd  
Item Analysis Grade 4 Language Arts\*

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.54	0.49	2.04%				
OP		28	MC	0.75	0.57	1.42%				
OP		29	MC	0.38	0.41	2.26%				
OP		30	MC	0.47	0.29	1.15%				
OP		31	MC	0.54	0.46	2.73%				
OP		1A	CR	0.43	0.50	0.54%				
OP		1B	CR	0.65	0.29	0.54%				
FT	A	25	MC	0.37	0.24	0.72%		+		
FT	A	32	MC	0.63	0.43	1.11%				
FT	A	33	MC	0.22	0.20	2.23%				+
FT	A	1A	CR	0.48	0.60	1.04%				
FT	A	1B	CR	0.65	0.48	1.04%				
FT	B	25	MC	0.37	0.25	0.73%				
FT	B	32	MC	0.60	0.40	1.66%				
FT	B	33	MC	0.69	0.45	1.51%				
FT	B	34	MC	0.46	0.28	1.76%				
FT	B	1A	CR	0.43	0.64	1.77%				
FT	B	1B	CR	0.63	0.53	1.77%				
FT	C	25	MC	0.35	0.28	0.57%				
FT	C	32	MC	0.30	0.32	1.18%				
FT	C	33	MC	0.39	0.41	1.63%				
FT	C	1A	CR	0.50	0.60	0.88%				
FT	C	1B	CR	0.65	0.44	0.88%				
FT	D	25	MC	0.70	0.45	0.49%				
FT	D	32	MC	0.79	0.47	1.25%				

\* Operational Writing prompt items are included here. Writing raw score is based on these items, but they do not contribute to the operational (scale) score.

Table 7-35 Cont'd  
Item Analysis Grade 4 Language Arts\*

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	D	33	MC	0.44	0.19	1.51%		+		
FT	D	1A	CR	0.48	0.54	0.83%				
FT	D	1B	CR	0.64	0.44	0.83%				
FT	E	25	MC	0.56	0.30	0.79%				
FT	E	32	MC	0.56	0.42	1.36%				
FT	E	33	MC	0.35	0.32	1.54%				
FT	E	1A	CR	0.50	0.55	0.57%				
FT	E	1B	CR	0.65	0.46	0.57%				
FT	F	25	MC	0.49	0.29	0.98%				
FT	F	32	MC	0.67	0.52	1.58%				
FT	F	33	MC	0.24	0.10	1.79%	+	+		+
FT	F	1A	CR	0.45	0.57	0.73%				
FT	F	1B	CR	0.64	0.46	0.73%				

\* Operational Writing prompt items are included here. Writing raw score is based on these items, but they do not contribute to the operational (scale) score.

Table 7-36  
Item Analysis Grade 8 Language Arts\*

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.90	0.37	0.03%				
OP		2	MC	0.83	0.43	0.25%				
OP		3	MC	0.80	0.46	0.71%				
OP		4	MC	0.86	0.45	0.12%				
OP		5	MC	0.86	0.44	0.12%				
OP		6	MC	0.89	0.36	0.73%				
OP		7	MC	0.82	0.40	0.23%				
OP		8	MC	0.50	0.32	0.26%				
OP		9	MC	0.69	0.49	0.41%				
OP		10	MC	0.91	0.41	3.26%				
OP		11	MC	0.83	0.47	0.36%				
OP		12	MC	0.59	0.51	0.61%				
OP		13	MC	0.88	0.38	0.29%				
OP		14	MC	0.82	0.53	0.41%				
OP		15	MC	0.48	0.37	6.83%				+
OP		16	MC	0.76	0.51	0.32%				
OP		17	MC	0.32	0.38	0.57%				
OP		18	MC	0.73	0.50	0.36%				
OP		19	MC	0.79	0.58	0.29%				
OP		20	MC	0.90	0.50	0.61%				
OP		21	MC	0.51	0.37	2.41%				
OP		22	MC	0.76	0.53	0.33%				
OP		23	MC	0.75	0.54	3.13%				
OP		24	MC	0.67	0.48	0.86%				
OP		26	MC	0.67	0.33	0.54%				

\* Operational Writing prompt items are included here. Writing raw score is based on these items, but they do not contribute to the operational (scale) score.

Table 7-36 Cont'd  
Item Analysis Grade 8 Language Arts\*

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.80	0.48	0.76%				
OP		28	MC	0.64	0.51	1.92%				
OP		29	MC	0.40	0.25	2.30%				
OP		30	MC	0.76	0.42	0.54%				
OP		31	MC	0.89	0.36	0.64%				
OP		1A	CR	0.53	0.60	0.59%				
OP		1B	CR	0.67	0.35	0.59%				
FT	A	25	MC	0.72	0.39	0.67%				
FT	A	32	MC	0.68	0.43	0.69%				
FT	A	33	MC	0.31	0.35	1.44%				
FT	A	1A	CR	0.51	0.71	1.14%				
FT	A	1B	CR	0.66	0.48	1.09%				
FT	B	25	MC	0.68	0.47	0.49%				
FT	B	32	MC	0.72	0.48	0.78%				
FT	B	33	MC	0.54	0.31	0.93%				
FT	B	34	MC	0.34	0.25	1.10%				
FT	B	1A	CR	0.52	0.64	1.24%				
FT	B	1B	CR	0.66	0.41	1.14%				
FT	C	25	MC	0.55	0.37	0.55%				
FT	C	32	MC	0.33	0.14	0.60%	+	+		
FT	C	33	MC	0.35	0.26	0.82%				
FT	C	34	MC	0.72	0.47	0.83%				
FT	C	1A	CR	0.52	0.70	1.40%				
FT	C	1B	CR	0.66	0.51	1.35%				
FT	D	25	MC	0.63	0.43	0.86%				

\* Operational Writing prompt items are included here. Writing raw score is based on these items, but they do not contribute to the operational (scale) score.

Table 7-36 Cont'd  
Item Analysis Grade 8 Language Arts\*

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
FT	D	32	MC	0.40	0.05	0.68%	+	+		
FT	D	33	MC	0.72	0.46	0.93%				
FT	D	1A	CR	0.50	0.68	1.04%				
FT	D	1B	CR	0.66	0.41	1.04%				
FT	E	25	MC	0.64	0.33	0.63%				
FT	E	32	MC	0.71	0.53	0.60%				
FT	E	33	MC	0.59	0.39	0.63%				
FT	E	1A	CR	0.48	0.66	1.45%				
FT	E	1B	CR	0.66	0.45	1.45%				
FT	F	25	MC	0.42	0.24	0.59%				
FT	F	32	MC	0.71	0.43	0.61%				
FT	F	33	MC	0.53	0.19	0.69%				
FT	F	1A	CR	0.50	0.66	1.24%				
FT	F	1B	CR	0.66	0.39	1.24%				

\* Operational Writing prompt items are included here. Writing raw score is based on these items, but they do not contribute to the operational (scale) score.

Table 7-37  
Item Analysis Grade 10 Language Arts

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.47	0.40	0.03%				
OP		2	MC	0.86	0.45	0.08%				
OP		3	MC	0.76	0.48	0.05%				
OP		4	MC	0.58	0.46	0.58%				
OP		5	MC	0.49	0.28	0.60%				
OP		6	MC	0.87	0.42	0.11%				
OP		7	MC	0.27	0.13	0.38%	+	+		+
OP		8	MC	0.61	0.29	0.23%				
OP		9	MC	0.68	0.52	0.31%				
OP		10	MC	0.55	0.30	0.44%				
OP		11	MC	0.53	0.47	0.21%				
OP		12	MC	0.53	0.42	0.43%				
OP		13	MC	0.74	0.54	0.39%				
OP		14	MC	0.47	0.33	0.35%				
OP		15	MC	0.59	0.44	0.42%				
OP		16	MC	0.52	0.42	0.38%				
OP		17	MC	0.66	0.42	0.34%				
OP		18	MC	0.87	0.28	0.35%				
OP		19	MC	0.58	0.39	0.34%				
OP		20	MC	0.70	0.53	0.38%				
OP		21	MC	0.59	0.57	0.78%				
OP		22	MC	0.51	0.24	2.63%		+		
OP		23	MC	0.85	0.54	0.38%				
OP		24	MC	0.71	0.52	0.51%				
OP		25	MC	0.25	0.21	0.67%				+
OP		26	MC	0.81	0.54	0.75%				

Table 7-37 Cont'd  
 Item Analysis Grade 10 Language Arts

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
OP		27	MC	0.60	0.51	0.87%				
OP		28	MC	0.60	0.53	1.07%				
OP		29	MC	0.74	0.51	1.30%				
OP		30	MC	0.56	0.41	1.43%				
OP		1A	CR	0.54	0.66	2.75%				
OP		1B	CR	0.67	0.51	2.75%				

Table 7-38  
Item Analysis Grade 4 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.96	0.38	0.16%				
OP		2	MC	0.86	0.53	0.32%				
OP		3	MC	0.82	0.36	0.25%				
OP		4	MC	0.87	0.39	0.44%				
OP		5	MC	0.84	0.44	0.70%				
OP		6	MC	0.95	0.40	2.13%				
OP		7	MC	0.84	0.41	3.46%				
OP		8	MC	0.85	0.18	0.43%				
OP		9	MC	0.94	0.45	0.58%				
OP		10	MC	0.68	0.36	1.36%				
OP		11	MC	0.95	0.32	0.40%				
OP		12	MC	0.81	0.43	0.65%				
OP		13	MC	0.64	0.18	1.14%				
OP		14	MC	0.95	0.33	1.28%				
OP		15	MC	0.84	0.44	0.60%				
OP		16	MC	0.90	0.52	0.66%				
OP		17	MC	0.90	0.50	2.04%				
OP		18	MC	0.88	0.45	0.95%				
OP		19	MC	0.89	0.37	0.41%				
OP		20	MC	0.96	0.35	0.70%				
OP		21	MC	0.70	0.53	0.87%				
OP		22	MC	0.71	0.48	1.77%				
OP		23	MC	0.90	0.40	0.40%				
OP		24	MC	0.64	0.40	0.74%				
OP		25	MC	0.84	0.46	1.79%				
OP		26	MC	0.80	0.48	0.44%				

Table 7-38 Cont'd  
 Item Analysis Grade 4 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.73	0.31	0.73%				
OP		28	MC	0.81	0.56	0.58%				
OP		29	MC	0.88	0.49	1.41%				
OP		30	MC	0.69	0.39	0.81%				
OP		31	MC	0.75	0.49	1.00%				
OP		32	MC	0.78	0.44	0.57%				
OP		33	MC	0.57	0.38	0.81%				
OP		34	MC	0.77	0.53	0.93%				
OP		35	MC	0.58	0.38	1.42%				
OP		36	MC	0.72	0.51	0.55%				
OP		37	MC	0.91	0.51	0.55%				
OP		38	MC	0.81	0.51	0.88%				

Table 7-39  
Item Analysis Grade 8 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.83	0.52	0.07%				
OP		2	MC	0.84	0.54	1.18%				
OP		3	MC	0.82	0.48	0.28%				
OP		4	MC	0.91	0.45	0.19%				
OP		5	MC	0.70	0.43	0.52%				
OP		6	MC	0.95	0.41	0.23%				
OP		7	MC	0.85	0.28	0.32%				
OP		8	MC	0.72	0.46	0.51%				
OP		9	MC	0.88	0.49	0.20%				
OP		10	MC	0.88	0.50	0.29%				
OP		11	MC	0.81	0.51	0.82%				
OP		12	MC	0.89	0.46	0.26%				
OP		13	MC	0.86	0.43	0.38%				
OP		14	MC	0.81	0.50	0.73%				
OP		15	MC	0.77	0.47	0.36%				
OP		16	MC	0.86	0.44	0.47%				
OP		17	MC	0.80	0.49	1.20%				
OP		18	MC	0.58	0.40	1.27%				
OP		19	MC	0.76	0.39	0.66%				
OP		20	MC	0.73	0.56	0.58%				
OP		21	MC	0.56	0.45	0.71%				
OP		22	MC	0.92	0.42	0.35%				
OP		23	MC	0.64	0.44	0.50%				
OP		24	MC	0.67	0.35	0.44%				
OP		25	MC	0.79	0.40	0.68%				
OP		26	MC	0.59	0.53	0.71%				

Table 7-39 Cont'd  
Item Analysis Grade 8 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.48	0.29	1.08%				
OP		28	MC	0.63	0.25	0.42%				
OP		29	MC	0.70	0.54	0.42%				
OP		30	MC	0.63	0.39	0.44%				
OP		31	MC	0.48	0.39	0.73%				
OP		32	MC	0.65	0.51	0.76%				
OP		33	MC	0.84	0.50	0.74%				
OP		34	MC	0.67	0.45	0.76%				
OP		35	MC	0.74	0.54	1.02%				
OP		36	MC	0.81	0.45	0.47%				
OP		37	MC	0.83	0.49	0.73%				
OP		38	MC	0.60	0.54	0.74%				
OP		39	MC	0.45	0.21	0.99%				
OP		40	MC	0.77	0.49	1.06%				
OP		41	MC	0.58	0.39	0.68%				
OP		42	MC	0.54	0.45	0.95%				
OP		43	MC	0.43	0.41	1.01%				
OP		44	MC	0.84	0.47	0.99%				
OP		45	MC	0.69	0.46	0.86%				

Table 7-40  
Item Analysis Grade 10 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.50	0.24	0.12%				
OP		2	MC	0.59	0.41	0.27%				
OP		3	MC	0.62	0.39	0.11%				
OP		4	MC	0.61	0.38	0.24%				
OP		5	CR	0.24	0.42	9.92%			+	+
OP		6	MC	0.68	0.53	0.23%				
OP		7	MC	0.54	0.39	0.36%				
OP		8	MC	0.76	0.49	0.32%				
OP		9	MC	0.71	0.43	0.42%				
OP		10	MC	0.59	0.53	0.34%				
OP		11	MC	0.66	0.49	0.61%				
OP		12	MC	0.62	0.30	0.30%				
OP		13	CR	0.61	0.54	6.19%			+	
OP		14	MC	0.52	0.35	0.24%				
OP		15	MC	0.57	0.39	0.61%				
OP		16	MC	0.50	0.41	0.28%				
OP		17	MC	0.44	0.36	0.31%				
OP		18	MC	0.51	0.42	0.51%				
OP		19	MC	0.65	0.47	0.50%				
OP		20	MC	0.40	0.40	0.42%				
OP		21	MC	0.63	0.53	0.59%				
OP		22	CR	0.29	0.55	13.50%			+	+
OP		23	MC	0.82	0.45	0.39%				
OP		24	MC	0.73	0.50	0.43%				
OP		25	MC	0.69	0.49	0.45%				
OP		26	MC	0.72	0.48	0.89%				

Table 7-40 Cont'd  
Item Analysis Grade 10 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.85	0.51	0.36%				
OP		28	MC	0.59	0.38	0.46%				
OP		29	MC	0.69	0.51	0.38%				
OP		30	MC	0.70	0.47	0.51%				
OP		31	MC	0.67	0.58	0.61%				
OP		32	MC	0.77	0.46	0.51%				
OP		33	MC	0.52	0.29	0.62%				
OP		34	MC	0.95	0.32	0.39%				
OP		35	MC	0.75	0.39	0.66%				
OP		36	MC	0.68	0.41	0.36%				
OP		37	MC	0.70	0.45	0.47%				
OP		38	MC	0.50	0.45	0.42%				
OP		39	MC	0.74	0.49	0.77%				
OP		40	CR	0.34	0.56	11.53%			+	
OP		41	MC	0.64	0.49	0.61%				
OP		42	MC	0.63	0.42	0.68%				
OP		43	MC	0.56	0.39	0.65%				
OP		44	MC	0.55	0.30	0.76%				
OP		45	MC	0.52	0.28	0.54%				
OP		46	MC	0.53	0.32	4.35%				
OP		47	MC	0.81	0.52	0.49%				
OP		48	MC	0.70	0.49	0.53%				
OP		49	CR	0.46	0.53	11.41%			+	
OP		50	MC	0.45	0.33	0.59%				
OP		51	MC	0.66	0.54	0.54%				
OP		52	MC	0.67	0.43	0.49%				

Table 7-40 Cont'd  
Item Analysis Grade 10 Social Studies

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
OP		53	MC	0.75	0.55	0.59%				
OP		54	MC	0.67	0.54	0.76%				
OP		55	MC	0.57	0.41	0.64%				
OP		56	MC	0.53	0.45	0.73%				
OP		57	MC	0.60	0.34	0.54%				
OP		58	MC	0.62	0.46	0.58%				
OP		59	MC	0.48	0.31	0.65%				
OP		60	MC	0.64	0.53	0.59%				
OP		61	MC	0.75	0.57	0.80%				
OP		62	MC	0.55	0.45	0.88%				
OP		63	MC	0.62	0.47	1.07%				
OP		64	MC	0.68	0.45	0.82%				
OP		65	MC	0.57	0.51	0.80%				

Table 7-41  
Item Analysis Grade 4 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.99	0.11	0.05%	+			
OP		2	MC	0.94	0.22	0.21%				
OP		3	MC	0.59	0.35	0.73%				
OP		4	MC	0.93	0.35	0.02%				
OP		5	MC	0.96	0.27	0.25%				
OP		6	MC	0.77	0.39	1.23%				
OP		7	MC	0.87	0.29	0.65%				
OP		8	MC	0.92	0.36	1.71%				
OP		9	MC	0.80	0.38	0.36%				
OP		10	MC	0.78	0.52	0.41%				
OP		11	MC	0.67	0.46	2.04%				
OP		12	MC	0.81	0.48	0.41%				
OP		13	MC	0.41	0.24	1.72%		+		
OP		14	MC	0.72	0.29	0.89%				
OP		15	MC	0.72	0.45	0.65%				
OP		16	MC	0.75	0.41	0.84%				
OP		17	MC	0.79	0.50	0.92%				
OP		18	MC	0.54	0.43	1.57%				
OP		19	MC	0.66	0.41	0.43%				
OP		20	MC	0.63	0.53	0.55%				
OP		21	MC	0.67	0.44	0.84%				
OP		22	MC	0.84	0.44	0.46%				
OP		23	MC	0.87	0.42	0.76%				
OP		24	MC	0.56	0.37	1.12%				
OP		25	MC	0.35	0.19	0.85%		+		
OP		26	MC	0.38	0.14	1.20%	+	+		

Table 7-41 Cont'd  
Item Analysis Grade 4 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	MC	0.55	0.46	0.76%				
OP		28	MC	0.65	0.50	1.03%				
OP		29	MC	0.74	0.34	1.33%				
OP		30	MC	0.66	0.32	2.34%				
OP		31	MC	0.79	0.39	1.03%				
OP		32	MC	0.52	0.41	1.23%				
OP		33	MC	0.74	0.51	1.47%				
OP		34	MC	0.49	0.25	2.77%				
OP		35	MC	0.71	0.42	1.80%				
OP		36	MC	0.75	0.30	1.04%				
OP		37	MC	0.51	0.36	0.85%				
OP		38	MC	0.82	0.37	1.01%				
OP		39	MC	0.47	0.44	1.11%				
OP		40	MC	0.77	0.31	2.50%				

Table 7-42  
Item Analysis Grade 8 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.90	0.46	0.15%				
OP		2	MC	0.59	0.35	0.29%				
OP		3	MC	0.98	0.27	0.10%				
OP		4	MC	0.90	0.43	0.10%				
OP		5	MC	0.78	0.37	0.20%				
OP		6	MC	0.79	0.31	0.22%				
OP		7	MC	0.92	0.35	0.23%				
OP		8	MC	0.83	0.47	0.54%				
OP		9	MC	0.97	0.29	0.26%				
OP		10	MC	0.89	0.45	0.28%				
OP		11	MC	0.59	0.44	2.96%				
OP		12	MC	0.37	0.29	0.29%		+		
OP		13	MC	0.43	0.18	0.63%				
OP		14	MC	0.88	0.46	0.39%				
OP		15	MC	0.72	0.46	0.42%				
OP		16	MC	0.91	0.24	0.36%				
OP		17	MC	0.74	0.37	0.87%				
OP		18	MC	0.73	0.47	0.92%				
OP		19	MC	0.37	0.35	0.45%				
OP		20	MC	0.52	0.28	0.45%		+		
OP		21	MC	0.66	0.51	2.80%				
OP		22	MC	0.70	0.49	0.47%				
OP		23	MC	0.76	0.32	0.66%				
OP		24	MC	0.33	0.33	0.51%				
OP		25	MC	0.67	0.52	0.86%				
OP		26	MC	0.65	0.53	1.14%				

Table 7-42  
Item Analysis Grade 8 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	<i>P</i> -Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag <i>P</i> -Value
OP		27	MC	0.71	0.45	0.54%				
OP		28	MC	0.44	0.45	1.14%				
OP		29	MC	0.47	0.47	0.60%				
OP		30	MC	0.59	0.27	1.12%				
OP		31	MC	0.47	0.39	2.72%				
OP		32	MC	0.63	0.47	0.45%				
OP		33	MC	0.49	0.35	0.54%				
OP		34	MC	0.55	0.42	0.76%				
OP		35	MC	0.62	0.57	0.25%				
OP		36	MC	0.60	0.43	0.36%				
OP		37	MC	0.70	0.50	0.51%				
OP		38	MC	0.80	0.49	0.74%				
OP		39	MC	0.79	0.48	1.82%				
OP		40	MC	0.70	0.42	0.58%				

Table 7-43  
Item Analysis Grade 10 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		1	MC	0.59	0.36	0.30%				
OP		2	MC	0.66	0.53	0.14%				
OP		3	MC	0.82	0.34	0.08%				
OP		4	MC	0.87	0.39	0.16%				
OP		5	MC	0.80	0.47	0.35%				
OP		6	MC	0.50	0.49	0.23%				
OP		7	MC	0.70	0.47	0.19%				
OP		8	MC	0.39	0.29	0.24%				
OP		9	MC	0.46	0.35	0.27%				
OP		10	MC	0.67	0.42	0.39%				
OP		11	MC	0.55	0.39	0.39%				
OP		12	MC	0.43	0.30	0.72%				
OP		13	MC	0.62	0.53	0.76%				
OP		14	MC	0.77	0.37	0.78%				
OP		15	MC	0.75	0.43	0.19%				
OP		16	MC	0.45	0.18	0.22%				
OP		17	CR	0.64	0.47	6.25%			+	
OP		18	MC	0.71	0.50	0.34%				
OP		19	MC	0.78	0.44	0.36%				
OP		20	MC	0.34	0.27	0.34%		+		
OP		21	MC	0.57	0.45	0.46%				
OP		22	MC	0.51	0.35	0.54%				
OP		23	MC	0.44	0.43	0.43%				
OP		24	MC	0.67	0.35	0.58%				
OP		25	MC	0.58	0.45	0.35%				
OP		26	MC	0.82	0.40	0.26%				

Table 7-43 Cont'd  
Item Analysis Grade 10 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		27	CR	0.60	0.64	6.44%			+	
OP		28	MC	0.57	0.51	0.43%				
OP		29	MC	0.64	0.42	0.31%				
OP		30	MC	0.70	0.45	0.30%				
OP		31	MC	0.52	0.48	2.42%				
OP		32	MC	0.57	0.37	0.53%				
OP		33	MC	0.67	0.47	0.36%				
OP		34	MC	0.47	0.30	0.46%				
OP		35	CR	0.55	0.57	9.83%			+	
OP		36	MC	0.75	0.53	0.46%				
OP		37	MC	0.55	0.30	0.51%				
OP		38	MC	0.56	0.40	0.39%				
OP		39	MC	0.57	0.40	0.49%				
OP		40	MC	0.72	0.47	3.27%				
OP		41	MC	0.54	0.54	1.07%				
OP		42	MC	0.46	0.48	0.49%				
OP		43	MC	0.33	0.35	0.90%				
OP		44	MC	0.49	0.32	1.22%				
OP		45	MC	0.51	0.56	0.51%				
OP		46	MC	0.74	0.49	0.42%				
OP		47	MC	0.49	0.30	0.54%		+		
OP		48	CR	0.65	0.59	8.34%			+	
OP		49	MC	0.75	0.43	0.50%				
OP		50	MC	0.44	0.48	2.00%				
OP		51	MC	0.52	0.38	2.50%				
OP		52	MC	0.79	0.38	0.45%				

Table 7-43 Cont'd  
Item Analysis Grade 10 Science

Item ID Field			Item Statistic Fields				Flag			
OP/FT	Form	Test Book Item	Item Type	P-Value	Corr	Omit Rate	Flag Corr	Flag Distracter	Flag Omit	Flag P-Value
OP		53	MC	0.57	0.43	0.70%				
OP		54	MC	0.44	0.26	0.45%				
OP		55	MC	0.64	0.53	4.63%				
OP		56	MC	0.50	0.37	0.69%				
OP		57	MC	0.45	0.30	0.55%		+		
OP		58	MC	0.49	0.49	0.62%				
OP		59	MC	0.48	0.40	0.46%				
OP		60	MC	0.37	0.28	0.69%				
OP		61	MC	0.40	0.41	0.54%		+		
OP		62	MC	0.42	0.36	0.66%				
OP		63	MC	0.43	0.34	0.70%				
OP		64	MC	0.70	0.40	0.61%				

Table 7-44  
The Number of Items Flagged

Content	Grade	OP items				FT items			
		Flag Corr	Flag Distracter	Flag Omit	Flag p-value	Flag Corr	Flag Distracter	Flag Omit	Flag p-value
RD	3	1	1		1			2	1
	4		3		1				3
	5	1	3				7		6
	6	1	4		3	6	7	6	3
	7	3	7		4	4	14	3	5
	8	3	6	1	2			6	
	10	1	7	1	1			6	
MA	3		2	3	1		2		4
	4	1		2	2	4		2	2
	5	2	5	1	4	1	1	1	6
	6		1	1	1		2		3
	7		1	1	1		2		3
	8	2	5	6	9	8	16	7	19
	10	1	3	6	2				
LA	4					1	3		2
	8			1		2	2		
	10	1	2		2				
SS	4								
	8								
	10			5	2				
SC	4	2	3						
	8		2						
	10		4	4					

Table 8-1  
Item Flagged Based on Yen's  $Q_1$

Content	Grade	Form	Test Book_ID	CR Part	Status	Type	N	Z	Critical Z
RD	3		40		OP	MC	6036	43.04	16.10
	3	A	87		FT	CR	2712	10.41	7.23
	4		12		OP	MC	6248	18.2	16.66
	4	A	79		FT	CR	2902	14.38	7.74
	6		44		OP	MC	6454	28.47	17.21
	7		46		OP	MC	6659	33.9	17.76
	7		62		OP	MC	6642	30.54	17.71
	8		57		OP	MC	6876	18.44	18.34
	10		18		OP	MC	7490	20.04	19.97
	10		39		OP	MC	7448	38.11	19.86
	10		42		OP	MC	7466	30.29	19.91
MA	3	A	60		FT	CR	1905	5.54	5.08
	3	C	60		FT	CR	1927	9.69	5.14
	3	C	67		FT	CR	1937	8.26	5.17
	4		20	A	OP	CR	6251	27.56	16.67
	4		37	B	OP	CR	6105	29.11	16.28
	5		1		OP	MC	6297	38.09	16.79
	5		10	B	OP	CR	6243	18.9	16.65
	5		32	B	OP	CR	6109	99.74	16.29
	5		59		OP	MC	6284	17.45	16.76
	5	C	67	A	FT	CR	1925	6.63	5.13
	5	C	67	B	FT	CR	1911	13.01	5.10
	6		53	A	OP	CR	6349	20.22	16.93
	6		53	B	OP	CR	6284	16.96	16.76
	6		57	B	OP	CR	6141	33.18	16.38
	6	A	67		FT	CR	1904	9.21	5.08
	7		29	B	OP	CR	6293	24.04	16.78
	7		58		OP	MC	6510	18.99	17.36
	7		60	A	OP	CR	6292	20	16.78
	7	B	68		FT	CR	1889	33.27	5.04
	7	B	79		FT	CR	1915	12.01	5.11
8		2		OP	MC	6848	21.05	18.26	
8		4	B	OP	CR	6791	23.87	18.11	
8		8		OP	MC	6855	31.54	18.28	
8		22	A	OP	CR	6582	17.65	17.55	
8		33	B	OP	CR	6436	31.23	17.16	

Table 8-1 (Cont.)  
Item Flagged Based on Yen's  $Q_1$

Content	Grade	Form	Test Book_ID	CR Part	Status	Type	N	Z	Critical Z
MA	8		35		OP	MC	6796	18.53	18.12
	8		51		OP	MC	6790	19.27	18.11
	8	A	68		FT	MC	21586	74.48	57.56
	8	C	66		FT	MC	20680	216.75	55.15
	10		8		OP	MC	7449	25.77	19.86
	10		15		OP	CR	7095	35.9	18.92
	10		53		OP	MC	7454	20.58	19.88
SS	4		13		OP	MC	5978	30.16	15.94
	4		35		OP	MC	5962	20.78	15.90
	8		42		OP	MC	6677	24.88	17.81
	10		30		OP	MC	7361	39.45	19.63
SC	8		19		OP	MC	6812	22.08	18.17
	8		20		OP	MC	6812	20.57	18.17
	10		4		OP	MC	7393	24.56	19.71
LA	4	B	34		FT	MC	9713	25.96	25.90
	4	F	1	A	FT	CR	1907	5.37	5.09
	8		15		OP	MC	6245	24.44	16.65
	8		26		OP	MC	6673	27.94	17.79
	8		1	A	OP	CR	65069	196.08	173.52
	8	D	1	B	FT	CR	1932	6.95	5.15
	10		18		OP	MC	7435	35.32	19.83

Table 8-2  
Scoring Table for Reading Grade 3

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	270	126	33	435	7
1	270	126	34	437	7
2	270	126	35	439	7
3	270	126	36	441	7
4	270	126	37	443	7
5	270	126	38	445	7
6	270	126	39	447	7
7	270	126	40	449	7
8	270	126	41	452	7
9	270	126	42	454	7
10	270	126	43	456	7
11	270	126	44	459	8
12	270	126	45	461	8
13	342	54	46	464	8
14	364	32	<b>47</b>	<b>467</b>	<b>8</b>
15	375	22	48	470	8
16	383	17	49	473	9
17	389	15	50	476	9
<b>18</b>	<b>394</b>	<b>13</b>	51	479	9
19	398	12	52	482	9
20	402	11	53	486	10
21	406	10	54	490	10
22	409	9	55	494	10
23	412	9	56	499	11
24	414	8	57	503	11
25	417	8	58	509	12
26	419	8	59	515	13
27	422	7	60	522	14
28	424	7	61	531	16
29	426	7	62	543	19
30	428	7	63	560	25
<b>31</b>	<b>431</b>	<b>7</b>	64	587	36
32	433	7	65	635	57
			66	640	60

\* **Bold** represents SEM around cut score.

Table 8-3  
Scoring Table for Reading Grade 4

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	280	126	39	473	9
1	280	126	40	475	9
2	280	126	41	478	9
3	280	126	42	481	9
4	280	126	43	484	9
5	280	126	44	487	9
6	280	126	<b>45</b>	<b>489</b>	<b>9</b>
7	280	126	46	492	9
8	280	126	47	496	9
9	280	126	48	499	9
10	280	126	49	502	10
11	280	126	50	505	10
12	280	126	51	509	10
13	336	70	52	512	10
14	362	44	53	516	11
15	378	32	54	520	11
16	389	26	55	525	11
<b>17</b>	<b>397</b>	<b>22</b>	56	529	12
18	404	19	57	534	12
19	410	17	58	540	13
20	415	15	59	546	14
21	419	14	60	553	15
22	424	13	61	561	17
23	427	12	62	571	19
24	431	11	63	583	21
25	434	11	64	600	26
26	437	10	65	627	37
<b>27</b>	<b>440</b>	<b>10</b>	66	650	51
28	443	10			
29	446	9			
30	449	9			
31	452	9			
32	454	9			
33	457	9			
34	460	9			
35	462	9			
36	465	9			
37	467	9			
38	470	9			

\* **Bold** represents SEM around cut score.

Table 8-4  
Scoring Table for Reading Grade 5

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	290	80	39	462	11
1	290	80	40	465	11
2	290	80	41	469	11
3	290	80	42	472	11
4	290	80	43	475	11
5	290	80	44	478	11
6	290	80	45	481	11
7	290	80	46	485	11
8	290	80	47	488	11
9	290	80	48	491	11
10	290	80	49	495	11
11	290	80	<b>50</b>	<b>498</b>	<b>11</b>
12	290	80	51	502	11
13	290	80	52	506	11
14	290	80	53	510	12
15	322	51	54	514	12
16	344	35	55	518	12
17	358	28	56	523	12
18	369	24	57	528	13
19	377	21	58	533	13
20	385	19	59	539	14
21	391	18	60	545	15
22	397	16	61	552	16
<b>23</b>	<b>402</b>	<b>15</b>	62	560	17
24	407	15	63	570	19
25	412	14	64	581	21
26	416	13	65	594	24
27	420	13	66	612	29
28	424	13	67	637	37
29	428	12	68	679	55
30	432	12	69	690	61
31	436	12			
32	439	12			
<b>33</b>	<b>442</b>	<b>11</b>			
34	446	11			
35	449	11			
36	452	11			
37	456	11			
38	459	11			

\* **Bold** represents SEM around cut score.

Table 8-5  
Scoring Table for Reading Grade 6

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	84	39	482	12
1	300	84	40	485	12
2	300	84	41	489	11
3	300	84	42	492	11
4	300	84	43	496	11
5	300	84	44	499	11
6	300	84	45	503	11
7	300	84	46	506	11
8	300	84	47	510	12
9	300	84	<b>48</b>	<b>514</b>	<b>12</b>
10	300	84	49	518	12
11	300	84	50	522	12
12	300	84	51	526	12
13	300	84	52	530	12
14	328	59	53	535	13
15	350	44	54	540	13
16	365	35	55	545	14
17	377	29	56	550	14
18	386	24	57	556	15
19	394	21	58	562	15
20	401	19	59	568	16
21	407	17	60	576	17
22	413	16	61	583	17
<b>23</b>	<b>418</b>	<b>15</b>	62	592	18
24	423	15	63	601	19
25	428	14	64	612	20
26	433	14	65	625	23
27	437	14	66	642	28
28	441	14	67	667	38
29	445	13	68	711	59
30	449	13	69	730	69
31	453	13			
<b>32</b>	<b>457</b>	<b>13</b>			
33	460	13			
34	464	12			
35	468	12			
36	471	12			
37	475	12			
38	478	12			

\* **Bold** represents SEM around cut score.

Table 8-6  
Scoring Table for Reading Grade 7

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	310	103	39	499	10
1	310	103	40	502	10
2	310	103	41	506	10
3	310	103	42	509	10
4	310	103	43	512	10
5	310	103	44	515	10
6	310	103	45	518	11
7	310	103	<b>46</b>	<b>522</b>	<b>11</b>
8	310	103	47	525	11
9	310	103	48	529	11
10	310	103	49	532	11
11	310	103	50	536	11
12	310	103	51	540	12
13	341	72	52	544	12
14	368	45	53	548	12
15	385	32	54	552	13
16	396	26	55	557	13
17	406	21	56	562	14
18	413	19	57	567	14
19	420	17	58	573	15
20	426	16	59	579	16
<b>21</b>	<b>431</b>	<b>15</b>	60	586	17
22	437	14	61	594	18
23	441	14	62	604	20
24	446	13	63	615	23
25	450	13	64	628	26
26	454	13	65	644	30
27	458	12	66	667	36
28	462	12	67	700	48
<b>29</b>	<b>466</b>	<b>12</b>	68	774	89
30	470	12	69	780	93
31	473	12			
32	477	11			
33	480	11			
34	483	11			
35	487	11			
36	490	11			
37	493	11			
38	496	11			

\* **Bold** represents SEM around cut score.

Table 8-7  
Scoring Table for Reading Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	330	83	39	512	12
1	330	83	40	516	12
2	330	83	41	519	12
3	330	83	42	523	12
4	330	83	43	526	12
5	330	83	44	530	12
6	330	83	45	534	12
7	330	83	<b>46</b>	<b>537</b>	<b>12</b>
8	330	83	47	541	12
9	330	83	48	545	12
10	330	83	49	549	12
11	330	83	50	553	12
12	330	83	51	557	13
13	330	83	52	562	13
14	330	83	53	566	13
15	359	60	54	571	14
16	382	43	55	576	14
17	398	34	56	582	15
18	410	28	57	587	15
19	420	24	58	593	15
20	428	22	59	600	16
21	435	20	60	606	16
22	442	19	61	614	17
<b>23</b>	<b>447</b>	<b>18</b>	62	622	18
24	453	17	63	631	19
25	458	16	64	642	21
26	463	15	65	655	24
27	467	15	66	673	30
28	472	14	67	699	40
29	476	14	68	750	65
<b>30</b>	<b>480</b>	<b>13</b>	69	790	90
31	484	13			
32	487	13			
33	491	12			
34	495	12			
35	498	12			
36	502	12			
37	505	12			
38	509	12			

\* **Bold** represents SEM around cut score.

Table 8-8  
Scoring Table for Reading Grade 10

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	350	56	39	523	14
1	350	56	40	527	14
2	350	56	41	531	14
3	350	56	42	535	14
4	350	56	43	539	14
5	350	56	44	544	14
6	350	56	45	548	14
7	350	56	<b>46</b>	<b>552</b>	<b>14</b>
8	350	56	47	557	14
9	350	56	48	561	15
10	350	56	49	566	15
11	350	56	50	571	15
12	350	56	51	576	16
13	350	56	52	582	16
14	354	54	53	587	16
15	375	42	54	593	17
16	391	35	55	600	18
17	404	30	56	606	18
18	414	26	57	614	19
19	423	24	58	622	20
20	431	22	59	631	21
21	438	21	60	641	22
22	444	20	61	652	24
23	451	19	62	665	26
<b>24</b>	<b>456</b>	<b>18</b>	63	681	29
25	462	17	64	702	35
26	467	17	65	735	48
27	472	16	66	803	89
28	477	16	67	820	103
29	481	16			
30	486	15			
31	490	15			
32	494	15			
33	499	15			
<b>34</b>	<b>503</b>	<b>14</b>			
35	507	14			
36	511	14			
37	515	14			
38	519	14			

\* **Bold** represents SEM around cut score.

Table 8-9  
Scoring Table for Mathematics Grade 3

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	220	75	39	412	12
1	220	75	40	415	12
2	220	75	41	419	12
3	220	75	42	422	12
4	220	75	43	426	12
5	220	75	44	430	12
6	220	75	45	433	12
7	220	75	46	437	12
8	220	75	47	441	12
9	220	75	48	445	12
10	237	60	49	449	12
11	264	40	<b>50</b>	<b>454</b>	<b>12</b>
12	280	31	51	458	12
13	292	26	52	463	13
14	302	22	53	467	13
15	310	20	54	473	13
16	318	18	55	478	13
17	324	17	56	484	14
18	330	16	57	490	15
19	335	15	58	498	16
20	340	14	59	507	18
21	345	14	60	517	20
22	349	13	61	530	24
23	354	13	62	548	30
24	358	13	63	573	39
25	362	12	64	617	58
26	366	12	65	630	65
27	369	12			
28	373	12			
29	377	12			
30	380	12			
31	384	12			
32	387	12			
<b>33</b>	<b>391</b>	<b>11</b>			
34	394	11			
35	398	11			
36	401	11			
37	405	11			
<b>38</b>	<b>408</b>	<b>11</b>			

\* **Bold** represents SEM around cut score.

Table 8-10  
Scoring Table for Mathematics Grade 4

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	240	68	<b>39</b>	<b>438</b>	<b>11</b>
1	240	68	40	441	11
2	240	68	41	444	11
3	240	68	42	447	11
4	240	68	43	451	11
5	240	68	44	454	11
6	240	68	45	457	11
7	240	68	46	461	11
8	240	68	47	464	11
9	240	68	48	467	11
10	240	68	49	471	11
11	260	54	50	474	11
12	285	40	51	478	11
13	303	33	52	482	11
14	316	28	<b>53</b>	<b>485</b>	<b>12</b>
15	327	25	54	489	12
16	336	23	55	493	12
17	345	20	56	498	12
18	352	19	57	502	13
19	358	18	58	507	13
20	364	16	59	512	14
21	370	15	60	518	15
22	375	14	61	524	15
23	379	14	62	531	16
24	384	13	63	539	18
25	388	13	64	549	20
26	392	12	65	560	22
27	396	12	66	577	27
28	400	12	67	605	40
29	404	12	68	650	73
30	407	11			
31	411	11			
32	414	11			
33	418	11			
<b>34</b>	<b>421</b>	<b>11</b>			
35	425	11			
36	428	11			
37	431	11			
38	434	11			

\* **Bold** represents SEM around cut score.

Table 8-11  
Scoring Table for Mathematics Grade 5

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	270	60	39	460	11
1	270	60	<b>40</b>	<b>463</b>	<b>10</b>
2	270	60	41	466	10
3	270	60	42	469	10
4	270	60	43	472	10
5	270	60	44	475	10
6	270	60	45	477	10
7	270	60	46	480	10
8	270	60	47	483	10
9	270	60	48	486	10
10	270	60	49	489	10
11	270	60	50	492	10
12	279	55	51	494	10
13	304	43	52	497	10
14	322	35	53	500	10
15	336	30	54	503	10
16	348	27	<b>55</b>	<b>506</b>	<b>10</b>
17	358	24	56	509	10
18	366	23	57	512	10
19	374	21	58	516	10
20	381	20	59	519	10
21	388	18	60	522	11
22	393	17	61	526	11
23	399	17	62	530	11
24	404	16	63	534	12
25	409	15	64	538	12
26	414	14	65	543	12
27	418	14	66	548	13
28	422	14	67	553	14
29	426	13	68	559	15
30	430	13	69	566	16
31	434	12	70	574	16
32	437	12	71	582	17
33	441	12	72	592	17
<b>34</b>	<b>444</b>	<b>12</b>	73	605	20
35	447	11	74	624	29
36	451	11	75	657	43
37	454	11	76	680	53
38	457	11			

\* **Bold** represents SEM around cut score.

Table 8-12  
Scoring Table for Mathematics Grade 6

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	310	75	39	496	10
1	310	75	40	499	10
2	310	75	41	501	10
3	310	75	42	504	10
4	310	75	43	506	9
5	310	75	44	509	9
6	310	75	45	512	9
7	310	75	46	514	9
8	310	75	47	517	9
9	310	75	48	519	9
10	310	75	49	521	9
11	310	75	50	524	9
12	319	67	51	526	9
13	351	42	52	529	9
14	370	32	<b>53</b>	<b>531</b>	<b>9</b>
15	384	26	54	534	9
16	395	23	55	536	9
17	404	21	56	539	9
18	412	19	57	541	9
19	419	18	58	544	9
20	425	17	59	547	9
21	431	16	60	550	9
22	436	15	61	553	9
23	441	15	62	556	9
24	445	14	63	559	10
25	450	14	64	562	10
26	454	13	65	566	11
27	458	13	66	570	11
28	462	12	67	575	12
<b>29</b>	<b>465</b>	<b>12</b>	68	579	13
30	469	12	69	585	14
31	472	12	70	591	15
32	475	11	71	599	17
33	478	11	72	609	19
34	482	11	73	622	24
<b>35</b>	<b>485</b>	<b>11</b>	74	641	31
36	487	11	75	675	48
37	490	10	76	700	65
38	493	10			

\* **Bold** represents SEM around cut score.

Table 8-13  
Scoring Table for Mathematics Grade 7

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	330	86	39	521	10
1	330	86	40	523	10
2	330	86	41	526	9
3	330	86	42	529	9
4	330	86	43	532	9
5	330	86	44	534	9
6	330	86	45	537	9
7	330	86	46	539	9
8	330	86	47	542	9
9	330	86	48	545	9
10	330	86	49	547	9
11	334	82	50	550	9
12	373	46	51	553	9
13	393	34	<b>52</b>	<b>555</b>	<b>9</b>
14	407	28	53	558	9
15	418	24	54	561	9
16	427	21	55	564	9
17	434	19	56	566	9
18	441	18	57	569	9
19	447	16	58	572	9
20	453	16	59	575	9
21	458	15	60	578	9
22	463	14	61	581	9
23	467	14	62	585	10
24	471	13	63	588	10
25	476	13	64	592	10
<b>26</b>	<b>479</b>	<b>13</b>	65	596	11
27	483	12	66	600	11
28	487	12	67	605	12
29	490	12	68	610	13
30	494	11	69	616	13
31	497	11	70	623	14
32	500	11	71	630	15
<b>33</b>	<b>503</b>	<b>11</b>	72	639	17
34	506	11	73	651	19
35	509	10	74	667	25
36	512	10	75	695	37
37	515	10	76	710	46
38	518	10			

\* **Bold** represents SEM around cut score.

Table 8-14  
Scoring Table for Mathematics Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	350	71	39	554	10
1	350	71	40	557	9
2	350	71	41	560	9
3	350	71	42	562	9
4	350	71	43	565	9
5	350	71	44	568	9
6	350	71	45	570	9
7	350	71	<b>46</b>	<b>573</b>	<b>9</b>
8	350	71	47	576	9
9	350	71	48	578	9
10	350	71	49	581	9
11	350	71	50	583	9
12	373	55	51	586	9
13	402	40	52	588	9
14	421	33	53	591	9
15	436	28	54	594	9
16	448	25	55	596	9
17	458	23	56	599	9
18	467	20	57	602	9
19	475	19	58	605	9
<b>20</b>	<b>481</b>	<b>17</b>	59	608	9
21	488	16	60	611	9
22	493	15	61	614	10
23	498	14	62	618	10
24	503	14	63	621	10
25	508	13	64	625	10
<b>26</b>	<b>512</b>	<b>12</b>	65	629	11
27	516	12	66	634	11
28	520	12	67	639	12
29	523	11	68	644	12
30	527	11	69	650	13
31	530	11	70	658	15
32	533	11	71	667	17
33	536	10	72	680	21
34	540	10	73	704	32
35	543	10	74	730	51
36	546	10			
37	549	10			
38	551	10			

\* **Bold** represents SEM around cut score.

Table 8-15  
Scoring Table for Mathematics Grade 10

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	410	82	39	578	8
1	410	82	40	580	8
2	410	82	41	582	8
3	410	82	42	585	8
4	410	82	43	587	8
5	410	82	44	589	8
6	410	82	45	592	8
7	410	82	<b>46</b>	<b>594</b>	<b>8</b>
8	410	82	47	597	8
9	410	82	48	599	8
10	410	82	49	602	8
11	410	82	50	604	8
12	427	65	51	607	9
13	459	40	52	609	9
14	477	29	53	612	9
15	488	24	54	615	9
16	497	20	55	618	9
17	504	18	56	621	9
18	511	16	57	625	10
<b>19</b>	<b>516</b>	<b>15</b>	58	628	10
20	521	14	59	632	10
21	526	13	60	637	11
22	530	13	61	641	11
23	534	12	62	647	12
24	537	11	63	653	13
<b>25</b>	<b>541</b>	<b>11</b>	64	660	15
26	544	11	65	669	17
27	547	10	66	680	20
28	550	10	67	697	25
29	553	10	68	726	39
30	555	9	69	750	53
31	558	9			
32	561	9			
33	563	9			
34	566	9			
35	568	8			
36	570	8			
37	573	8			
38	575	8			

\* **Bold** represents SEM around cut score.

Table 8-16  
Scoring Table for Language Arts Grade 4

Raw Score	Scale Score	SEM
1	140	116
2	140	116
3	140	116
4	140	116
5	140	116
6	140	116
7	188	68
8	224	32
9	239	21
10	248	16
<b>11</b>	<b>255</b>	<b>14</b>
12	261	12
13	266	10
14	270	9
15	275	9
<b>16</b>	<b>278</b>	<b>9</b>
17	282	8
18	286	8
19	290	9
20	294	9
21	298	9
22	302	9
<b>23</b>	<b>307</b>	<b>9</b>
24	312	9
25	317	10
26	323	11
27	330	12
28	341	16
29	362	27
30	420	85

\* **Bold** represents SEM around cut score.

Table 8-17  
Scoring Table for Language Arts Grade 8

Raw Score	Scale Score	SEM
1	250	84
2	250	84
3	250	84
4	250	84
5	250	84
6	250	84
7	280	54
8	304	30
9	317	22
10	327	17
11	334	15
12	341	13
13	347	12
14	352	12
<b>15</b>	<b>357</b>	<b>11</b>
16	362	11
17	366	11
18	371	11
19	376	11
20	381	11
<b>21</b>	<b>386</b>	<b>11</b>
22	392	12
23	398	12
24	404	13
25	412	13
<b>26</b>	<b>420</b>	<b>13</b>
27	429	14
28	441	17
29	461	25
30	520	79

\* **Bold** represents SEM around cut score.

Table 8-18  
Scoring Table for Language Arts Grade 10

Raw Score	Scale Score	SEM
0	290	72
1	290	72
2	290	72
3	290	72
4	290	72
5	290	72
6	290	72
7	321	41
8	344	24
9	357	19
10	367	17
11	375	16
12	382	16
13	389	15
<b>14</b>	<b>395</b>	<b>15</b>
15	401	14
16	407	14
17	413	13
18	418	13
19	423	13
<b>20</b>	<b>429</b>	<b>13</b>
21	434	12
22	439	12
23	444	13
24	450	13
25	455	13
26	461	13
27	467	14
28	473	14
29	480	14
<b>30</b>	<b>487</b>	<b>15</b>
31	495	15
32	503	16
33	512	16
34	522	17
35	533	18
36	548	21
37	568	27
38	602	41
39	630	56

\* **Bold** represents SEM around cut score.

Table 8-19  
Scoring Table for Social Studies Grade 4

Raw Score	Scale Score	SEM
0	170	71
1	170	71
2	170	71
3	170	71
4	170	71
5	170	71
6	170	71
7	170	71
8	170	71
9	190	51
10	214	27
11	225	17
12	232	13
13	237	11
<b>14</b>	<b>242</b>	<b>10</b>
15	246	9
16	249	8
17	252	8
18	255	7
19	258	7
20	260	7
<b>21</b>	<b>263</b>	<b>7</b>
22	265	6
23	268	6
24	270	6
25	273	6
26	275	6
27	278	6
28	280	6
29	283	6
30	286	7
<b>31</b>	<b>289</b>	<b>7</b>
32	293	7
33	297	8
34	302	9
35	309	11
36	320	15
37	341	27
38	400	86

\* **Bold** represents SEM around cut score.

Table 8-20  
Scoring Table for Social Studies Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	230	108	39	419	11
1	230	108	40	425	11
2	230	108	41	431	12
3	230	108	42	440	14
4	230	108	43	452	18
5	230	108	44	474	29
6	230	108	45	530	79
7	230	108			
8	230	108			
9	230	108			
10	230	108			
11	232	106			
12	295	43			
13	312	26			
14	321	19			
15	329	15			
<b>16</b>	<b>334</b>	<b>13</b>			
17	339	12			
18	344	11			
19	347	10			
20	351	10			
21	355	9			
22	358	9			
23	361	9			
<b>24</b>	<b>365</b>	<b>9</b>			
25	368	9			
26	371	9			
27	374	9			
28	377	9			
29	380	9			
30	383	9			
31	387	9			
32	390	9			
33	394	9			
34	397	9			
35	401	9			
<b>36</b>	<b>405</b>	<b>9</b>			
37	409	10			
38	414	10			

\* **Bold** represents SEM around cut score.

Table 8-21  
Scoring Table for Social Studies Grade 10

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	240	136	39	443	9
1	240	136	40	445	9
2	240	136	41	447	8
3	240	136	42	450	8
4	240	136	43	452	8
5	240	136	<b>44</b>	<b>455</b>	<b>8</b>
6	240	136	45	457	8
7	240	136	46	459	8
8	240	136	47	462	9
9	240	136	48	464	9
10	240	136	49	467	9
11	240	136	50	469	9
12	240	136	51	472	9
13	240	136	52	475	9
14	289	87	53	478	9
15	332	44	54	480	9
16	350	30	55	483	9
17	361	24	56	487	10
18	370	20	57	490	10
19	377	18	58	493	10
20	383	16	59	497	10
21	388	15	60	501	11
22	393	14	61	505	11
23	397	13	62	510	12
24	401	12	63	516	13
25	405	12	64	522	14
<b>26</b>	<b>408</b>	<b>11</b>	65	530	16
27	411	11	66	539	18
28	415	10	67	551	22
29	417	10	68	569	29
<b>30</b>	<b>420</b>	<b>10</b>	69	600	44
31	423	10	70	620	56
32	426	9			
33	428	9			
34	431	9			
35	433	9			
36	436	9			
37	438	9			
38	440	9			

\* **Bold** represents SEM around cut score.

Table 8-22  
Scoring Table for Science Grade 4

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	170	47	39	416	54
1	170	47	40	440	72
2	170	47			
3	170	47			
4	170	47			
5	170	47			
6	170	47			
7	170	47			
8	170	47			
9	170	47			
10	187	35			
11	205	27			
12	217	22			
13	227	18			
14	235	16			
15	241	15			
<b>16</b>	<b>247</b>	<b>13</b>			
17	252	13			
18	257	12			
19	262	11			
20	266	11			
21	270	10			
22	274	10			
<b>23</b>	<b>278</b>	<b>10</b>			
24	281	9			
25	285	9			
26	288	9			
27	292	9			
28	296	9			
29	299	9			
30	303	9			
31	307	9			
32	312	10			
33	317	10			
<b>34</b>	<b>322</b>	<b>11</b>			
35	329	12			
36	338	15			
37	350	19			
38	371	28			

\* **Bold** represents SEM around cut score.

Table 8-23  
Scoring Table for Science Grade 8

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	230	95	39	520	48
1	230	95	40	560	82
2	230	95			
3	230	95			
4	230	95			
5	230	95			
6	230	95			
7	230	95			
8	230	95			
9	230	95			
10	278	47			
11	299	26			
12	311	20			
13	320	17			
14	328	16			
15	335	15			
16	342	14			
<b>17</b>	<b>348</b>	<b>13</b>			
18	353	13			
19	358	13			
20	363	12			
21	368	12			
22	373	12			
<b>23</b>	<b>377</b>	<b>11</b>			
24	382	11			
25	386	11			
26	391	11			
27	395	11			
28	400	11			
29	404	11			
30	409	11			
31	415	12			
<b>32</b>	<b>420</b>	<b>12</b>			
33	426	13			
34	433	13			
35	441	15			
36	451	17			
37	463	20			
38	482	27			

\* **Bold** represents SEM around cut score.

Table 8-24  
Scoring Table for Science Grade 10

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	240	133	39	450	9
1	240	133	40	452	9
2	240	133	41	455	9
3	240	133	42	457	9
4	240	133	43	460	9
5	240	133	44	462	9
6	240	133	<b>45</b>	<b>465</b>	<b>9</b>
7	240	133	46	467	9
8	240	133	47	470	9
9	240	133	48	472	9
10	240	133	49	475	9
11	240	133	50	478	9
12	240	133	51	481	9
13	304	69	52	484	9
14	334	41	53	487	10
15	350	31	54	490	10
16	361	25	55	493	10
17	370	22	56	497	10
18	377	19	57	501	11
19	384	17	58	505	11
20	389	16	59	509	12
21	394	15	60	514	12
22	399	14	61	519	13
23	403	13	62	526	14
24	407	13	63	533	16
<b>25</b>	<b>410</b>	<b>12</b>	64	542	18
26	414	12	65	554	21
27	417	11	66	571	27
28	420	11	67	602	42
29	423	11	68	610	47
30	426	11			
<b>31</b>	<b>429</b>	<b>10</b>			
32	432	10			
33	434	10			
34	437	10			
35	440	10			
36	442	9			
37	445	9			
38	447	9			

\* **Bold** represents SEM around cut score.

Table 9-1  
Scale Score Descriptive Statistics based on Census Data

<b>Content</b>	<b>Grade</b>	<b>N Count</b>	<b>Mean</b>	<b>SD</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>Min</b>	<b>Max</b>	<b>LOSS</b>	<b>HOSS</b>
<b>Reading</b>	3	56591	457.89	37.60	-1.19	4.87	270	640	270	640
	4	58341	476.80	46.13	-1.08	2.94	280	650	280	650
	5	58854	484.81	47.14	-0.84	1.92	290	683	290	690
	6	61655	500.74	48.68	-0.90	2.04	300	721	300	730
	7	63705	510.69	46.86	-0.81	2.08	310	780	310	780
	8	65333	525.84	50.10	-0.89	2.23	330	790	330	790
	10	70433	540.08	63.18	-0.58	0.91	350	820	350	820
<b>Mathematics</b>	3	56824	431.33	45.21	-0.27	1.11	220	630	220	630
	4	58490	462.89	45.58	-0.23	1.16	240	650	240	650
	5	58904	484.06	42.66	-0.60	2.14	270	680	270	680
	6	61654	507.49	43.49	-0.58	1.60	310	700	310	700
	7	63680	527.76	45.22	-0.78	1.95	330	710	330	710
	8	65300	540.01	48.91	-0.68	1.12	350	730	350	730
	10	70394	563.49	50.15	-0.77	1.28	410	750	410	750
<b>Language Arts</b>	4	58357	297.92	32.27	-0.83	6.33	140	420	140	420
	8	65136	396.96	37.17	-0.14	2.34	250	520	250	520
	10	70048	449.12	41.37	-0.45	1.14	290	630	290	630
<b>Social Studies</b>	4	58617	297.58	30.29	0.84	3.71	170	400	170	400
	8	65167	397.68	39.69	-0.33	3.31	230	530	230	530
	10	69940	445.11	48.28	-1.29	4.16	240	620	240	620
<b>Science</b>	4	58634	299.50	30.23	-0.03	2.60	170	440	170	440
	8	65198	398.09	39.23	-0.21	2.11	230	560	230	560
	10	70017	447.19	49.10	-1.48	4.48	240	610	240	610

Table 9-2  
Scale Score Descriptive Statistics based on 14 Districts

<b>Content</b>	<b>Grade</b>	<b>N Count</b>	<b>Mean</b>	<b>SD</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>Min</b>	<b>Max</b>	<b>LOSS</b>	<b>HOSS</b>
<b>Reading</b>	3	6183	458.61	40.06	-1.19	4.65	270	640	270	640
	4	6340	478.28	47.95	-0.99	2.65	280	650	280	650
	5	6360	487.48	49.88	-0.73	1.74	290	683	290	690
	6	6508	500.57	51.10	-0.79	1.83	300	721	300	730
	7	6685	512.22	49.45	-0.67	1.86	310	752	310	780
	8	6913	527.48	52.43	-0.78	1.86	330	742	330	790
	10	7512	543.17	65.26	-0.50	0.79	350	820	350	820
<b>Mathematics</b>	3	6215	435.82	48.96	-0.17	1.23	220	630	220	630
	4	6316	465.05	46.88	-0.19	1.16	240	650	240	650
	5	6325	488.62	44.56	-0.58	2.39	270	680	270	680
	6	6468	511.44	44.71	-0.56	1.79	310	699	310	700
	7	6649	532.85	47.81	-0.79	1.97	330	690	330	710
	8	6884	544.63	50.77	-0.58	1.01	350	730	350	730
	10	7513	566.06	52.61	-0.67	0.98	410	750	410	750
<b>Language Arts</b>	4	6340	298.31	33.83	-0.68	5.71	140	420	140	420
	8	6885	398.19	39.61	0.04	1.99	250	520	250	520
	10	7461	450.72	44.42	-0.54	1.27	290	630	290	630
<b>Social Studies</b>	4	6328	298.45	31.79	0.87	3.40	170	400	170	400
	8	6865	398.57	41.32	-0.21	2.82	230	530	230	530
	10	7407	446.96	51.65	-1.20	3.66	240	620	240	620
<b>Science</b>	4	6335	298.87	30.85	0.01	2.09	170	440	170	440
	8	6868	398.87	40.89	-0.08	1.81	230	560	230	560
	10	7420	446.30	52.91	-1.41	3.89	240	610	240	610

Table 9-3  
Scale Score Descriptive Statistics by Gender

Content	Grade	Male					Female				
		N Count	Mean	SD	Min	Max	N Count	Mean	SD	Min	Max
Reading	3	28782	454.12	39.12	270	640	27808	461.80	35.53	270	640
	4	29866	474.57	47.82	280	628	28475	479.14	44.18	280	650
	5	30114	482.51	48.67	290	657	28739	487.22	45.35	290	683
	6	31350	495.96	50.18	300	706	30303	505.70	46.55	300	721
	7	32757	505.68	48.17	310	752	30947	516.00	44.82	310	780
	8	33585	522.01	52.14	330	747	31747	529.89	47.52	330	790
	10	35660	532.45	65.51	350	820	34770	547.91	59.70	350	820
Mathematics	3	28965	433.55	46.72	220	630	27859	429.02	43.47	220	630
	4	29995	464.83	46.33	240	650	28495	460.84	44.70	240	650
	5	30186	484.65	43.74	270	680	28718	483.44	41.48	270	680
	6	31373	507.27	44.87	310	700	30280	507.72	42.01	310	700
	7	32762	528.32	46.89	330	710	30918	527.17	43.38	330	710
	8	33576	539.71	50.68	350	730	31722	540.33	46.96	350	730
	10	35630	563.60	52.94	410	750	34761	563.39	47.11	410	750
Language Arts	4	29883	293.88	33.09	140	420	28474	302.16	30.83	140	420
	8	33452	392.40	38.60	250	520	31683	401.77	34.97	250	520
	10	35425	441.67	42.71	290	630	34620	456.75	38.47	290	630
Social Studies	4	30078	297.36	30.98	170	400	28539	297.81	29.56	170	400
	8	33472	397.78	42.26	230	530	31694	397.58	36.78	230	530
	10	35394	443.96	52.51	240	620	34545	446.29	43.49	240	620
Science	4	30078	300.50	31.34	170	440	28556	298.45	28.98	170	440
	8	33501	399.67	41.14	230	560	31696	396.43	37.04	230	560
	10	35435	449.64	52.34	240	610	34580	444.68	45.39	240	610

Table 9-4  
Scale Score Descriptive Statistics for Reading by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	SD	Min	Max
Reading	W	3	44084	463.08	35.14	270	640
		4	45155	484.02	42.93	280	650
		5	45584	492.44	43.60	290	683
		6	48072	509.46	43.89	300	721
		7	50047	518.73	42.88	310	780
		8	51637	534.72	45.19	330	790
		10	57885	549.29	58.41	350	820
	AA	3	6155	431.72	41.40	270	586
		4	6302	442.48	49.63	280	583
		5	6445	448.19	50.60	290	639
		6	6800	459.13	53.70	300	620
		7	6772	471.88	49.49	310	648
		8	6956	480.71	54.05	330	665
		10	6138	479.93	67.51	350	755
	H	3	3660	443.26	36.91	270	548
		4	3972	455.55	43.95	280	587
		5	3953	462.24	46.09	290	626
		6	3736	475.91	48.19	300	624
		7	3692	485.80	47.44	310	629
		8	3591	498.57	50.73	330	653
		10	3097	505.06	62.03	350	771
	A	3	1893	455.53	37.17	270	618
		4	2071	470.53	46.54	280	603
		5	2056	479.85	44.41	290	639
		6	2095	489.29	46.85	300	623
		7	2201	496.67	45.16	310	681
		8	2151	514.16	48.21	330	686
		10	2328	526.44	59.15	350	806
	AI	3	798	446.16	37.07	270	582
		4	840	462.65	41.77	280	583
		5	812	469.33	44.98	290	605
		6	943	480.38	48.35	300	670
7		990	494.03	45.52	310	641	
8		997	504.64	48.38	330	633	
10		979	516.50	61.60	350	820	

Table 9-5  
Scale Score Descriptive Statistics for Mathematics by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	SD	Min	Max
Mathematics	W	3	44232	438.35	41.74	220	630
		4	45290	470.53	42.46	240	650
		5	45652	491.28	39.03	270	680
		6	48120	514.85	39.79	310	700
		7	50075	535.76	40.62	330	710
		8	51655	548.45	44.47	350	730
		10	57903	571.37	45.42	410	750
	AA	3	6180	391.14	48.43	220	630
		4	6349	423.13	45.66	240	613
		5	6453	446.27	45.47	270	608
		6	6797	467.66	45.22	310	639
		7	6765	482.70	48.43	330	642
		8	6948	493.51	50.04	350	651
		10	6105	508.46	53.36	410	685
	H	3	3722	414.56	39.15	220	621
		4	3934	442.71	40.25	240	602
		5	3930	463.79	39.31	270	653
		6	3704	488.53	39.69	310	627
		7	3653	507.26	42.83	330	669
		8	3556	514.32	47.15	350	649
		10	3080	533.83	48.22	410	701
	A	3	1893	437.03	46.50	220	630
		4	2066	463.33	46.18	240	650
		5	2053	486.74	42.39	270	680
		6	2082	509.84	42.62	310	700
		7	2192	526.43	45.17	330	690
		8	2141	541.33	46.94	350	727
		10	2321	560.35	48.73	410	750
	AI	3	797	417.87	41.53	243	621
		4	850	445.08	39.71	298	563
		5	813	469.96	37.91	270	577
		6	943	488.13	43.56	310	604
7		993	509.45	42.07	330	651	
8		998	515.49	48.98	350	659	
10		979	541.93	47.74	410	670	

Table 9-6  
Scale Score Descriptive Statistics for Language Arts by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	SD	Min	Max
Language Arts	W	4	45179	302.44	30.24	140	420
		8	51565	402.38	35.36	250	520
		10	57736	454.44	38.91	290	630
	AA	4	6299	275.52	35.74	140	420
		8	6868	370.41	37.37	250	520
		10	5978	414.51	43.91	290	561
	H	4	3971	285.68	30.87	140	420
		8	3565	378.62	34.52	250	520
		10	3040	428.00	40.64	290	551
	A	4	2068	295.43	30.86	140	420
		8	2149	389.29	34.25	250	520
		10	2321	442.14	40.30	290	630
	AI	4	839	286.87	32.39	140	420
		8	988	381.43	35.43	250	520
		10	967	428.98	38.63	290	540

Table 9-7  
Scale Score Descriptive Statistics for Social Studies by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	SD	Min	Max
Social Studies	W	4	45384	301.84	29.51	170	400
		8	51641	404.31	36.62	230	530
		10	57758	452.23	42.91	240	620
	AA	4	6354	276.27	28.43	170	400
		8	6855	361.94	41.18	230	530
		10	5902	394.68	61.40	240	620
	H	4	3963	286.92	25.05	170	400
		8	3544	377.79	37.30	230	530
		10	3001	419.88	49.76	240	611
	A	4	2064	294.28	29.82	170	400
		8	2136	392.31	37.03	230	530
		10	2309	436.92	43.44	240	582
	AI	4	851	287.37	25.52	170	400
		8	990	382.06	34.46	230	530
		10	966	425.82	48.70	240	528

Table 9-8  
Scale Score Descriptive Statistics for Science by Ethnicity

Content	Ethnicity	Grade	N Count	Mean	SD	Min	Max
Science	W	4	45389	304.94	27.96	170	440
		8	51649	405.36	36.05	230	560
		10	57774	455.82	41.38	240	610
	AA	4	6359	272.62	30.67	170	440
		8	6872	361.21	37.79	230	560
		10	5948	386.65	63.93	240	574
	H	4	3966	285.21	26.73	170	440
		8	3544	375.11	36.42	230	560
		10	3010	417.49	52.93	240	582
	A	4	2067	294.83	29.15	170	440
		8	2138	387.76	37.14	230	560
		10	2313	434.22	47.43	240	581
	AI	4	852	288.60	27.30	170	409
		8	994	380.12	35.75	230	507
		10	968	427.51	49.00	240	549

Table 9-9  
Scale Score Descriptive Statistics by Socioeconomic Status

Content	Grade	Economically Disadvantaged					Not Economically Disadvantaged				
		N Count	Mean	SD	Min	Max	N Count	Mean	SD	Min	Max
Reading	3	18430	441.39	38.87	270	581	38161	465.86	34.23	270	640
	4	19000	454.69	48.16	280	605	39341	487.49	41.06	280	650
	5	19102	462.35	48.40	290	671	39752	495.60	42.50	290	683
	6	19608	475.34	50.71	300	670	42047	512.59	42.83	300	721
	7	19550	486.38	48.48	310	654	44155	521.45	41.83	310	780
	8	19187	498.72	52.25	330	686	46146	537.12	44.56	330	790
	10	16170	504.99	64.41	350	771	54263	550.54	58.90	350	820
Mathematics	3	18573	410.30	45.11	220	630	38251	441.54	41.59	220	630
	4	19064	440.85	44.70	240	650	39426	473.54	42.05	240	650
	5	19118	463.04	42.68	270	653	39786	494.16	38.79	270	680
	6	19590	485.59	43.73	310	677	42064	517.69	39.42	310	700
	7	19513	503.78	46.57	330	690	44167	538.35	40.30	330	710
	8	19150	513.75	49.69	350	703	46150	550.90	44.23	350	730
	10	16140	533.64	51.89	410	716	54254	572.38	46.02	410	750
Language Arts	4	19011	284.05	32.88	140	420	39346	304.62	29.75	140	420
	8	19051	379.40	36.24	250	520	46085	404.21	35.07	250	520
	10	15950	426.84	41.29	290	599	54098	455.69	39.03	290	630
Social Studies	4	19141	285.09	27.47	170	400	39476	303.63	29.74	170	400
	8	19031	376.87	39.14	230	530	46136	406.26	36.62	230	530
	10	15892	418.05	52.98	240	611	54048	453.07	43.73	240	620
Science	4	19155	284.97	29.64	170	440	39479	306.55	27.91	170	440
	8	19059	377.34	38.43	230	560	46139	406.67	36.25	230	560
	10	15943	417.85	56.52	240	575	54074	455.84	43.02	240	610

Table 9-10  
Scale Score Descriptive Statistics by Disability

Content	Grade	Disabled					Not Disabled				
		N Count	Mean	SD	Min	Max	N Count	Mean	SD	Min	Max
Reading	3	6671	424.48	49.11	270	582	49920	462.36	33.33	270	640
	4	7227	434.67	57.81	280	599	51114	482.76	40.87	280	650
	5	7451	435.91	57.35	290	683	51403	491.89	40.88	290	683
	6	8006	446.06	57.17	300	632	53649	508.90	41.50	300	721
	7	8354	457.48	54.08	310	643	55351	518.72	39.93	310	780
	8	8567	469.04	58.33	330	659	56766	534.41	42.60	330	790
	10	8608	466.81	64.14	350	712	61825	550.28	55.89	350	820
Mathematics	3	6849	404.46	49.76	220	630	49975	435.01	43.27	220	630
	4	7445	432.11	49.63	240	650	51045	467.38	43.17	240	650
	5	7579	447.39	50.04	270	630	51325	489.47	38.61	270	680
	6	8044	464.54	49.66	310	666	53610	513.93	38.56	310	700
	7	8378	480.31	52.52	330	654	55302	534.95	39.30	330	710
	8	8571	486.80	53.05	350	730	56729	548.04	42.85	350	730
	10	8595	506.85	52.77	410	750	61799	571.37	44.38	410	750
Language Arts	4	7302	276.05	36.33	140	420	51055	301.05	30.39	140	420
	8	8504	359.98	38.74	250	520	56632	402.51	33.58	250	520
	10	8491	403.55	37.46	290	542	61557	455.41	37.78	290	630
Social Studies	4	7624	283.37	29.08	170	400	50993	299.70	29.90	170	400
	8	8586	360.24	43.49	230	530	56581	403.36	35.81	230	530
	10	8526	396.97	56.49	240	582	61414	451.80	42.96	240	620
Science	4	7628	282.64	32.59	170	440	51006	302.03	29.03	170	440
	8	8597	362.75	42.62	230	560	56601	403.46	35.76	230	560
	10	8549	399.79	60.82	240	601	61468	453.78	43.31	240	610

Table 9-11  
Scale Score Descriptive Statistics by English Language Proficiency

Content	Grade	Proficient					Not Proficient				
		N Count	Mean	SD	Min	Max	N Count	Mean	SD	Min	Max
Reading	3	54055	458.76	37.49	270	640	2536	439.45	35.16	270	618
	4	55384	478.47	45.72	280	650	2957	445.70	42.73	280	569
	5	56030	486.35	46.74	290	683	2824	454.15	44.59	290	616
	6	59102	502.37	48.13	300	721	2553	463.03	45.90	300	600
	7	61420	512.24	46.21	310	780	2285	468.99	44.81	310	621
	8	63206	527.19	49.61	330	790	2127	485.72	47.98	330	630
	10	68676	541.51	62.74	350	820	1757	484.34	54.77	350	806
Mathematics	3	54233	431.97	45.39	220	630	2591	417.89	38.86	220	630
	4	55586	463.99	45.58	240	650	2904	441.74	40.27	240	650
	5	56109	485.05	42.58	270	680	2795	464.21	39.23	270	623
	6	59152	508.33	43.36	310	700	2502	487.67	41.69	310	663
	7	61438	528.72	44.98	330	710	2242	501.40	43.99	330	662
	8	63227	540.86	48.77	350	730	2073	514.10	46.17	350	690
	10	68668	564.39	49.89	410	750	1726	527.79	47.42	410	705
Language Arts	4	55404	298.86	32.16	140	420	2953	280.27	29.28	140	420
	8	63024	397.85	37.02	250	520	2112	370.36	31.53	250	520
	10	68314	450.01	41.12	290	630	1734	414.10	35.48	290	528
Social Studies	4	55696	298.31	30.44	170	400	2921	283.64	23.32	170	400
	8	63097	398.51	39.61	230	530	2070	372.28	32.97	230	530
	10	68245	446.03	47.98	240	620	1695	408.18	46.01	240	543
Science	4	55708	300.43	30.23	170	440	2926	281.96	24.18	170	440
	8	63128	399.10	39.01	230	560	2070	367.47	33.07	230	493
	10	68327	448.28	48.49	240	610	1690	403.06	53.08	240	551

Table 9-12  
The Number of Students and Percents at LOSS and HOSS

Content	Grade	LOSS	N	Percent	HOSS	N	Percent
RD	3	270	511	0.90	640	4	0.01
	4	280	581	1.00	650	3	0.01
	5	290	432	0.73	690	0	0.00
	6	300	472	0.77	730	0	0.00
	7	310	441	0.69	780	1	0.00
	8	330	744	1.14	790	1	0.00
	10	350	1375	1.95	820	15	0.02
MA	3	220	86	0.15	630	14	0.02
	4	240	44	0.08	650	82	0.14
	5	270	131	0.22	680	5	0.01
	6	310	178	0.29	700	8	0.01
	7	330	331	0.52	710	4	0.01
	8	350	328	0.50	730	2	0.00
	10	410	2023	2.87	750	16	0.02
LA	4	140	606	1.04	420	486	0.83
	8	250	440	0.68	520	953	1.46
	10	290	502	0.72	630	8	0.01
SS	4	170	209	0.36	400	1789	3.05
	8	230	575	0.88	530	903	1.39
	10	240	1159	1.66	620	14	0.02
SC	4	170	111	0.19	440	209	0.36
	8	230	280	0.43	560	139	0.21
	10	240	1251	1.79	610	14	0.02

Table 9-13  
 Summary Statistics for Reading Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
3	56591	1	Determines Meaning	18	0	18	11.58	0.64	3.65	63.99	18.21
	56591	2	Understands Text	16	0	16	11.27	0.70	3.38	70.44	19.40
	56591	3	Analyzes Text	22	1	25	15.77	0.63	4.90	63.48	18.54
	56591	4	Evaluates/Extends Text	4	1	7	3.82	0.55	1.50	54.81	15.77
4	58341	1	Determines Meaning	14	0	14	9.43	0.67	3.01	67.29	19.36
	58341	2	Understands Text	19	0	19	12.38	0.65	4.28	64.97	21.14
	58341	3	Analyzes Text	22	1	25	14.57	0.58	4.86	58.17	18.27
	58341	4	Evaluates/Extends Text	5	1	8	4.10	0.51	1.65	52.90	17.10
5	58854	1	Determines Meaning	13	0	13	9.25	0.71	2.57	70.86	17.26
	58854	2	Understands Text	17	0	17	13.13	0.77	3.20	76.81	17.46
	58854	3	Analyzes Text	20	2	26	14.45	0.56	4.47	56.31	15.87
	58854	4	Evaluates/Extends Text	10	1	13	8.48	0.65	2.66	66.09	18.31
6	61655	1	Determines Meaning	12	0	12	8.18	0.68	2.45	68.46	17.66
	61655	2	Understands Text	16	0	16	11.94	0.75	3.08	74.21	17.57
	61655	3	Analyzes Text	19	2	25	14.77	0.59	4.13	59.74	15.30
	61655	4	Evaluates/Extends Text	13	1	16	8.95	0.56	3.09	56.34	16.51
7	63705	1	Determines Meaning	12	0	12	8.57	0.71	2.47	71.10	17.93
	63705	2	Understands Text	16	0	16	11.30	0.71	3.32	70.34	19.08
	63705	3	Analyzes Text	19	2	25	13.65	0.55	4.54	55.33	16.79
	63705	4	Evaluates/Extends Text	13	1	16	8.80	0.55	2.85	55.28	15.17
8	65333	1	Determines Meaning	13	0	13	9.24	0.71	2.62	71.14	17.87
	65333	2	Understands Text	15	0	15	10.82	0.72	2.88	71.46	17.24
	65333	3	Analyzes Text	19	2	25	13.43	0.54	4.31	54.50	15.52
	65333	4	Evaluates/Extends Text	13	1	16	9.05	0.57	2.99	57.09	16.26

Table 9-13 Cont'd  
 Summary Statistics for Reading Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
10	70433	1	Determines Meaning	8	0	8	5.83	0.73	1.92	72.06	20.52
	70433	2	Understands Text	8	0	8	5.26	0.66	1.81	65.03	18.79
	70433	3	Analyzes Text	25	2	31	19.70	0.64	5.86	63.80	18.36
	70433	4	Evaluates/Extends Text	14	2	20	11.77	0.59	3.92	59.44	17.26

Table 9-14  
 Summary Statistics for Mathematics Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
3	56824	A	Mathematical Processes	5	0	10	4.64	0.46	2.23	47.13	17.77
	56824	B	Number Operations	12	1	13	8.80	0.68	2.84	67.48	19.25
	56824	C	Geometry	11	1	12	8.84	0.74	1.89	73.79	12.10
	56824	D	Measurement	9	1	10	7.21	0.72	2.11	71.96	17.38
	56824	E	Statistics/Probability	9	1	10	8.15	0.81	1.90	80.03	16.44
	56824	F	Algebraic Relationships	9	1	10	5.84	0.58	2.33	59.82	20.16
4	58490	A	Mathematical Processes	6	0	12	5.27	0.44	2.94	44.66	21.73
	58490	B	Number Operations	11	2	13	9.62	0.74	2.67	73.98	18.42
	58490	C	Geometry	10	1	11	8.55	0.78	1.78	77.95	12.99
	58490	D	Measurement	9	1	10	6.84	0.68	1.87	68.50	15.11
	58490	E	Statistics/Probability	9	1	10	7.17	0.72	2.20	69.95	18.34
	58490	F	Algebraic Relationships	11	1	12	8.43	0.70	2.50	70.60	18.34
5	58904	A	Mathematical Processes	7	0	14	7.37	0.53	2.92	53.16	18.00
	58904	B	Number Operations	13	1	14	10.26	0.73	2.88	72.69	18.60
	58904	C	Geometry	10	1	11	7.19	0.65	2.09	65.32	14.84
	58904	D	Measurement	10	2	12	7.48	0.62	2.27	62.53	15.70
	58904	E	Statistics/Probability	11	1	12	6.89	0.57	2.42	57.52	16.22
	58904	F	Algebraic Relationships	11	2	13	8.14	0.63	2.49	63.11	16.39

Table 9-14 Cont'd  
 Summary Statistics for Mathematics Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
6	61654	A	Mathematical Processes	7	0	14	6.56	0.47	3.24	46.15	20.56
	61654	B	Number Operations	13	1	14	8.89	0.64	3.00	63.79	19.64
	61654	C	Geometry	10	2	12	7.70	0.64	2.52	65.05	17.01
	61654	D	Measurement	11	1	12	7.03	0.59	2.56	58.56	18.70
	61654	E	Statistics/Probability	11	1	12	6.28	0.52	3.03	52.07	21.05
	61654	F	Algebraic Relationships	10	2	12	7.98	0.66	2.46	66.50	17.58
7	63680	A	Mathematical Processes	7	0	14	4.76	0.34	3.10	35.65	19.63
	63680	B	Number Operations	14	1	15	8.39	0.56	3.48	55.93	20.92
	63680	C	Geometry	11	2	13	7.64	0.59	2.78	59.06	17.55
	63680	D	Measurement	10	1	11	5.74	0.52	2.68	52.34	21.50
	63680	E	Statistics/Probability	9	2	11	6.22	0.57	2.16	54.31	15.88
	63680	F	Algebraic Relationships	11	1	12	9.98	0.83	2.19	82.38	16.67
8	65300	A	Mathematical Processes	8	0	16	5.01	0.31	3.56	33.13	20.81
	65300	B	Number Operations	9	1	10	5.17	0.52	2.17	51.09	17.16
	65300	C	Geometry	8	2	10	5.15	0.51	2.19	52.13	18.69
	65300	D	Measurement	11	2	13	5.19	0.40	2.44	40.22	15.14
	65300	E	Statistics/Probability	8	2	10	5.47	0.55	2.13	53.45	17.37
	65300	F	Algebraic Relationships	14	1	15	10.50	0.70	3.58	69.13	21.67
10	70394	A	Mathematical Processes	8	2	12	6.76	0.56	2.75	56.11	20.25
	70394	B	Number Operations	7	0	7	3.99	0.57	1.83	56.92	21.55
	70394	C	Geometry	9	1	11	5.46	0.50	2.67	50.12	21.11
	70394	D	Measurement	9	1	11	5.42	0.49	2.79	49.40	22.18
	70394	E	Statistics/Probability	10	1	14	7.35	0.52	3.35	51.78	21.42
	70394	F	Algebraic Relationships	12	1	14	6.77	0.48	3.15	49.28	20.29

Table 9-15  
 Summary Statistics for Language Arts Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
4	58357	B	Writing	19	0	19	13.58	0.71	3.46	71.71	17.41
	58357	D	Language	5	0	5	3.56	0.71	1.20	70.77	17.35
	58357	F	Research and Inquiry	6	0	6	3.34	0.56	1.64	56.40	21.95
8	65136	B	Writing	16	0	16	12.11	0.76	2.89	75.70	17.22
	65136	D	Language	8	0	8	5.68	0.71	1.82	71.76	19.29
	65136	F	Research and Inquiry	6	0	6	4.15	0.69	1.35	69.20	16.32
10	70048	B	Writing	15	2	24	14.54	0.61	3.75	60.69	15.05
	70048	D	Language	9	0	9	5.65	0.63	2.30	63.08	22.49
	70048	F	Research and Inquiry	6	0	6	3.41	0.57	1.52	55.92	16.97

Table 9-16  
 Summary Statistics for Social Studies Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
4	58617	A	Geography	9	0	9	7.22	0.80	1.74	80.13	16.18
	58617	B	History	8	0	8	6.70	0.84	1.38	83.73	14.13
	58617	C	Political Science	7	0	7	5.78	0.83	1.41	82.46	16.89
	58617	D	Economics	7	0	7	5.52	0.79	1.22	79.30	12.38
	58617	E	Behavioral Science	7	0	7	5.65	0.81	1.56	80.96	18.67
8	65167	A	Geography	11	0	11	8.71	0.79	2.32	79.25	18.87
	65167	B	History	15	0	15	11.18	0.75	2.88	75.04	17.76
	65167	C	Political Science	7	0	7	4.69	0.67	1.69	66.21	18.90
	65167	D	Economics	7	0	7	5.16	0.74	1.60	73.15	18.88
	65167	E	Behavioral Science	5	0	5	3.03	0.61	1.37	61.93	20.13
10	69940	A	Geography	12	1	14	8.32	0.59	2.85	58.95	17.71
	69940	B	History	13	2	17	9.98	0.59	3.72	59.82	19.67
	69940	C	Political Science	13	2	17	8.44	0.50	3.77	50.41	20.36
	69940	D	Economics	11	0	11	7.19	0.65	2.69	64.52	21.51
	69940	E	Behavioral Science	11	0	11	7.12	0.65	2.71	64.61	22.16

Table 9-17  
Summary Statistics for Science Content Standards Raw and SPI Scores

Grade	N	Content Standard	Standard	No. of Items		Total Score Points	Mean	Mean P-Value	SD	SPI	
				MC	CR					Mean	SD
4	58634	A	Science Connections	7	0	7	6.14	0.88	1.26	86.92	15.37
	58634	B	Nature of Science	1	0	1	0.62	0.62	0.49	60.23	18.89
	58634	C	Science Inquiry	6	0	6	4.50	0.75	1.36	75.55	17.78
	58634	D	Physical Science	6	0	6	3.62	0.60	1.24	62.40	13.49
	58634	E	Earth and Space	6	0	6	4.05	0.67	1.46	67.91	17.61
	58634	F	Life and Environment	6	0	6	3.92	0.65	1.49	64.73	18.60
	58634	G	Science Applications	3	0	3	2.19	0.73	0.67	73.23	11.94
	58634	H	Personal/Social Perspectives	5	0	5	3.28	0.66	1.27	65.31	18.55
8	65198	B	Nature of Science	6	0	6	4.18	0.70	1.28	69.55	15.02
	65198	C	Science Inquiry	7	0	7	5.25	0.75	1.38	75.49	15.97
	65198	D	Physical Science	6	0	6	3.21	0.53	1.50	54.77	18.72
	65198	E	Earth and Space	6	0	6	4.04	0.67	1.45	66.58	17.97
	65198	F	Life and Environment	6	0	6	3.43	0.57	1.56	58.12	19.32
	65198	G	Science Applications	5	0	5	3.76	0.75	1.21	75.27	18.37
	65198	H	Personal/Social Perspectives	4	0	4	3.19	0.80	0.93	79.31	16.31
10	70017	A	Science Connections	8	0	8	4.54	0.57	1.98	57.03	20.88
	70017	B	Nature of Science	6	0	6	4.03	0.67	1.52	67.39	20.67
	70017	C	Science Inquiry	11	1	13	8.07	0.62	2.77	61.89	18.94
	70017	D	Physical Science	10	0	10	5.04	0.50	2.27	49.68	18.28
	70017	E	Earth and Space	8	1	10	5.64	0.56	2.33	56.40	19.31
	70017	F	Life and Environment	8	1	10	5.33	0.53	2.55	54.37	21.84
	70017	G	Science Applications	7	0	7	4.74	0.68	1.74	66.92	21.12
	70017	H	Personal/Social Perspectives	2	1	4	2.21	0.55	1.21	56.01	21.26

Table 9-18  
Performance Level Cut Scores for all Contents

Content	3			4			5			6			7			8			10		
	B	P	A	B	P	A	B	P	A	B	P	A	B	P	A	B	P	A	B	P	A
<b>Reading</b>	394	430	466	396	440	489	401	444	497	418	457	514	434	467	523	445	480	539	456	503	555
<b>Mathematics</b>	392	407	452	421	438	484	445	463	505	464	485	532	480	504	555	483	513	573	516	541	595
<b>Language Arts</b>				252	277	308										358	385	418	393	428	484
<b>Social Studies</b>				242	263	288										334	364	403	408	420	455
<b>Science</b>				249	279	320										349	375	419	411	429	466

Table 9-19  
 Percentage of Students in Each Performance Level by Sub-Group (Reading)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
3	M	2229	3.94	2.75	5.09	2.77	11.39	5.55	3.28	5.14	3.88	5.24	18.17	2.04	7.57	2.18
	B	7808	13.80	11.78	15.74	10.70	29.91	21.39	16.64	19.05	13.28	24.88	31.45	11.44	23.42	9.15
	P	21991	38.86	38.30	39.40	37.03	42.89	49.59	42.68	50.50	38.18	53.43	33.94	39.52	44.80	35.99
	A	24563	43.40	47.17	39.77	49.50	15.81	23.47	37.40	25.31	44.67	16.44	16.44	47.01	24.21	52.68
<b>Total</b>		56591	100.00	27808	28782	44084	6155	3660	1893	798	54055	2536	6671	49920	18430	38161
4	M	2626	4.50	3.59	5.37	3.04	13.08	7.35	4.30	5.71	4.26	8.96	19.50	2.38	9.03	2.31
	B	7060	12.10	11.26	12.90	8.61	27.88	22.23	18.25	18.57	11.17	29.49	28.68	9.76	21.78	7.42
	P	23579	40.42	41.18	39.68	38.72	44.49	49.92	42.93	49.88	39.92	49.64	35.98	41.04	46.21	37.62
	A	25076	42.98	43.96	42.04	49.64	14.55	20.49	34.52	25.83	44.64	11.90	15.84	46.82	22.98	52.64
<b>Total</b>		58341	100.00	28475	29866	45155	6302	3972	2071	840	55384	2957	7227	51114	19000	39341
5	M	2838	4.82	3.85	5.75	3.08	14.86	8.70	3.75	6.90	4.57	9.77	23.78	2.07	9.58	2.54
	B	6665	11.33	10.68	11.94	8.27	26.19	20.11	13.72	16.13	10.63	25.14	27.94	8.92	19.37	7.46
	P	24036	40.84	41.55	40.17	39.16	43.83	49.76	48.20	49.38	40.31	51.31	35.12	41.67	47.88	37.46
	A	25315	43.01	43.93	42.14	49.50	15.11	21.43	34.34	27.59	44.49	13.77	13.15	47.34	23.17	52.55
<b>Total</b>		58854	100.00	28739	30114	45584	6445	3953	2056	812	56030	2824	7451	51403	19102	39752

Table 9-19 Cont'd  
 Percentage of Students in Each Performance Level by Sub-Group (Reading)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
6	M	3222	5.23	3.88	6.52	3.01	17.87	9.69	5.06	9.65	4.90	12.73	25.68	2.17	11.12	2.48
	B	6440	10.45	9.08	11.77	7.19	25.16	20.53	16.75	16.54	9.75	26.60	28.12	7.81	19.22	6.35
	P	25544	41.43	40.80	42.04	40.03	43.82	49.01	49.50	47.93	41.05	50.25	36.86	42.11	47.84	38.44
	A	26449	42.90	46.25	39.67	49.78	13.15	20.77	28.69	25.87	44.30	10.42	9.34	47.91	21.82	52.73
<b>Total</b>		61655	100.00	30303	31350	48072	6800	3736	2095	943	59102	2553	8006	53649	19608	42047
7	M	3449	5.41	3.80	6.94	3.32	16.88	11.73	6.04	7.98	4.98	16.98	27.08	2.14	11.45	2.74
	B	6221	9.77	8.71	10.77	6.70	24.96	17.88	16.54	15.66	9.16	25.91	26.95	7.17	18.27	6.00
	P	26767	42.02	40.80	43.17	40.41	45.27	49.40	52.20	51.01	41.78	48.36	37.25	42.74	48.46	39.16
	A	27268	42.80	46.69	39.13	49.58	12.89	20.99	25.22	25.35	44.07	8.75	8.73	47.95	21.83	52.09
<b>Total</b>		63705	100.00	30947	32757	50047	6772	3692	2201	990	61420	2285	8354	55351	19550	44155
8	M	3652	5.59	4.03	7.07	3.31	18.90	11.50	5.95	8.83	5.28	14.86	27.45	2.29	12.12	2.88
	B	5711	8.74	8.11	9.34	5.88	23.65	16.82	13.02	14.54	8.26	22.99	24.47	6.37	16.78	5.40
	P	28334	43.37	43.40	43.34	41.60	46.66	52.80	53.74	55.87	43.06	52.56	39.43	43.96	50.86	40.25
	A	27636	42.30	44.46	40.26	49.22	10.78	18.88	27.29	20.76	43.40	9.59	8.65	47.38	20.24	51.47
<b>Total</b>		65333	100.00	31747	33585	51637	6956	3591	2151	997	63206	2127	8567	56766	19187	46146

Table 9-19 Cont'd  
 Percentage of Students in Each Performance Level by Sub-Group (Reading)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
10	M	6463	9.18	6.59	11.69	6.07	32.00	18.99	10.95	14.50	8.69	28.00	39.81	4.91	20.03	5.94
	B	9941	14.11	12.66	15.53	11.56	27.75	25.99	22.81	21.35	13.61	33.81	29.82	11.93	23.54	11.31
	P	23278	33.05	32.76	33.33	33.29	28.14	34.32	36.08	38.71	33.13	29.99	23.08	34.44	34.58	32.59
	A	30751	43.66	47.99	39.44	49.09	12.12	20.70	30.15	25.43	44.57	8.20	7.28	48.72	21.86	50.16
<b>Total</b>		70433	100.00	34770	35660	57885	6138	3097	2328	979	68676	1757	8608	61825	16170	54263

Table 9-20  
 Percentage of Students in Each Performance Level by Sub-Group (Mathematics)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
3	M	9957	17.52	18.30	16.78	12.38	49.34	25.60	14.69	25.35	17.28	22.66	38.60	14.63	31.68	10.65
	B	5396	9.50	10.04	8.97	8.42	13.38	15.13	9.56	12.55	9.24	14.86	11.91	9.16	12.81	7.89
	P	22804	40.13	41.28	39.03	41.58	27.83	42.77	40.25	42.53	39.94	44.23	33.27	41.07	38.63	40.86
	A	18667	32.85	30.38	35.23	37.62	9.45	16.50	35.50	19.57	33.55	18.26	16.21	35.13	16.88	40.61
<b>Total</b>		56824	100.00	27859	28965	44232	6180	3722	1893	797	54233	2591	6849	49975	18573	38251
4	M	9516	16.27	17.41	15.19	10.95	45.93	27.76	16.17	25.06	15.62	28.72	38.56	13.02	30.48	9.40
	B	6072	10.38	10.68	10.10	9.10	15.01	15.86	11.57	15.65	10.11	15.56	14.55	9.77	14.22	8.52
	P	23895	40.85	41.27	40.45	42.09	30.73	41.64	41.82	44.35	40.78	42.18	32.80	42.03	39.37	41.57
	A	19007	32.50	30.64	34.26	37.85	8.33	14.74	30.45	14.94	33.49	13.53	14.09	35.18	15.94	40.50
<b>Total</b>		58490	100.00	28495	29995	45290	6349	3934	2066	850	55586	2904	7445	51045	19064	39426
5	M	8897	15.10	15.14	15.07	9.94	43.89	27.07	13.49	22.76	14.52	26.80	42.54	11.05	28.46	8.69
	B	6848	11.63	12.10	11.17	9.94	18.19	18.91	13.05	15.62	11.28	18.64	16.60	10.89	17.25	8.92
	P	25069	42.56	43.55	41.62	44.18	31.29	41.93	42.13	45.02	42.58	42.22	31.34	44.22	40.29	43.65
	A	18090	30.71	29.21	32.14	35.94	6.63	12.09	31.32	16.61	31.63	12.34	9.53	33.84	14.00	38.74
<b>Total</b>		58904	100.00	28718	30186	45652	6453	3930	2053	813	56109	2795	7579	51325	19118	39786

Table 9-20 Cont'd  
 Percentage of Students in Each Performance Level by Sub-Group (Mathematics)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
6	M	8594	13.94	13.29	14.57	9.03	42.93	22.98	11.91	24.39	13.55	23.18	46.41	9.07	26.96	7.87
	B	7592	12.31	11.98	12.64	10.39	20.60	20.01	13.98	17.18	11.93	21.38	17.91	11.47	18.38	9.49
	P	27656	44.86	46.66	43.12	46.89	30.45	45.03	44.76	44.33	44.92	43.25	28.31	47.34	42.01	46.18
	A	17812	28.89	28.07	29.68	33.69	6.02	11.99	29.35	14.10	29.60	12.19	7.37	32.12	12.65	36.45
<b>Total</b>		61654	100.00	30280	31373	48120	6797	3704	2082	943	59152	2502	8044	53610	19590	42064
7	M	8078	12.69	12.24	13.11	7.76	43.07	21.13	13.87	20.54	12.20	25.87	45.61	7.70	25.80	6.89
	B	8086	12.70	13.25	12.18	10.45	23.06	21.35	13.91	20.95	12.33	22.66	20.42	11.53	20.04	9.45
	P	29950	47.03	48.66	45.50	49.49	28.99	46.62	47.67	46.32	47.18	42.86	28.18	49.89	42.68	48.96
	A	17566	27.59	25.86	29.22	32.31	4.88	10.90	24.54	12.19	28.28	8.61	5.79	30.89	11.48	34.70
<b>Total</b>		63680	100.00	30918	32762	50075	6765	3653	2192	993	61438	2242	8378	55302	19513	44167
8	M	7560	11.58	10.63	12.47	7.31	37.35	21.01	9.43	24.05	11.31	19.59	44.07	6.67	23.57	6.60
	B	8763	13.42	13.66	13.19	10.90	25.69	23.48	14.95	19.34	13.06	24.26	23.67	11.87	20.92	10.31
	P	32304	49.47	51.07	47.96	51.76	33.15	47.19	52.50	46.29	49.49	48.87	28.18	52.69	45.95	50.93
	A	16673	25.53	24.64	26.38	30.03	3.81	8.32	23.12	10.32	26.13	7.28	4.08	28.77	9.56	32.16
<b>Total</b>		65300	100.00	31722	33576	51655	6948	3556	2141	998	63227	2073	8571	56729	19150	46150

Table 9-20 Cont'd  
 Percentage of Students in Each Performance Level by Sub-Group (Mathematics)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
10	M	9964	14.16	12.72	15.55	9.36	50.65	29.03	14.52	22.68	13.66	33.95	51.55	8.95	30.21	9.38
	B	8938	12.70	13.55	11.86	10.92	20.95	22.53	17.49	23.90	12.39	25.03	22.19	11.38	20.30	10.44
	P	32913	46.76	49.34	44.23	49.43	25.23	41.40	45.93	41.78	47.05	35.17	23.40	50.00	40.31	48.67
	A	18579	26.39	24.38	28.36	30.30	3.18	7.05	22.06	11.64	26.91	5.85	2.86	29.67	9.18	31.51
<b>Total</b>		70394	100.00	34761	35630	57903	6105	3080	2321	979	68668	1726	8595	61799	16140	54254

Table 9-21  
 Percentage of Students in Each Performance Level by Sub-Group (Language Arts)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
4	M	2512	4.31	3.05	5.50	2.76	13.64	7.05	3.24	6.79	4.09	8.26	13.24	3.03	8.48	2.28
	B	8637	14.80	12.64	16.86	11.23	31.48	24.15	21.23	21.69	13.96	30.65	30.48	12.56	25.29	9.73
	P	25948	44.46	42.64	46.20	44.18	42.10	49.69	45.02	51.61	44.21	49.27	43.85	44.55	47.00	43.24
	A	21260	36.43	41.67	31.44	41.83	12.78	19.11	30.51	19.90	37.74	11.82	12.42	39.86	19.23	44.74
<b>Total</b>		58357	100.00	28474	29883	45179	6299	3971	2068	839	55404	2953	7302	51055	19011	39346
8	M	7498	11.51	8.01	14.82	8.07	29.94	21.82	13.91	20.55	10.95	28.31	42.31	6.89	21.97	7.19
	B	14516	22.29	20.45	24.03	19.34	33.69	33.66	33.74	30.67	21.68	40.29	34.24	20.49	32.12	18.22
	P	25971	39.87	42.09	37.77	41.88	29.41	34.64	35.37	36.34	40.30	26.99	18.38	43.10	34.29	42.18
	A	17151	26.33	29.45	23.38	30.70	6.96	9.87	16.98	12.45	27.07	4.40	5.07	29.52	11.62	32.41
<b>Total</b>		65136	100.00	31683	33452	51565	6868	3565	2149	988	63024	2112	8504	56632	19051	46085
10	M	6017	8.59	4.87	12.22	6.10	26.98	17.40	8.70	15.41	8.23	22.72	35.44	4.89	18.34	5.71
	B	13307	19.00	16.04	21.89	16.28	33.56	30.39	28.44	32.57	18.37	43.71	40.47	16.04	30.32	15.66
	P	37114	52.98	55.34	50.68	55.54	35.38	45.20	48.34	44.67	53.54	31.14	22.54	57.18	44.31	55.54
	A	13610	19.43	23.76	15.20	22.07	4.08	7.01	14.52	7.34	19.86	2.42	1.55	21.90	7.02	23.09
<b>Total</b>		70048	100.00	34620	35425	57736	5978	3040	2321	967	68314	1734	8491	61557	15950	54098

Table 9-22  
 Percentage of Students in Each Performance Level by Sub-Group (Social Studies)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
4	M	1055	1.80	1.44	2.14	0.94	7.66	2.25	1.31	2.82	1.77	2.33	4.94	1.33	3.79	0.84
	B	3025	5.16	5.05	5.26	3.26	16.18	8.55	5.23	8.23	4.99	8.49	11.56	4.20	10.25	2.70
	P	16735	28.55	28.50	28.60	24.51	44.24	42.11	38.61	39.48	27.42	50.02	41.62	26.60	41.38	22.33
	A	37802	64.49	65.01	64.00	71.29	31.92	47.09	54.84	49.47	65.82	39.16	41.88	67.87	44.58	74.14
<b>Total</b>		58617	100.00	28539	30078	45384	6354	3963	2064	851	55696	2921	7624	50993	19141	39476
8	M	2534	3.89	3.04	4.69	2.09	15.26	7.87	3.60	5.25	3.75	8.26	17.65	1.80	8.67	1.92
	B	7288	11.18	11.16	11.20	7.56	31.79	20.65	12.73	20.10	10.71	25.60	30.46	8.26	22.05	6.70
	P	26079	40.02	41.54	38.58	38.61	40.77	49.46	50.61	51.41	39.62	52.13	40.36	39.97	46.52	37.34
	A	29266	44.91	44.26	45.53	51.73	12.18	22.01	33.05	23.23	45.92	14.01	11.54	49.97	22.76	54.05
<b>Total</b>		65167	100.00	31694	33472	51641	6855	3544	2136	990	63097	2070	8586	56581	19031	46136
10	M	11804	16.88	14.35	19.34	12.08	51.73	33.86	21.09	28.05	16.20	44.07	53.62	11.78	34.29	11.76
	B	4747	6.79	6.93	6.65	5.92	10.91	11.80	9.74	10.77	6.64	12.80	11.78	6.09	10.86	5.59
	P	21512	30.76	33.74	27.85	30.86	26.16	32.26	36.55	34.37	30.72	32.45	24.31	31.65	32.83	30.15
	A	31877	45.58	44.98	46.16	51.14	11.20	22.09	32.61	26.81	46.44	10.68	10.29	50.48	22.02	52.51
<b>Total</b>		69940	100.00	34545	35394	57758	5902	3001	2309	966	68245	1695	8526	61414	15892	54048

Table 9-23  
 Percentage of Students in Each Performance Level by Sub-Group (Science)

Grade	Proficiency Level	Examinees		Gender		Ethnicity					ELP		Disability		SES	
		N	%	Female	Male	White	African-American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
4	M	2810	4.79	4.71	4.87	2.54	19.53	7.21	3.43	7.04	4.65	7.45	13.31	3.52	10.13	2.20
	B	9214	15.71	16.15	15.30	11.28	35.26	28.87	23.75	25.23	14.74	34.31	27.74	13.92	27.05	10.22
	P	33752	57.56	59.00	56.20	60.03	41.06	56.66	56.12	57.04	57.77	53.73	49.33	58.80	53.20	59.68
	A	12858	21.93	20.13	23.64	26.15	4.15	7.26	16.69	10.68	22.84	4.51	9.62	23.77	9.62	27.90
<b>Total</b>		58634	100.00	28556	30078	45389	6359	3966	2067	852	55708	2926	7628	51006	19155	39479
8	M	5828	8.94	8.27	9.57	4.97	31.98	18.65	10.76	17.30	8.47	23.09	32.98	5.29	19.41	4.61
	B	10230	15.69	17.19	14.27	12.02	32.10	28.75	25.54	25.15	15.08	34.44	27.60	13.88	25.49	11.64
	P	30481	46.75	48.79	44.82	49.12	31.18	43.65	45.79	44.27	47.04	37.92	32.00	48.99	42.96	48.32
	A	18659	28.62	25.75	31.34	33.89	4.73	8.94	17.91	13.28	29.41	4.54	7.42	31.84	12.13	35.43
<b>Total</b>		65198	100.00	31696	33501	51649	6872	3544	2138	994	63128	2070	8597	56601	19059	46139
10	M	11608	16.58	17.27	15.90	10.43	60.76	35.78	26.72	28.00	15.77	49.11	49.62	11.98	35.89	10.89
	B	7448	10.64	11.98	9.33	9.50	14.29	18.87	16.13	17.56	10.39	20.71	17.25	9.72	16.11	9.02
	P	24878	35.53	37.78	33.33	37.44	19.30	32.09	33.94	36.05	35.81	24.08	25.00	37.00	31.55	36.71
	A	26083	37.25	32.97	41.43	42.64	5.65	13.26	23.22	18.39	38.02	6.09	8.13	41.30	16.45	43.39
<b>Total</b>		70017	100.00	34580	35435	57774	5948	3010	2313	968	68327	1690	8549	61468	15943	54074

Table 10-1  
Reliability for Total Group and Subgroups

Content	Grade	Total	Gender		Ethnicity					ELP		Disability		SES	
			Female	Male	White	African American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
Reading	3	0.93	0.92	0.93	0.92	0.92	0.91	0.92	0.91	0.92	0.90	0.93	0.91	0.92	0.91
	4	0.93	0.93	0.93	0.92	0.91	0.91	0.93	0.91	0.93	0.89	0.92	0.92	0.92	0.92
	5	0.92	0.91	0.92	0.91	0.91	0.91	0.91	0.91	0.92	0.89	0.92	0.90	0.91	0.90
	6	0.91	0.90	0.91	0.89	0.90	0.90	0.90	0.90	0.91	0.88	0.90	0.89	0.90	0.89
	7	0.91	0.91	0.91	0.90	0.90	0.90	0.91	0.90	0.91	0.88	0.90	0.89	0.91	0.89
	8	0.90	0.90	0.91	0.89	0.88	0.89	0.89	0.89	0.90	0.86	0.89	0.88	0.89	0.89
	10	0.92	0.91	0.92	0.90	0.91	0.90	0.90	0.90	0.91	0.87	0.89	0.90	0.91	0.91
Mathematics	3	0.91	0.91	0.91	0.90	0.91	0.89	0.91	0.90	0.91	0.88	0.92	0.90	0.91	0.89
	4	0.92	0.91	0.92	0.90	0.91	0.90	0.91	0.90	0.92	0.90	0.92	0.91	0.91	0.90
	5	0.91	0.91	0.91	0.90	0.90	0.89	0.91	0.89	0.91	0.89	0.91	0.90	0.90	0.90
	6	0.92	0.92	0.93	0.92	0.90	0.90	0.92	0.91	0.92	0.91	0.91	0.91	0.91	0.92
	7	0.93	0.93	0.93	0.92	0.90	0.91	0.93	0.91	0.93	0.90	0.91	0.92	0.92	0.92
	8	0.93	0.92	0.93	0.92	0.87	0.89	0.93	0.90	0.93	0.88	0.88	0.92	0.90	0.92
	10	0.93	0.93	0.94	0.93	0.88	0.90	0.93	0.91	0.93	0.89	0.87	0.93	0.91	0.93
Language Arts	4	0.83	0.83	0.83	0.82	0.81	0.80	0.82	0.80	0.83	0.76	0.80	0.82	0.81	0.81
	8	0.84	0.82	0.85	0.82	0.83	0.82	0.81	0.83	0.84	0.78	0.82	0.80	0.83	0.82
	10	0.85	0.84	0.85	0.84	0.82	0.83	0.84	0.82	0.85	0.77	0.76	0.83	0.83	0.84
Social Studies	4	0.87	0.86	0.87	0.84	0.88	0.85	0.84	0.86	0.87	0.84	0.88	0.85	0.87	0.83
	8	0.90	0.89	0.91	0.88	0.88	0.88	0.88	0.88	0.90	0.85	0.88	0.88	0.89	0.88
	10	0.93	0.92	0.94	0.92	0.90	0.91	0.92	0.92	0.93	0.88	0.90	0.92	0.92	0.93
Science	4	0.84	0.83	0.84	0.81	0.83	0.80	0.82	0.81	0.84	0.77	0.84	0.83	0.83	0.80
	8	0.86	0.85	0.87	0.84	0.82	0.83	0.85	0.83	0.86	0.79	0.84	0.84	0.85	0.84
	10	0.92	0.91	0.93	0.91	0.88	0.89	0.92	0.90	0.92	0.86	0.89	0.91	0.91	0.91

Table 10-2  
Standard Error of Measurement for Total Group and Subgroups

Content	Grade	Total	Gender		Ethnicity					ELP		Disability		SES	
			Female	Male	White	African American	Hispanic	Asian	American Indian	Proficient	Not Proficient	Disabled	Not Disabled	Economically Disadvantaged	Not Economically Disadvantaged
Reading	3	3.30	3.25	3.34	3.24	3.55	3.48	3.34	3.45	3.29	3.53	3.55	3.26	3.49	3.20
	4	3.36	3.35	3.36	3.30	3.56	3.53	3.45	3.49	3.34	3.61	3.54	3.33	3.52	3.27
	5	3.35	3.33	3.35	3.27	3.63	3.55	3.42	3.48	3.33	3.61	3.64	3.29	3.54	3.24
	6	3.41	3.39	3.42	3.35	3.61	3.57	3.53	3.55	3.40	3.63	3.64	3.37	3.56	3.33
	7	3.55	3.53	3.55	3.50	3.63	3.63	3.64	3.61	3.54	3.66	3.64	3.51	3.63	3.49
	8	3.50	3.47	3.50	3.44	3.68	3.66	3.62	3.62	3.49	3.74	3.68	3.45	3.64	3.42
	10	3.55	3.49	3.57	3.49	3.76	3.74	3.65	3.67	3.54	3.80	3.72	3.49	3.72	3.48
Mathematics	3	3.23	3.25	3.21	3.18	3.45	3.36	3.18	3.33	3.23	3.34	3.40	3.21	3.38	3.15
	4	3.34	3.36	3.32	3.30	3.47	3.43	3.33	3.42	3.33	3.43	3.46	3.31	3.44	3.27
	5	3.66	3.66	3.65	3.62	3.79	3.74	3.65	3.72	3.65	3.74	3.77	3.63	3.75	3.60
	6	3.79	3.79	3.78	3.77	3.81	3.85	3.79	3.83	3.79	3.85	3.82	3.78	3.84	3.75
	7	3.65	3.65	3.64	3.63	3.63	3.68	3.67	3.70	3.65	3.69	3.66	3.63	3.69	3.62
	8	3.66	3.66	3.65	3.67	3.51	3.62	3.65	3.61	3.66	3.62	3.53	3.66	3.61	3.66
	10	3.70	3.71	3.67	3.68	3.60	3.70	3.70	3.71	3.69	3.68	3.59	3.68	3.70	3.67
Language Arts	4	2.21	2.16	2.25	2.16	2.38	2.34	2.25	2.33	2.20	2.39	2.40	2.18	2.34	2.14
	8	2.09	2.02	2.14	2.02	2.34	2.29	2.18	2.27	2.07	2.37	2.42	2.03	2.27	2.00
	10	2.57	2.49	2.62	2.52	2.79	2.71	2.62	2.68	2.56	2.75	2.77	2.51	2.71	2.51
Social Studies	4	2.14	2.14	2.13	2.04	2.52	2.35	2.23	2.34	2.12	2.41	2.41	2.09	2.38	2.00
	8	2.60	2.61	2.58	2.51	2.97	2.86	2.69	2.83	2.58	2.93	2.99	2.53	2.86	2.48
	10	3.63	3.64	3.60	3.60	3.73	3.76	3.73	3.73	3.62	3.81	3.74	3.60	3.75	3.58
Science	4	2.53	2.54	2.52	2.47	2.78	2.71	2.61	2.67	2.52	2.74	2.72	2.50	2.70	2.44
	8	2.55	2.56	2.54	2.50	2.77	2.72	2.65	2.69	2.54	2.78	2.78	2.51	2.71	2.48
	10	3.69	3.72	3.65	3.66	3.74	3.83	3.77	3.81	3.69	3.82	3.80	3.67	3.81	3.65

Table 10-3  
Cronbach Alpha Reliability Coefficients for Content Standards

Content Area	Grade	Content Standard								
		A/1	B/2	C/3	D/4	E	F	G	H	Total
		Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha
Reading	3	0.78	0.78	0.83	0.41					0.93
	4	0.75	0.82	0.81	0.56					0.93
	5	0.70	0.78	0.75	0.72					0.92
	6	0.68	0.74	0.75	0.68					0.91
	7	0.70	0.77	0.74	0.64					0.91
	8	0.70	0.73	0.74	0.66					0.90
	10	0.67	0.63	0.83	0.71					0.92
Mathematics	3	0.54	0.76	0.57	0.66	0.68	0.69			0.91
	4	0.70	0.74	0.55	0.61	0.68	0.71			0.92
	5	0.64	0.77	0.60	0.63	0.64	0.65			0.91
	6	0.69	0.77	0.66	0.68	0.75	0.69			0.92
	7	0.72	0.78	0.69	0.72	0.63	0.72			0.93
	8	0.77	0.61	0.65	0.59	0.63	0.83			0.93
	10	0.70	0.63	0.67	0.71	0.72	0.76			0.93
Language Arts	4		0.76		0.47		0.58			0.83
	8		0.75		0.62		0.46			0.84
	10		0.74		0.71		0.45			0.85
Social Studies	4	0.62	0.57	0.59	0.39	0.66				0.87
	8	0.74	0.74	0.56	0.61	0.53				0.90
	10	0.69	0.75	0.77	0.74	0.74				0.93
Science	4	0.63		0.51	0.30	0.48	0.49	0.12	0.44	0.84
	8		0.42	0.51	0.48	0.51	0.54	0.49	0.38	0.86
	10	0.61	0.54	0.68	0.58	0.62	0.66	0.61	0.39	0.92

Table 10-4  
Standard Error of Measurement per Content Standard

Content Area	Grade	SEM Per Content Standard								Total
		A/1	B/2	C/3	D/4	E	F	G	H	
Reading	3	1.72	1.59	2.01	1.15					3.30
	4	1.52	1.82	2.11	1.09					3.36
	5	1.40	1.50	2.23	1.41					3.35
	6	1.39	1.56	2.04	1.75					3.41
	7	1.35	1.60	2.30	1.71					3.55
	8	1.43	1.51	2.20	1.75					3.50
	10	1.10	1.10	2.39	2.10					3.55
Mathematics	3	1.50	1.40	1.24	1.22	1.07	1.31			3.23
	4	1.62	1.36	1.20	1.17	1.24	1.35			3.34
	5	1.76	1.39	1.32	1.39	1.46	1.49			3.66
	6	1.81	1.44	1.47	1.45	1.51	1.37			3.79
	7	1.63	1.62	1.56	1.41	1.32	1.15			3.65
	8	1.72	1.35	1.29	1.57	1.30	1.49			3.66
	10	1.50	1.11	1.52	1.49	1.77	1.56			3.70
Language Arts	4		1.71		0.88		1.06			2.21
	8		1.45		1.12		0.99			2.09
	10		1.92		1.25		1.12			2.57
Social Studies	4	1.07	0.91	0.90	0.95	0.90				2.14
	8	1.17	1.47	1.12	0.99	0.95				2.60
	10	1.59	1.86	1.82	1.38	1.38				3.63
Science	4	0.77		0.95	1.04	1.05	1.07	0.63	0.95	2.53
	8		0.97	0.96	1.09	1.01	1.06	0.86	0.74	2.55
	10	1.24	1.03	1.57	1.47	1.45	1.49	1.08	0.94	3.69

Table 10-5  
 Classification Consistency and Classification Accuracy for Reading Grade 3

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.03	0.01	0.00	0.00	0.05
<b>Basic Proficient</b>	0.01	0.10	0.03	0.00	0.14
<b>Proficient</b>	0.00	0.03	0.33	0.06	0.43
<b>Advanced</b>	0.00	0.00	0.05	0.33	0.38
<b>Sum</b>	0.05	0.15	0.42	0.39	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.94	0.89	0.80
<b>Probability of Chance</b>	0.91	0.69	0.53	0.35
<b>Kappa (k)</b>	0.71	0.80	0.76	0.69
<b>Classification Accuracy</b>	0.98	0.95	0.91	0.84

Table 10-6  
 Classification Consistency and Classification Accuracy for Reading Grade 4

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.04	0.02	0.00	0.00	0.05
<b>Basic Proficient</b>	0.02	0.08	0.03	0.00	0.13
<b>Proficient</b>	0.00	0.03	0.32	0.06	0.41
<b>Advanced</b>	0.00	0.00	0.05	0.36	0.41
<b>Sum</b>	0.05	0.12	0.40	0.42	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.94	0.90	0.80
<b>Probability of Chance</b>	0.90	0.71	0.51	0.36
<b>Kappa (k)</b>	0.67	0.79	0.79	0.69
<b>Classification Accuracy</b>	0.98	0.96	0.93	0.86

Table 10-7  
 Classification Consistency and Classification Accuracy for Reading Grade 5

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.04	0.01	0.00	0.00	0.06
<b>Basic Proficient</b>	0.01	0.08	0.03	0.00	0.13
<b>Proficient</b>	0.00	0.03	0.33	0.07	0.43
<b>Advanced</b>	0.00	0.00	0.06	0.33	0.38
<b>Sum</b>	0.06	0.13	0.42	0.40	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.94	0.87	0.78
<b>Probability of Chance</b>	0.89	0.70	0.52	0.35
<b>Kappa (k)</b>	0.76	0.79	0.73	0.67
<b>Classification Accuracy</b>	0.98	0.95	0.90	0.84

Table 10-8  
 Classification Consistency and Classification Accuracy for Reading Grade 6

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.05	0.02	0.00	0.00	0.07
<b>Basic Proficient</b>	0.01	0.07	0.03	0.00	0.11
<b>Proficient</b>	0.00	0.04	0.33	0.07	0.44
<b>Advanced</b>	0.00	0.00	0.07	0.31	0.39
<b>Sum</b>	0.06	0.13	0.43	0.38	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.93	0.86	0.76
<b>Probability of Chance</b>	0.88	0.70	0.53	0.35
<b>Kappa (k)</b>	0.75	0.77	0.70	0.63
<b>Classification Accuracy</b>	0.98	0.95	0.90	0.83

Table 10-9  
 Classification Consistency and Classification Accuracy for Reading Grade 7

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.04	0.01	0.00	0.00	0.06
<b>Basic Proficient</b>	0.01	0.06	0.03	0.00	0.10
<b>Proficient</b>	0.00	0.03	0.34	0.06	0.43
<b>Advanced</b>	0.00	0.00	0.06	0.35	0.41
<b>Sum</b>	0.06	0.11	0.42	0.41	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.94	0.88	0.80
<b>Probability of Chance</b>	0.89	0.73	0.52	0.36
<b>Kappa (k)</b>	0.73	0.79	0.76	0.68
<b>Classification Accuracy</b>	0.98	0.96	0.91	0.85

Table 10-10  
 Classification Consistency and Classification Accuracy for Reading Grade 8

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.05	0.01	0.00	0.00	0.07
<b>Basic Proficient</b>	0.01	0.05	0.03	0.00	0.10
<b>Proficient</b>	0.00	0.04	0.34	0.07	0.45
<b>Advanced</b>	0.00	0.00	0.07	0.32	0.39
<b>Sum</b>	0.07	0.10	0.44	0.39	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.93	0.87	0.77
<b>Probability of Chance</b>	0.87	0.72	0.53	0.36
<b>Kappa (k)</b>	0.77	0.75	0.72	0.64
<b>Classification Accuracy</b>	0.98	0.95	0.90	0.84

Table 10-11  
 Classification Consistency and Classification Accuracy for Reading Grade 10

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.09	0.03	0.00	0.00	0.12
<b>Basic Proficient</b>	0.02	0.10	0.05	0.00	0.17
<b>Proficient</b>	0.00	0.03	0.22	0.06	0.31
<b>Advanced</b>	0.00	0.00	0.07	0.33	0.40
<b>Sum</b>	0.11	0.15	0.35	0.39	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.95	0.91	0.87	0.74
<b>Probability of Chance</b>	0.79	0.60	0.52	0.30
<b>Kappa (k)</b>	0.77	0.78	0.73	0.63
<b>Classification Accuracy</b>	0.96	0.94	0.91	0.81

Table 10-12  
 Classification Consistency and Classification Accuracy for Mathematics Grade 3

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.15	0.03	0.01	0.00	0.19
<b>Basic Proficient</b>	0.03	0.03	0.04	0.00	0.10
<b>Proficient</b>	0.01	0.04	0.29	0.05	0.39
<b>Advanced</b>	0.00	0.00	0.06	0.26	0.32
<b>Sum</b>	0.19	0.10	0.40	0.31	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.92	0.90	0.89	0.73
<b>Probability of Chance</b>	0.69	0.59	0.57	0.30
<b>Kappa (k)</b>	0.75	0.76	0.75	0.62
<b>Classification Accuracy</b>	0.95	0.93	0.91	0.80

Table 10-13  
 Classification Consistency and Classification Accuracy for Mathematics Grade 4

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.14	0.03	0.00	0.00	0.17
<b>Basic Proficient</b>	0.03	0.04	0.04	0.00	0.11
<b>Proficient</b>	0.01	0.03	0.29	0.06	0.39
<b>Advanced</b>	0.00	0.00	0.06	0.26	0.33
<b>Sum</b>	0.17	0.11	0.40	0.32	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.93	0.92	0.88	0.74
<b>Probability of Chance</b>	0.72	0.60	0.56	0.30
<b>Kappa (k)</b>	0.75	0.79	0.73	0.62
<b>Classification Accuracy</b>	0.95	0.93	0.92	0.81

Table 10-14  
 Classification Consistency and Classification Accuracy for Mathematics Grade 5

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.14	0.03	0.00	0.00	0.17
<b>Basic Proficient</b>	0.03	0.04	0.03	0.00	0.10
<b>Proficient</b>	0.01	0.05	0.31	0.04	0.41
<b>Advanced</b>	0.00	0.00	0.06	0.25	0.32
<b>Sum</b>	0.18	0.12	0.41	0.29	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.93	0.91	0.90	0.75
<b>Probability of Chance</b>	0.71	0.59	0.58	0.30
<b>Kappa (k)</b>	0.77	0.77	0.76	0.64
<b>Classification Accuracy</b>	0.95	0.93	0.93	0.81

Table 10-15  
 Classification Consistency and Classification Accuracy for Mathematics Grade 6

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.12	0.03	0.00	0.00	0.16
<b>Basic Proficient</b>	0.03	0.05	0.04	0.00	0.13
<b>Proficient</b>	0.01	0.03	0.35	0.05	0.44
<b>Advanced</b>	0.00	0.00	0.05	0.23	0.28
<b>Sum</b>	0.16	0.11	0.44	0.28	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.93	0.92	0.90	0.76
<b>Probability of Chance</b>	0.73	0.60	0.59	0.31
<b>Kappa (k)</b>	0.73	0.80	0.76	0.65
<b>Classification Accuracy</b>	0.95	0.94	0.93	0.82

Table 10-16  
 Classification Consistency and Classification Accuracy for Mathematics Grade 7

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.12	0.03	0.00	0.00	0.14
<b>Basic Proficient</b>	0.03	0.07	0.03	0.00	0.12
<b>Proficient</b>	0.01	0.04	0.38	0.05	0.48
<b>Advanced</b>	0.00	0.00	0.04	0.22	0.26
<b>Sum</b>	0.15	0.13	0.46	0.27	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.94	0.92	0.91	0.78
<b>Probability of Chance</b>	0.75	0.60	0.61	0.32
<b>Kappa (k)</b>	0.76	0.80	0.78	0.68
<b>Classification Accuracy</b>	0.96	0.94	0.94	0.84

Table 10-17  
 Classification Consistency and Classification Accuracy for Mathematics Grade 8

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.10	0.03	0.00	0.00	0.13
<b>Basic Proficient</b>	0.03	0.07	0.04	0.00	0.14
<b>Proficient</b>	0.00	0.04	0.41	0.04	0.49
<b>Advanced</b>	0.00	0.00	0.04	0.20	0.24
<b>Sum</b>	0.13	0.14	0.49	0.24	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.94	0.91	0.92	0.78
<b>Probability of Chance</b>	0.77	0.61	0.63	0.33
<b>Kappa (k)</b>	0.73	0.78	0.79	0.67
<b>Classification Accuracy</b>	0.96	0.94	0.95	0.85

Table 10-18  
 Classification Consistency and Classification Accuracy for Mathematics Grade 10

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.13	0.03	0.00	0.00	0.16
<b>Basic Proficient</b>	0.03	0.07	0.04	0.00	0.13
<b>Proficient</b>	0.01	0.03	0.38	0.04	0.46
<b>Advanced</b>	0.00	0.00	0.03	0.22	0.25
<b>Sum</b>	0.16	0.14	0.45	0.25	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.93	0.92	0.93	0.79
<b>Probability of Chance</b>	0.73	0.59	0.62	0.31
<b>Kappa (k)</b>	0.74	0.81	0.82	0.70
<b>Classification Accuracy</b>	0.95	0.94	0.95	0.85

Table 10-19  
 Classification Consistency and Classification Accuracy for Language Arts Grade 4

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.03	0.03	0.00	0.00	0.06
<b>Basic Proficient</b>	0.02	0.09	0.05	0.00	0.16
<b>Proficient</b>	0.00	0.06	0.35	0.07	0.48
<b>Advanced</b>	0.00	0.00	0.07	0.23	0.30
<b>Sum</b>	0.05	0.18	0.48	0.29	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.95	0.88	0.87	0.70
<b>Probability of Chance</b>	0.89	0.65	0.58	0.35
<b>Kappa (k)</b>	0.52	0.64	0.68	0.53
<b>Classification Accuracy</b>	0.96	0.91	0.90	0.78

Table 10-20  
 Classification Consistency and Classification Accuracy for Language Arts Grade 8

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.10	0.04	0.00	0.00	0.14
<b>Basic Proficient</b>	0.03	0.14	0.08	0.00	0.26
<b>Proficient</b>	0.00	0.07	0.21	0.07	0.36
<b>Advanced</b>	0.00	0.00	0.07	0.17	0.24
<b>Sum</b>	0.13	0.25	0.37	0.25	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.93	0.83	0.86	0.63
<b>Probability of Chance</b>	0.76	0.52	0.63	0.28
<b>Kappa (k)</b>	0.70	0.65	0.61	0.49
<b>Classification Accuracy</b>	0.94	0.89	0.90	0.73

Table 10-21  
 Classification Consistency and Classification Accuracy for Language Arts Grade 10

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.13	0.05	0.01	0.00	0.19
<b>Basic Proficient</b>	0.04	0.08	0.07	0.00	0.20
<b>Proficient</b>	0.01	0.07	0.31	0.07	0.45
<b>Advanced</b>	0.00	0.00	0.06	0.10	0.16
<b>Sum</b>	0.18	0.20	0.45	0.17	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.89	0.84	0.87	0.62
<b>Probability of Chance</b>	0.70	0.53	0.73	0.31
<b>Kappa (k)</b>	0.63	0.65	0.52	0.45
<b>Classification Accuracy</b>	0.90	0.87	0.89	0.68

Table 10-22  
 Classification Consistency and Classification Accuracy for Social Studies Grade 4

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.01	0.01	0.00	0.00	0.02
<b>Basic Proficient</b>	0.01	0.03	0.02	0.00	0.06
<b>Proficient</b>	0.00	0.02	0.20	0.06	0.28
<b>Advanced</b>	0.00	0.00	0.07	0.58	0.64
<b>Sum</b>	0.02	0.05	0.29	0.64	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.99	0.96	0.87	0.82
<b>Probability of Chance</b>	0.96	0.86	0.54	0.49
<b>Kappa (k)</b>	0.67	0.74	0.72	0.65
<b>Classification Accuracy</b>	0.99	0.97	0.90	0.86

Table 10-23

## Classification Consistency and Classification Accuracy for Social Studies Grade 8

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.03	0.01	0.00	0.00	0.04
<b>Basic Proficient</b>	0.01	0.07	0.02	0.00	0.11
<b>Proficient</b>	0.00	0.03	0.31	0.05	0.39
<b>Advanced</b>	0.00	0.00	0.06	0.39	0.46
<b>Sum</b>	0.04	0.12	0.40	0.44	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.98	0.94	0.89	0.81
<b>Probability of Chance</b>	0.92	0.74	0.50	0.37
<b>Kappa (k)</b>	0.71	0.78	0.77	0.69
<b>Classification Accuracy</b>	0.98	0.96	0.92	0.86

Table 10-24  
 Classification Consistency and Classification Accuracy for Social Studies Grade 10

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.15	0.03	0.01	0.00	0.19
<b>Basic Proficient</b>	0.02	0.02	0.03	0.00	0.06
<b>Proficient</b>	0.01	0.03	0.21	0.05	0.31
<b>Advanced</b>	0.00	0.00	0.05	0.39	0.44
<b>Sum</b>	0.18	0.08	0.30	0.45	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.94	0.92	0.90	0.78
<b>Probability of Chance</b>	0.70	0.62	0.51	0.33
<b>Kappa (k)</b>	0.79	0.80	0.79	0.67
<b>Classification Accuracy</b>	0.95	0.95	0.93	0.84

Table 10-25  
 Classification Consistency and Classification Accuracy for Science Grade 4

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.04	0.02	0.00	0.00	0.05
<b>Basic Proficient</b>	0.02	0.10	0.05	0.00	0.16
<b>Proficient</b>	0.00	0.05	0.43	0.07	0.55
<b>Advanced</b>	0.00	0.00	0.07	0.17	0.24
<b>Sum</b>	0.05	0.16	0.54	0.24	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.97	0.90	0.86	0.73
<b>Probability of Chance</b>	0.90	0.66	0.64	0.38
<b>Kappa (k)</b>	0.67	0.71	0.61	0.56
<b>Classification Accuracy</b>	0.97	0.93	0.90	0.80

Table 10-26  
 Classification Consistency and Classification Accuracy for Science Grade 8

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.07	0.03	0.00	0.00	0.10
<b>Basic Proficient</b>	0.03	0.07	0.05	0.00	0.15
<b>Proficient</b>	0.00	0.04	0.33	0.06	0.44
<b>Advanced</b>	0.00	0.00	0.07	0.24	0.31
<b>Sum</b>	0.10	0.14	0.45	0.30	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.94	0.90	0.87	0.72
<b>Probability of Chance</b>	0.82	0.63	0.58	0.32
<b>Kappa (k)</b>	0.65	0.74	0.70	0.58
<b>Classification Accuracy</b>	0.95	0.92	0.90	0.78

Table 10-27  
 Classification Consistency and Classification Accuracy for Science Grade 10

Contingency Table with All Cut Scores

	<b>Minimal Performance</b>	<b>Basic Proficient</b>	<b>Proficient</b>	<b>Advanced</b>	<b>Sum</b>
<b>Minimal Performance</b>	0.15	0.02	0.01	0.00	0.18
<b>Basic Proficient</b>	0.03	0.04	0.03	0.00	0.10
<b>Proficient</b>	0.01	0.04	0.25	0.05	0.35
<b>Advanced</b>	0.00	0.00	0.06	0.31	0.36
<b>Sum</b>	0.19	0.10	0.34	0.36	1.00

Indexes for Classification Consistency and Classification Accuracy

	<b>Cut 1</b>	<b>Cut 2</b>	<b>Cut 3</b>	<b>All cuts</b>
<b>Classification Consistency (P)</b>	0.92	0.92	0.89	0.75
<b>Probability of Chance</b>	0.69	0.59	0.54	0.30
<b>Kappa (k)</b>	0.75	0.79	0.77	0.64
<b>Classification Accuracy</b>	0.95	0.94	0.92	0.81

Table 10-28  
Items Flagged for DIF, By Gender\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Male	L-H D Male	Flag Male	L-H Z Female	L-H D Female	Delta M-H	ES SMD	Flag Female
RD	4		OP	56	MC	8.03	0.09		-8.51	-0.07	-1.91	-0.27	-
RD	5		OP	26	MC	8.75	0.06		-7.91	-0.06	-1.73	-0.27	-
RD	7		OP	21	CR	-7.43	-0.10	-	4.94	0.09	.	0.17	
RD	8		OP	5	MC	12.12	0.09		-12.57	-0.10	-2.47	-0.41	-
RD	8		OP	14	CR	-8.95	-0.16	-	4.59	0.08	.	0.18	
RD	8		OP	53	CR	-12.12	-0.13	-	8.67	0.10	.	0.27	
RD	10		OP	15	CR	-9.96	-0.12	-	5.58	0.08	.	0.18	
RD	10		OP	22	CR	-12.13	-0.15	-	6.05	0.10	.	0.22	
RD	10		OP	59	CR	-10.09	-0.13	-	3.97	0.06	.	0.16	
MA	4	C	FT	60B	CR	-5.65	-0.10	-	5.88	0.11	.	0.27	+
MA	4	F	FT	60B	CR	-5.65	-0.10	-	5.88	0.11	.	0.28	+
MA	8	E	FT	62	MC	15.10	0.06		-14.93	-0.06	-1.56	-0.26	-
LA	4	A	FT	1A	CR	-4.88	-0.17	-	6.02	0.18	.	0.31	+
LA	4	B	FT	1A	CR	-3.78	-0.11	-	4.34	0.13	.	0.23	
LA	4	C	FT	1A	CR	-3.80	-0.13	-	4.49	0.14	.	0.24	
LA	4	D	FT	1A	CR	-4.65	-0.15	-	4.64	0.15	.	0.22	
LA	4	E	FT	1A	CR	-5.65	-0.18	-	5.84	0.18	.	0.29	+
LA	4	F	FT	1A	CR	-3.94	-0.14	-	3.97	0.12	.	0.23	
LA	8		OP	1A	CR	-30.83	-0.14	-	25.72	0.11	.	0.26	+
SS	10		OP	15	MC	9.12	0.08		-8.96	-0.07	-1.61	-0.29	-
SS	10		OP	38	MC	9.42	0.07		-9.68	-0.07	-1.74	-0.29	-
SC	10		OP	28	MC	9.89	0.07		-8.89	-0.07	-1.82	-0.29	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|\Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-29  
 Items Flagged for DIF, By Ethnicity, African American\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z African-American	L-H D African-American	Delta M-H African-American	ES SMD African-American	Flag African-American
RD	4		OP	30	MC	-2.27	-0.04	-1.66	-0.31	-
MA	3	A	FT	69	MC	-6.92	-0.05	-1.63	-0.32	-
MA	5		OP	56	MC	-3.79	-0.07	-1.56	-0.27	-
MA	6	C	FT	63	MC	12.81	0.12	1.92	0.32	+
MA	8	B	FT	71	MC	-8.47	-0.08	-1.87	-0.31	-
MA	8	C	FT	65	MC	-9.19	-0.09	-1.53	-0.31	-
MA	10		OP	25	MC	-0.96	-0.08	-1.64	-0.30	-
LA	8	B	FT	25	MC	-6.86	-0.11	-1.64	-0.28	-
LA	8	F	FT	32	MC	-7.15	-0.11	-1.66	-0.32	-
SS	4		OP	38	MC	5.83	0.09	1.63	0.28	+
SS	8		OP	44	MC	5.13	0.07	1.61	0.29	+
SS	10		OP	34	MC	0.41	-0.04	-1.66	-0.33	-
SC	4		OP	10	MC	-2.82	-0.05	-1.86	-0.35	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-30  
 Items Flagged for DIF, By Ethnicity, Hispanic\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Hispanic	L-H D Hispanic	Delta M-H Hispanic	ES SMD Hispanic	Flag Hispanic
RD	3		OP	40	MC	-6.24	-0.13	-1.69	-0.34	-
RD	4		OP	30	MC	-6.06	-0.07	-2.37	-0.44	-
RD	4		OP	58	MC	-4.71	-0.09	-2.17	-0.37	-
RD	4	A	FT	66	MC	-7.83	-0.04	-1.74	-0.30	-
RD	6		OP	11	MC	-3.92	-0.07	-1.61	-0.33	-
RD	6		OP	53	MC	-4.76	-0.10	-1.74	-0.34	-
RD	7		OP	26	MC	-4.77	-0.09	-1.86	-0.33	-
RD	7	A	FT	70	MC	14.17	0.11	1.39	0.26	+
RD	7	B	FT	70	MC	14.17	0.11	1.58	0.30	+
RD	7	C	FT	70	MC	14.17	0.11	1.32	0.26	+
RD	8		OP	6	MC	-4.62	-0.09	-1.65	-0.33	-
MA	5		OP	62	MC	-4.58	-0.12	-1.85	-0.35	-
LA	10		OP	6	MC	-2.92	-0.07	-1.66	-0.31	-
SS	8		OP	35	MC	5.70	0.11	2.03	0.30	+
SC	4		OP	10	MC	-4.58	-0.08	-2.34	-0.46	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|\Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-31  
Items Flagged for DIF, By Ethnicity, Asian\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Asian	L-H D Asian	Delta M-H Asian	ES SMD Asian	Flag Asian
RD	3		OP	1	MC	-6.54	-0.13	-1.89	-0.30	-
RD	3		OP	6	MC	-7.64	-0.13	-2.21	-0.39	-
RD	3		OP	40	MC	-6.35	-0.14	-1.74	-0.34	-
RD	4		OP	30	MC	-3.94	-0.09	-2.56	-0.43	-
RD	4		OP	58	MC	-6.17	-0.10	-2.45	-0.40	-
RD	4	C	FT	79	CR	5.58	0.37	.	0.56	+
RD	4	E	FT	79	CR	5.58	0.37	.	0.47	+
RD	5		OP	7	MC	-7.10	-0.12	-2.45	-0.43	-
RD	5		OP	53	CR	6.25	0.25	.	0.28	+
RD	6		OP	11	MC	-4.81	-0.10	-1.85	-0.36	-
RD	6		OP	21	CR	5.76	0.16	.	0.25	+
RD	6		OP	38	MC	-9.18	-0.25	-2.73	-0.49	-
RD	6		OP	40	MC	4.19	0.09	1.57	0.27	+
RD	7		OP	26	MC	-3.88	-0.08	-1.83	-0.31	-
RD	7		OP	43	MC	-5.41	-0.09	-1.57	-0.30	-
RD	7		OP	44	MC	-8.08	-0.14	-2.43	-0.43	-
RD	7		OP	54	MC	-5.71	-0.10	-1.82	-0.29	-
RD	7		OP	58	MC	-5.64	-0.10	-1.94	-0.31	-
RD	7	A	FT	65	MC	-12.97	-0.11	-2.11	-0.40	-
RD	7	A	FT	88	CR	3.38	0.25	.	0.51	+
RD	7	B	FT	65	MC	-12.97	-0.11	-2.24	-0.43	-
RD	7	B	FT	88	CR	3.38	0.25	.	0.31	+
RD	7	C	FT	65	MC	-12.97	-0.11	-2.13	-0.43	-
RD	7	C	FT	88	CR	3.38	0.25	.	0.28	+
RD	8		OP	25	MC	-5.23	-0.09	-2.49	-0.38	-
RD	8		OP	28	MC	5.43	0.12	1.33	0.27	+

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|\Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-31 Cont'd  
Items Flagged for DIF, By Ethnicity, Asian\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Asian	L-H D Asian	Delta M-H Asian	ES SMD Asian	Flag Asian
RD	8		OP	42	CR	6.04	0.18	.	0.29	+
RD	8		OP	45	MC	-7.14	-0.10	-2.46	-0.46	-
RD	8	A	FT	64	MC	-12.75	-0.12	-1.63	-0.25	-
RD	8	B	FT	64	MC	-12.75	-0.12	-2.32	-0.39	-
RD	8	C	FT	64	MC	-12.75	-0.12	-2.44	-0.44	-
RD	8	D	FT	64	MC	-12.75	-0.12	-1.90	-0.34	-
RD	8	D	FT	82	MC	9.53	0.08	1.79	0.25	+
RD	8	E	FT	64	MC	-12.75	-0.12	-1.63	-0.28	-
RD	8	F	FT	64	MC	-12.75	-0.12	-2.51	-0.46	-
RD	10		OP	15	CR	8.88	0.28	.	0.40	+
RD	10		OP	22	CR	7.01	0.26	.	0.31	+
RD	10		OP	56	MC	-5.80	-0.06	-2.80	-0.38	-
RD	10		OP	58	MC	-6.94	-0.13	-1.78	-0.34	-
MA	3	C	FT	67	CR	3.16	0.42	.	0.27	+
MA	4		OP	26	MC	-4.95	-0.11	-1.64	-0.29	-
MA	4		OP	34	MC	-12.87	-0.20	-3.60	-0.62	-
MA	4	C	FT	66	MC	-8.26	-0.13	-2.48	-0.48	-
MA	4	F	FT	66	MC	-8.26	-0.13	-1.82	-0.31	-
MA	5		OP	31	MC	-4.85	-0.11	-2.01	-0.31	-
MA	5		OP	35	MC	-4.57	-0.13	-1.67	-0.27	-
MA	5		OP	36	MC	-5.30	-0.12	-1.71	-0.28	-
MA	5		OP	39	MC	-6.09	-0.12	-1.96	-0.32	-
MA	5		OP	56	MC	-5.31	-0.05	-1.77	-0.26	-
MA	5		OP	62	MC	-6.66	-0.10	-2.39	-0.40	-
MA	5	C	FT	74	MC	-9.36	-0.14	-2.03	-0.38	-
MA	6		OP	29	MC	5.67	0.12	1.49	0.27	+
MA	7		OP	57	MC	-6.28	-0.11	-1.83	-0.34	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-31 Cont'd  
 Items Flagged for DIF, By Ethnicity, Asian\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Asian	L-H D Asian	Delta M-H Asian	ES SMD Asian	Flag Asian
MA	7	A	FT	73	MC	-6.47	-0.11	-1.65	-0.25	-
MA	8		OP	32	MC	-5.78	-0.10	-1.62	-0.25	-
MA	8		OP	47	MC	-5.68	-0.11	-1.38	-0.28	-
MA	8	B	FT	69	MC	-6.33	-0.10	-1.56	-0.27	-
MA	10		OP	5	MC	5.39	0.11	1.66	0.25	+
MA	10		OP	8	MC	7.18	0.15	2.09	0.33	+
MA	10		OP	26	MC	-9.64	-0.14	-2.39	-0.38	-
LA	4		OP	22	MC	-8.68	-0.14	-2.44	-0.43	-
LA	8		OP	14	MC	-5.54	-0.11	-1.98	-0.35	-
LA	8		OP	24	MC	5.48	0.12	1.78	0.31	+
LA	8	B	FT	1A	CR	2.82	0.57	.	0.36	+
LA	8	C	FT	32	MC	4.50	0.12	1.25	0.25	+
LA	8	D	FT	25	MC	5.40	0.13	1.60	0.28	+
LA	10		OP	6	MC	-6.93	-0.12	-2.54	-0.46	-
SS	4		OP	2	MC	-3.57	-0.10	-2.14	-0.33	-
SS	8		OP	9	MC	-4.62	-0.09	-1.74	-0.25	-
SS	10		OP	24	MC	-5.50	-0.09	-1.55	-0.28	-
SS	10		OP	27	MC	-4.37	-0.08	-2.09	-0.32	-
SC	4		OP	10	MC	-9.73	-0.17	-3.71	-0.67	-
SC	8		OP	17	MC	4.99	0.10	1.68	0.29	+
SC	10		OP	40	MC	-7.54	-0.12	-1.58	-0.29	-
SC	10		OP	41	MC	-7.61	-0.13	-2.14	-0.32	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-32  
 Items Flagged for DIF, By Ethnicity, American Indian\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z American Indian	L-H D American Indian	Delta M-H American Indian	ES SMD American Indian	Flag American Indian
RD	3		OP	3	MC	-3.07	-0.24	-2.13	-0.25	-
RD	3		OP	8	MC	1.74	0.07	2.85	0.27	+
RD	4		OP	38	MC	-3.17	-0.20	-2.35	-0.42	-
RD	4	B	FT	63	MC	-0.62	-0.04	-1.68	-0.28	-
RD	4	E	FT	70	MC	-0.71	-0.08	-1.62	-0.28	-
RD	5		OP	1	MC	2.78	0.18	1.63	0.26	+
RD	5		OP	18	MC	-2.72	-0.13	-1.56	-0.30	-
RD	5		OP	56	MC	-2.91	-0.18	-2.04	-0.33	-
RD	7		OP	9	MC	2.20	0.08	2.86	0.30	+
RD	7		OP	12	MC	-2.66	-0.17	-1.50	-0.31	-
RD	7		OP	55	MC	3.35	0.20	1.99	0.32	+
RD	7		OP	58	MC	-2.21	-0.19	-1.86	-0.31	-
RD	7		OP	62	MC	-2.49	-0.20	-1.66	-0.33	-
RD	8	C	FT	76	MC	1.64	0.06	1.63	0.29	+
RD	10		OP	2	MC	3.05	0.13	2.62	0.33	+
RD	10		OP	56	MC	-4.42	-0.09	-2.72	-0.44	-
MA	3		OP	8	MC	-2.13	-0.25	-1.76	-0.28	-
MA	3	C	FT	67	CR	2.80	0.46	.	0.46	+
MA	3	C	FT	68	MC	-1.96	-0.05	-1.86	-0.26	-
MA	4		OP	3	MC	2.15	0.10	2.20	0.25	+
MA	4		OP	17	MC	-1.42	-0.17	-2.36	-0.41	-
MA	4		OP	29	MC	-2.51	-0.16	-1.98	-0.26	-
MA	4		OP	49	MC	2.95	0.14	3.55	0.35	+
MA	5		OP	25	MC	2.17	0.08	3.04	0.28	+
MA	5		OP	42	MC	2.67	0.10	4.02	0.29	+

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-32 Cont'd  
 Items Flagged for DIF, By Ethnicity, American Indian\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z American Indian	L-H D American Indian	Delta M-H American Indian	ES SMD American Indian	Flag American Indian
MA	5		OP	57	MC	-3.25	-0.20	-1.62	-0.25	-
MA	6		OP	14	MC	-1.61	-0.13	-1.80	-0.32	-
MA	7		OP	10	MC	-2.26	-0.12	-1.63	-0.27	-
MA	7		OP	50	MC	1.52	-0.08	2.26	0.26	+
MA	8		OP	37	MC	2.82	0.21	1.73	0.31	+
MA	10		OP	20	MC	2.91	0.19	1.76	0.32	+
LA	4		OP	4	MC	-1.46	-0.18	-1.65	-0.26	-
LA	4	B	FT	25	MC	2.77	0.18	1.34	0.26	+
LA	8	B	FT	34	MC	-3.10	-0.13	-1.51	-0.23	-
LA	10		OP	3	MC	2.14	0.15	1.57	0.28	+
SS	4		OP	1	MC	-3.65	-0.20	-2.00	-0.31	-
SS	4		OP	16	MC	1.95	0.09	3.01	0.27	+
SS	8		OP	3	MC	2.40	0.10	2.17	0.29	+
SS	8		OP	23	MC	2.36	-0.25	1.54	0.27	+
SS	8		OP	37	MC	-1.39	-0.20	-1.71	-0.28	-
SS	10		OP	12	MC	-2.68	-0.16	-1.23	-0.25	-
SS	10		OP	43	MC	3.64	0.18	1.98	0.36	+
SC	4		OP	9	MC	-3.16	-0.19	-1.83	-0.37	-
SC	4		OP	29	MC	-2.59	-0.16	-1.51	-0.31	-
SC	4		OP	37	MC	2.29	0.22	1.67	0.30	+
SC	8		OP	4	MC	-3.28	-0.21	-2.52	-0.42	-
SC	8		OP	5	MC	2.25	0.10	1.67	0.26	+
SC	8		OP	27	MC	2.08	0.15	1.60	0.26	+

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-33  
Items Flagged for DIF, By English Language Proficiency\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Proficient	L-H D Proficient	Flag Proficient	L-H Z Not Proficient	L-H D Not Proficient	Delta M-H Not Proficient	ES SMD Not Proficient	Flag Not Proficient
RD	3		OP	6	MC	2.34	0.01		-6.78	-0.16	2.05	0.46	-
RD	3		OP	16	CR	-1.74	-0.05		3.36	0.23	.	-0.29	+
RD	3		OP	40	MC	-0.6	-0.06		-7.22	-0.18	1.77	0.49	-
RD	4		OP	30	MC	-1.28	0.04		-6.66	-0.13	2.28	0.23	-
RD	4		OP	42	CR	-3.14	-0.05		3.44	0.16	.	-0.28	+
RD	4		OP	58	MC	1.44	-0.01		-8.09	-0.16	2.68	0.3	-
RD	4	C	FT	79	CR	-1.39	-0.05		5.51	0.27	.	0.54	+
RD	4	E	FT	79	CR	-1.39	-0.05		5.51	0.27	.	0.5	+
RD	4	F	FT	66	MC	4.4	0.01		-9.09	-0.06	-1.72	-0.34	-
RD	5		OP	7	MC	-0.11	0.02		-7.4	-0.15	2.17	0.26	-
RD	5		OP	19	MC	0.99	-0.02		-4.92	-0.13	1.11	0.27	-
RD	5		OP	53	CR	-2.9	-0.06		5.05	0.27	.	-0.34	+
RD	6		OP	28	MC	2.4	0.02		-4.81	-0.1	1.48	0.31	-
RD	6		OP	30	CR	-2.61	0.08		4.3	0.13	.	-0.33	+
RD	6		OP	38	MC	2.42	0.02		-8.65	-0.21	2.3	0.55	-
RD	7		OP	21	CR	-3.08	-0.04		4.41	0.22	.	-0.3	+
RD	7		OP	26	MC	1.76	0.01		-4.96	-0.13	1.55	0.25	-
RD	7		OP	43	MC	1.98	-0.02		-5.17	-0.13	1.61	0.22	-
RD	7		OP	44	MC	2.75	0.01		-6.03	-0.14	1.9	0.48	-
RD	7		OP	54	MC	1.81	0.02		-4.02	-0.14	1.51	0.32	+
RD	7		OP	63	CR	-3.21	-0.06		3.31	0.19	.	-0.46	+
RD	7	C	FT	78	MC	0.17	0.01		5.45	0.05	1.53	0.25	+
RD	8		OP	14	CR	-4.91	0.07		5.23	0.2	.	-0.4	+
RD	8		OP	25	MC	2.46	0.01		-4.82	-0.08	1.79	0.3	+
RD	8		OP	27	MC	0.7	0.04		-6.16	-0.16	1.62	0.4	-
RD	8		OP	28	MC	-1.89	-0.02		4.68	0.13	-1.34	-0.3	+
RD	8		OP	42	CR	-7.99	-0.08		7.2	0.24	.	-0.38	+
RD	8		OP	45	MC	2.77	0.02		-7.2	-0.13	2.02	0.32	-
RD	8		OP	53	CR	-3.73	-0.05		3.97	-0.23	.	-0.25	+

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|\Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-33 Cont'd  
 Items Flagged for DIF, By English Language Proficiency\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Proficient	L-H D Proficient	Flag Proficient	L-H Z Not Proficient	L-H D Not Proficient	Delta M-H Not Proficient	ES SMD Not Proficient	Flag Not Proficient
RD	8	A	FT	64	MC	4.49	0.01		-9.47	-0.09	-1.76	-0.35	-
RD	8	F	FT	64	MC	4.49	0.01		-9.47	-0.09	-2.28	-0.46	-
RD	10		OP	15	CR	-4.86	-0.04		7.89	0.34	.	-0.41	+
RD	10		OP	44	CR	-5.81	-0.06		5.38	0.27	.	-0.25	+
RD	10		OP	58	MC	0.8	-0.01		-4.46	-0.13	1.34	0.34	-
RD	10		OP	59	CR	-5.78	-0.08		5.3	0.22	.	-0.34	+
MA	3	A	FT	71	MC	2.18	-0.01		-8.58	-0.13	-1.79	-0.33	-
MA	4		OP	26	MC	1.12	-0.02		-5.87	-0.13	1.75	0.27	-
MA	4		OP	34	MC	3.64	0.02		-11.69	-0.23	3.11	0.55	-
MA	4		OP	48	MC	0.78	0.02		-5.04	-0.11	1.37	0.27	-
MA	4	A	FT	73	MC	0.6	-0.01		-4.97	-0.09	-1.55	-0.25	-
MA	4	C	FT	66	MC	1.95	0.01		-8.82	-0.13	-1.73	-0.36	-
MA	4	F	FT	66	MC	1.95	0.01		-8.82	-0.13	-1.61	-0.32	-
MA	5		OP	35	MC	1.2	0.02		-6.28	-0.16	1.98	0.32	-
MA	5		OP	36	MC	-0.06	-0.01		-5.28	-0.11	1.55	0.27	-
MA	5		OP	39	MC	0.23	0.02		-6.79	-0.17	1.82	0.35	-
MA	5		OP	40	MC	2.79	-0.02		-5	-0.09	2.28	0.28	+
MA	5		OP	62	MC	2.45	0.02		-5.99	-0.13	1.86	0.32	-
MA	5	C	FT	74	MC	1.77	-0.01		-7.08	-0.12	-1.25	-0.26	-
MA	6		OP	17	MC	1.27	0.02		-4.65	-0.14	1.22	0.25	-
MA	6	C	FT	77	MC	1.62	-0.01		-6.69	-0.14	-1.52	-0.3	-
MA	7		OP	6	MC	1.38	-0.02		-4.39	-0.14	1.19	0.28	-
MA	7		OP	26	MC	-1.23	-0.02		4.73	0.13	-1.4	-0.32	+
MA	7		OP	29A	CR	0.71	-0.03		-6.24	-0.16	.	0.36	-
MA	7		OP	57	MC	1.83	0.02		-7.58	-0.15	1.89	0.45	-
MA	7	A	FT	73	MC	0.43	-0.01		-5.85	-0.1	-1.57	-0.21	-
MA	8		OP	17	MC	1.77	0.02		-5.62	-0.14	1.92	0.33	-
MA	8		OP	32	MC	2.53	0.02		-5.71	-0.16	1.6	0.28	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|\Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-33 Cont'd  
 Items Flagged for DIF, By English Language Proficiency\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Proficient	L-H D Proficient	Flag Proficient	L-H Z Not Proficient	L-H D Not Proficient	Delta M-H Not Proficient	ES SMD Not Proficient	Flag Not Proficient
MA	8		OP	47	MC	1.47	-0.04		-5.74	-0.14	1.46	0.31	-
MA	8	B	FT	67	MC	2.19	0.01		-5.74	-0.1	-1.54	-0.27	-
MA	10		OP	8	MC	-3.71	-0.04		3.93	0.18	-1.97	-0.26	+
MA	10		OP	26	MC	2.85	0.02		-6.99	-0.16	2.04	0.42	-
MA	10		OP	30	MC	1.16	0.02		-4.07	-0.13	1.15	0.26	-
MA	10		OP	46	MC	1.44	-0.02		-5.26	-0.12	1.88	0.26	-
LA	4		OP	27	MC	0.07	-0.01		-6	-0.13	1.67	0.29	-
LA	8		OP	14	MC	3.81	0.01		-5.17	-0.12	1.69	0.25	-
LA	8	A	FT	25	MC	-0.58	-0.01		3.79	0.11	1.35	0.25	+
LA	10		OP	6	MC	3.68	0.02		-9.61	-0.2	2.94	0.53	-
LA	10		OP	19	MC	-1.47	-0.02		3.74	0.13	-1.17	-0.26	+
SS	4		OP	2	MC	3.71	0.02		-4.67	-0.15	2.17	0.23	-
SS	8		OP	23	MC	-1.58	-0.02		4.71	0.14	-1.44	-0.27	+
SS	8		OP	35	MC	-1.56	-0.02		4.98	0.11	-1.62	-0.2	+
SS	10		OP	27	MC	1.25	0.02		-3.85	-0.1	1.68	0.3	+
SS	10		OP	35	MC	-0.51	-0.01		4.23	0.12	-1.22	-0.25	+
SC	4		OP	10	MC	4.35	0.02		-8.66	-0.18	2.63	0.47	-
SC	10		OP	41	MC	1.49	-0.01		-4.74	-0.13	1.87	0.53	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|\Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-34  
Items Flagged for DIF, By Disability Status\*

Content	Grade	Form	OP/FT	Test Book No.	Type	L-H Z Not Disabled	L-H D Not Disabled	Flag Not Disabled	L-H Z Disabled	L-H D Disabled	Delta M-H Disabled	ES SMD Disabled	Flag Disabled
MA	3		OP	5	MC	2.56	0.02		-2.16	-0.06	-1.88	-0.34	-
MA	3	C	FT	67	CR	-2.73	-0.08		7.21	0.34	.	0.48	+
MA	5		OP	1	MC	-4.07	0.05		9.51	0.14	1.50	0.32	+
MA	5	A	FT	74	CR	-1.84	-0.05		4.55	0.21	.	0.41	+
MA	6		OP	11	MC	3.61	-0.04		-3.53	-0.06	-1.62	-0.36	-
MA	7		OP	2	MC	0.07	0.03		-0.62	-0.04	-1.76	-0.40	-
LA	4		OP	1A	CR	5.18	0.03		-17.84	-0.19	.	-0.33	-
LA	4	A	FT	33	MC	-5.80	-0.03		7.40	0.07	1.64	0.26	+
LA	4	A	FT	1A	CR	3.12	-0.11		-5.36	-0.27	.	-0.37	-
LA	4	B	FT	1A	CR	1.95	-0.08		-3.99	-0.25	.	-0.31	-
LA	4	C	FT	1A	CR	1.72	-0.07		-3.74	-0.22	.	-0.27	-
LA	4	D	FT	1A	CR	1.04	0.11		-2.75	-0.24	.	-0.27	-
LA	4	E	FT	1A	CR	1.55	0.07		-4.26	0.33	.	-0.33	-
LA	4	F	FT	1A	CR	1.21	0.08		-3.30	-0.23	.	-0.27	-
LA	8	B	FT	1A	CR	1.69	0.07		-3.91	0.28	.	-0.27	-
SC	8		OP	3	MC	-0.20	0.01		-0.30	0.03	-2.13	-0.29	-
SC	8		OP	9	MC	2.26	0.01		-2.00	-0.02	-2.61	-0.40	-

\*  $|L-H Z| \geq 2.58$  &  $|L-H D| \geq 0.10$ ,  $|Delta M-H| \geq 1.5$ ,  $|ES SMD| \geq 0.25$ .

Table 10-35  
Correlations among Reading Objectives

Grade	CS	1	2	3
3	2	0.74		
	3	0.77	0.80	
	4	0.58	0.60	0.62
4	2	0.76		
	3	0.77	0.80	
	4	0.66	0.68	0.70
5	2	0.74		
	3	0.71	0.76	
	4	0.69	0.75	0.74
6	2	0.68		
	3	0.71	0.74	
	4	0.66	0.67	0.72
7	2	0.73		
	3	0.71	0.75	
	4	0.68	0.70	0.70
8	2	0.70		
	3	0.69	0.71	
	4	0.68	0.68	0.72
10	2	0.62		
	3	0.74	0.70	
	4	0.67	0.65	0.79

Table 10-36  
Correlations among Mathematics Objectives

Grade	CS	A	B	C	D	E
3	B	0.59				
	C	0.51	0.52			
	D	0.56	0.64	0.53		
	E	0.61	0.62	0.56	0.61	
	F	0.58	0.66	0.50	0.57	0.57
4	B	0.65				
	C	0.56	0.57			
	D	0.61	0.62	0.55		
	E	0.60	0.65	0.54	0.58	
	F	0.63	0.72	0.56	0.60	0.64
5	B	0.65				
	C	0.57	0.55			
	D	0.65	0.64	0.56		
	E	0.57	0.59	0.52	0.58	
	F	0.65	0.66	0.54	0.59	0.58
6	B	0.68				
	C	0.56	0.55			
	D	0.65	0.70	0.53		
	E	0.63	0.63	0.52	0.60	
	F	0.67	0.69	0.51	0.63	0.57
7	B	0.69				
	C	0.64	0.60			
	D	0.69	0.72	0.61		
	E	0.67	0.60	0.56	0.58	
	F	0.60	0.63	0.57	0.57	0.57
8	B	0.65				
	C	0.73	0.58			
	D	0.65	0.55	0.59		
	E	0.66	0.58	0.61	0.53	
	F	0.68	0.60	0.65	0.53	0.67
10	B	0.66				
	C	0.66	0.62			
	D	0.69	0.67	0.71		
	E	0.73	0.67	0.68	0.72	
	F	0.71	0.66	0.70	0.73	0.73

Table 10-37  
Correlations among Language Arts Objectives

Grade	CS	B	D
4	D	0.55	
	F	0.60	0.43
8	D	0.68	
	F	0.54	0.49
10	D	0.70	
	F	0.54	0.53

Table 10-38  
Correlations among Social Studies Objectives

Grade	CS	A	B	C	D
4	B	0.60			
	C	0.56	0.55		
	D	0.47	0.46	0.45	
	E	0.60	0.59	0.61	0.47
8	B	0.71			
	C	0.59	0.63		
	D	0.65	0.66	0.56	
	E	0.53	0.58	0.53	0.51
10	B	0.70			
	C	0.70	0.75		
	D	0.66	0.70	0.72	
	E	0.68	0.73	0.75	0.73

Table 10-39  
Correlations among Science Objectives

Grade	CS	A	B	C	D	E	F	G
4	B	0.16						
	C	0.53	0.18					
	D	0.34	0.16	0.36				
	E	0.43	0.18	0.44	0.38			
	F	0.41	0.19	0.45	0.38	0.47		
	G	0.31	0.13	0.31	0.25	0.30	0.31	
	H	0.41	0.18	0.44	0.36	0.45	0.45	0.30
8	C		0.46					
	D		0.39	0.48				
	E		0.44	0.49	0.49			
	F		0.43	0.50	0.49	0.50		
	G		0.47	0.50	0.44	0.49	0.49	
	H		0.42	0.47	0.41	0.44	0.45	0.47
10	B	0.58						
	C	0.63	0.61					
	D	0.58	0.52	0.59				
	E	0.60	0.56	0.60	0.57			
	F	0.64	0.60	0.65	0.58	0.62		
	G	0.59	0.57	0.61	0.52	0.60	0.61	
	H	0.52	0.49	0.54	0.46	0.53	0.55	0.53

Table 10-40  
Factor Analysis

Content Area	Grade	First Eigenvalue	Second Eigenvalue	Ratio of First Two Eigenvalues
Reading	3	15.73	1.49	10.56
	4	14.91	1.19	12.49
	5	13.50	1.47	9.20
	6	12.25	1.23	9.99
	7	12.98	1.41	9.19
	8	11.73	1.13	10.42
	10	13.75	0.94	14.63
Mathematics	3	12.69	1.77	7.17
	4	13.99	1.98	7.07
	5	19.83	7.63	2.60
	6	18.39	3.82	4.81
	7	16.53	2.31	7.17
	8	20.63	5.09	4.05
	10	16.98	1.42	11.95
Language Arts	4	5.61	0.59	9.53
	8	6.08	0.48	12.59
	10	7.23	0.86	8.40
Social Studies	4	7.83	0.84	9.34
	8	10.57	1.00	10.61
	10	15.40	1.22	12.65
Science	4	6.05	0.67	9.07
	8	7.30	0.97	7.54
	10	13.24	0.84	15.75

Table 11-1  
Cut scores and Associated Impact Data for WKCE-CRT Reading

Grade	Score Range				Impact Data				
	Minimal	Basic	Proficient	Advanced	Minimal	Basic	Proficient	Advanced	Proficient +Advanced
3	270-393	394-429	430-465	466-640	3.9%	13.8%	38.9%	43.4%	82.3%
4	280-395	396-439	440-488	489-650	4.5%	12.1%	40.4%	43.0%	83.4%
5	290-400	401-443	444-496	497-690	4.8%	11.3%	40.8%	43.0%	83.4%
6	300-417	418-456	457-513	514-730	5.2%	10.4%	41.4%	42.9%	84.3%
7	310-433	434-466	467-522	523-780	5.4%	9.8%	42.0%	42.8%	84.8%
8	330-444	445-479	480-538	539-790	5.6%	8.8%	43.4%	42.3%	85.7%
10	350-455	456-502	503-554	555-820	9.2%	14.1%	33.0%	43.6%	76.6%

Table 11-2  
Cut scores and Associated Impact Data for WKCE-CRT Mathematics

Grade	Score Range				Impact Data				
	Minimal	Basic	Proficient	Advanced	Minimal	Basic	Proficient	Advanced	Proficient +Advanced
3	220-391	392-406	407-451	452-630	17.5%	9.5%	40.1%	32.9%	73.0%
4	240-420	421-437	438-483	484-650	16.3%	10.4%	40.9%	32.5%	73.3%
5	270-444	445-462	463-504	505-680	15.1%	11.6%	42.6%	30.7%	74.0%
6	310-463	464-484	485-531	532-700	13.9%	12.3%	44.9%	28.9%	74.5%
7	330-479	480-503	504-554	555-710	12.7%	12.7%	47.0%	27.6%	74.6%
8	350-482	483-512	513-572	573-730	11.6%	13.4%	49.5%	25.5%	75.0%
10	410-515	516-540	541-594	595-750	14.2%	12.7%	46.7%	26.4%	73.1%

Table 11-3  
Cut scores and Associated Impact Data for WKCE-CRT Language Arts

Grade	Score Range				Impact Data				
	Minimal	Basic	Proficient	Advanced	Minimal	Basic	Proficient	Advanced	Proficient +Advanced
4	140-251	252-276	277-307	308-420	4.3%	14.8%	44.5%	36.4%	80.9%
8	250-357	358-384	385-417	418-520	11.5%	22.3%	39.9%	26.3%	66.2%
10	290-392	393-427	428-483	484-630	8.6%	19.0%	53.0%	19.4%	72.4%

Table 11-4  
Cut scores and Associated Impact Data for WKCE-CRT Social Studies

Grade	Score Range				Impact Data				
	Minimal	Basic	Proficient	Advanced	Minimal	Basic	Proficient	Advanced	Proficient +Advanced
4	170-241	242-262	263-287	288-400	1.8%	5.2%	28.5%	64.6%	93.1%
8	230-333	334-363	364-402	403-530	3.9%	11.2%	40.0%	44.9%	84.9%
10	240-407	408-419	420-454	455-620	16.9%	6.8%	30.7%	45.6%	76.3%

Table 11-5  
Cut scores and Associated Impact Data for WKCE-CRT Science

Grade	Score Range				Impact Data				
	Minimal	Basic	Proficient	Advanced	Minimal	Basic	Proficient	Advanced	Proficient +Advanced
4	170-248	249-278	279-319	320-440	4.8%	15.7%	57.6%	21.9%	79.5%
8	230-348	349-374	375-418	419-560	8.9%	15.7%	46.8%	28.6%	75.4%
10	240-410	411-428	429-465	466-610	16.6%	10.6%	35.5%	37.2%	72.8%

Table 11-6  
A Crosswalk Table for Reading Grade 4 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
433-557	1	280-338	642	45	476
558-569	2	339-369	643	46	477
570-577	3	370-384	644	47	478
578-583	4	385-394	645	48	479
584-588	5	395-402	646	49	480
589-592	6	403-408	646	50	481
593-595	7	409-413	647	51	482
596-598	8	414-417	648	52	483
599-601	9	418-421	649	53	484
602-603	10	422-424	650	54	485
604-605	11	425-427	650	55	486
606-607	12	428-430	651	56	487
608-609	13	431-432	652	57	488
610-611	14	433-434	653	58	489
612	15	435-436	654	59	490
613-614	16	437-438	654	60	491
615	17	439-440	655	61	492
616-617	18	441-442	656	62	493
618	19	443-444	657	63	494
619	20	445	658	64	495
620	21	446-447	659	65	496
621	22	448	659	66	497
622	23	449-450	660	67	498
623-624	24	451	661	68	499
625	25	452-453	662	69	500
626	26	454	663	70	501
627	27	455	664	71	502
628	28	456-457	665	72	503
629	29	458	666	73	504
630	30	459	667	74	505-506
630	31	460	668	75	507
631	32	461	669	76	508
632	33	462-463	670	77	509
633	34	464	671	78	510
634	35	465	672	79	511
635	36	466	673	80	512-513
636	37	467	674	81	514
637	38	468	675	82	515
638	39	469-470	676-677	83	516
638	40	471	678	84	517-518
639	41	472	679	85	519-520
640	42	473	680-681	86	521
641	43	474	682	87	522-523
642	44	475	683-684	88	524

Table 11-6  
A Crosswalk Table for Reading Grade 4 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
685-686	89	525-526
687-688	90	527-528
689-690	91	529-530
691-692	92	531-533
693-696	93	534-535
697-698	94	536-538
699-702	95	539-541
703-707	96	542-545
708-714	97	546-551
715-723	98	552-558
724-780	99	559-650

Table 11-7  
A Crosswalk Table for Reading Grade 8 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
507-604	1	330-373	687	45	525
605-614	2	374-408	687	46	526
615-621	3	409-424	688	47	527
622-627	4	425-435	689	48	528
628-631	5	436-443	690	49	529
632-634	6	444-450	691	50	530
635-637	7	451-455	692	51	531
638-640	8	456-459	692	52	532
641-643	9	460-463	693	53	533
644-645	10	464-467	694	54	534
646-647	11	468-471	695	55	535
648-649	12	472-474	696	56	536
650-651	13	475-476	696	57	537
652-653	14	477-479	697	58	538
654	15	480-481	698	59	539
655-656	16	482-484	699	60	540
657-658	17	485-486	700	61	541-542
659	18	487-488	700	62	543
660-661	19	489-490	701	63	544
662	20	491-492	702	64	545
663	21	493	703	65	546
664	22	494-495	704	66	547
665-666	23	496-497	705	67	548
667	24	498	705	68	549
668	25	499-500	706	69	550
669	26	501	707	70	551-552
670	27	502-503	708	71	553
671	28	504	709	72	554
672	29	505-506	710	73	555
673	30	507	711	74	556
674	31	508	712	75	557
675	32	509-510	713	76	558-559
676	33	511	714	77	560
677	34	512	715	78	561-562
678	35	513	716	79	563
679	36	514	717	80	564
680	37	515-516	718	81	565-566
681	38	517	719	82	567
682	39	518	720	83	568-569
683	40	519	721-722	84	570-571
683	41	520	723	85	572
684	42	521	724	86	573-574
685	43	522	725-726	87	575-576
686	44	523-524	727	88	577-578

Table 11-7  
 A Crosswalk Table for Reading Grade 8 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
728-729	89	579-581
730-731	90	582-583
732-733	91	584-585
734-735	92	586-588
736-737	93	589-591
738-740	94	592-595
741-744	95	596-598
745-748	96	599-603
749-754	97	604-609
755-764	98	610-618
765-820	99	619-790

Table 11-8  
A Crosswalk Table for Reading Grade 10 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
529-638	1	350	711	45	538-539
639-652	2	351-378	712	46	540
653-658	3	379-403	713	47	541-542
659-663	4	404-418	714	48	543
664-666	5	419-429	715	49	544
667-669	6	430-437	716	50	545-546
670-671	7	438-444	716	51	547
672-673	8	445-451	717	52	548
674-675	9	452-456	718	53	549-550
676-677	10	457-461	719	54	551
678	11	462-466	720	55	552
679	12	467-470	720	56	553-554
680-681	13	471-474	721	57	555
682	14	475-477	722	58	556
683	15	478-481	723	59	557-558
684-685	16	482-484	724	60	559
686	17	485-487	725	61	560-561
687	18	488-489	726	62	562
688	19	490-492	726	63	563
689	20	493-495	727	64	564-565
690	21	496-497	728	65	566
691	22	498-500	729	66	567
692	23	501-502	730	67	568-569
693	24	503-504	731	68	570
694	25	505-506	732	69	571-572
695	26	507-508	733	70	573
696	27	509-510	734	71	574-575
697	28	511-512	735	72	576
698	29	513-514	736	73	577-578
699	30	515-516	737	74	579
700	31	517-518	738	75	580-581
701	32	519	739	76	582-583
701	33	520-521	740	77	584
702	34	522-523	741	78	585-586
703	35	524	742-744	79	587-588
704	36	525-526	745	80	589-590
705	37	527	746-747	81	591-592
706	38	528-529	748	82	593-594
706	39	530	749	83	595-596
707	40	531-532	750	84	597-598
708	41	533	751	85	599-600
709	42	534	752-753	86	601-602
710	43	535-536	754	87	603-605
710	44	537	755	88	606-608

Table 11-8  
 A Crosswalk Table for Reading Grade 10 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
756	89	609-610
757	90	611-613
758-776	91	614-617
777	92	618-620
777	93	621-624
778-837	94	625-629
838	95	630-634
838	96	635-640
838	97	641-648
838	98	649-661
838	99	662-820

Table 11-9  
A Crosswalk Table for Mathematics Grade 4 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
403-556	1	240-356	629	45	458
557-565	2	357-369	630	46	459-460
566-571	3	370-377	631	47	461
572-576	4	378-383	632	48	462
577-579	5	384-388	633	49	463
580-582	6	389-393	633	50	464
583-585	7	394-397	634	51	465
586-587	8	398-400	635	52	466
588-590	9	401-403	636	53	467
591	10	404-406	636	54	468
592-593	11	407-409	637	55	469
594-595	12	410-411	638	56	470
596-597	13	412-413	639	57	471-472
598	14	414-416	640	58	473
599	15	417-418	640	59	474
600-601	16	419-420	641	60	475
602	17	421-422	642	61	476
603	18	423-424	643	62	477
604	19	425	644	63	478
605-606	20	426-427	645	64	479
607	21	428-429	645	65	480
608	22	430	646	66	481
609	23	431-432	647	67	482
610	24	433	648	68	483-484
611	25	434-435	649	69	485
612	26	436	650	70	486
613	27	437-438	651	71	487
614	28	439	652	72	488
615	29	440	653	73	489-490
616	30	441	653	74	491
617	31	442-443	654	75	492
618	32	444	655	76	493
619	33	445	656-657	77	494-495
620	34	446	658	78	496
621	35	447	659	79	497-498
622	36	448-449	660	80	499
623	37	450	661	81	500-501
623	38	451	662	82	502
624	39	452	663-664	83	503-504
625	40	453	665	84	505-506
626	41	454	666-667	85	507
627	42	455	668	86	508-509
628	43	456	669-670	87	510-511
628	44	457	671	88	512-513

Table 11-9  
 A Crosswalk Table for Mathematics Grade 4 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
672-673	89	514-515
674-675	90	516-518
676-677	91	519-520
678-679	92	521-523
680-681	93	524-526
682-684	94	527-530
685-686	95	531-535
687-690	96	536-540
691-695	97	541-547
696-702	98	548-556
703-770	99	557-650

Table 11-10  
A Crosswalk Table for Mathematics Grade 8 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
502-609	1	350-410	701	45	538
610-621	2	411-429	702	46	539-540
622-628	3	430-441	703	47	541
629-634	4	442-449	704	48	542
635-639	5	450-456	705	49	543
640-643	6	457-462	705	50	544
644-646	7	463-467	706	51	545
647-649	8	468-471	707	52	546
650-652	9	472-474	708	53	547
653-655	10	475-478	709	54	548
656-657	11	479-481	710	55	549
658-659	12	482-484	711	56	550-551
660-662	13	485-487	712	57	552
663-664	14	488-490	713	58	553
665-666	15	491-492	713	59	554
667	16	493-495	714	60	555
668-669	17	496-497	715	61	556
670-671	18	498-499	716	62	557
672	19	500-501	717	63	558
673-674	20	502-503	718	64	559
675	21	504-505	719	65	560-561
676-677	22	506-507	720	66	562
678	23	508-509	721	67	563
679	24	510-511	722	68	564
680	25	512	723	69	565
681-682	26	513-514	724	70	566-567
683	27	515-516	725	71	568
684	28	517	726	72	569
685	29	518-519	727	73	570
686	30	520	728	74	571-572
687	31	521	729	75	573
688	32	522-523	730	76	574
689	33	524	731	77	575-576
690-691	34	525	732-733	78	577
692	35	526	734	79	578
692	36	527-528	735	80	579-580
693	37	529	736	81	581
694	38	530	737-738	82	582-583
695	39	531	739	83	584-585
696	40	532-533	740-741	84	586
697	41	534	742	85	587-588
698	42	535	743-744	86	589-590
699	43	536	745	87	591-592
700	44	537	746-747	88	593-594

Table 11-10  
 A Crosswalk Table for Mathematics Grade 8 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
748-749	89	595-596
750-751	90	597-598
752-754	91	599-600
755-756	92	601-603
757-759	93	604-605
760-763	94	606-609
764-767	95	610-612
768-771	96	613-616
772-779	97	617-622
780-788	98	623-629
789-872	99	630-730

Table 11-11  
A Crosswalk Table for Mathematics Grade 10 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
530-631	1	410	741	45	563
632-647	2	410	742	46	564
648-658	3	411-446	743	47	565
659-665	4	447-467	744	48	566
666-671	5	468-478	745	49	567
672-676	6	479-486	746	50	568
677-680	7	487-491	746	51	569
681-684	8	492-496	747	52	570
685-687	9	497-500	748	53	571
688-691	10	501-504	749	54	572
692-693	11	505-507	750	55	573
694-696	12	508-510	751	56	574
697-698	13	511-513	752	57	575
699-700	14	514-515	752	58	576-577
701-702	15	516-518	753	59	578
703-704	16	519-520	754	60	579
705-706	17	521-522	755	61	580
707-708	18	523-524	756	62	581
709-710	19	525-527	757	63	582
711-712	20	528-529	758	64	583
713	21	530-531	759	65	584
714-715	22	532	759	66	585
716-717	23	533-534	760	67	586
718	24	535-536	761	68	587
719	25	537	762	69	588-589
720-721	26	538-539	763	70	590
722	27	540	764	71	591
723	28	541-542	765-766	72	592
724	29	543	767	73	593
725-726	30	544-545	768	74	594-595
727	31	546	769	75	596
728	32	547	770	76	597
729	33	548-549	771	77	598-599
730	34	550	772-773	78	600
731	35	551	774	79	601
732	36	552-553	775	80	602-603
733	37	554	776-777	81	604
734	38	555	778	82	605-606
735	39	556	779-780	83	607-608
736	40	557	781	84	609
737	41	558	782-783	85	610-611
738	42	559	784-785	86	612-613
739	43	560-561	786-787	87	614
740	44	562	788-789	88	615-616

Table 11-11

A Crosswalk Table for Mathematics Grade 10 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
790-792	89	617-618
793-794	90	619-621
795-796	91	622-623
797-800	92	624-625
801-803	93	626-628
804-807	94	629-632
808-812	95	633-635
813-817	96	636-640
818-827	97	641-645
828-849	98	646-654
850-892	99	655-750

Table 11-12  
A Crosswalk Table for Language Arts Grade 4 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
465-569	1	140-218	643	45	295
570-579	2	219-238	644	46	296
580-586	3	239-246	645	47	297
587-590	4	247-251	645	48	297
591-594	5	252-255	646	49	298
595-597	6	256-258	647	50	299
598-600	7	259-260	647	51	299
601-602	8	261-262	648	52	300
603-605	9	263-264	649	53	300
606-607	10	265-266	650	54	301
608	11	267	650	55	302
609-610	12	268	651	56	302
611-612	13	269-270	652	57	303
613	14	271	653	58	304
614	15	272	653	59	304
615-616	16	273	654	60	305
617	17	274	655	61	306
618	18	275	656	62	306
619-620	19	276	656	63	307
621	20	277	657	64	307
622	21	278	658	65	308
623	22	279	659	66	309
624	23	280	659	67	309
625	24	280	660	68	310
626	25	281	661	69	311
627	26	282	662	70	312
628	27	283	663	71	312
629	28	284	663	72	313
630	29	284	664	73	314
631	30	285	665	74	315
632	31	286	666	75	315
633	32	287	667	76	316
633	33	287	668	77	317
634	34	288	669	78	318
635	35	289	670	79	318
636	36	289	671	80	319
637	37	290	672	81	320
638	38	291	673	82	321
638	39	291	674	83	322
639	40	292	675	84	323
640	41	293	676	85	324
641	42	293	677-678	86	325
641	43	294	679	87	326
642	44	295	680-681	88	327-328

Table 11-12  
 A Crosswalk Table for Language Arts Grade 4 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
682	89	329
683-684	90	330-331
685-686	91	332
687-688	92	333-334
689-690	93	335-336
691-693	94	337-339
694-696	95	340-342
697-701	96	343-346
702-706	97	347-353
707-715	98	354-370
716-757	99	371-420

Table 11-13  
A Crosswalk Table for Language Arts Grade 8 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
523-606	1	250-306	676	45	393
607-615	2	307-321	677	46	394
616-621	3	322-330	677	47	395
622-625	4	331-336	678	48	396
626-629	5	337-340	679	49	397
630-631	6	341-344	680	50	397
632-634	7	345-347	681	51	398
635-636	8	348-350	681	52	399
637-638	9	351-352	682	53	400
639-640	10	353-354	683	54	400
641-642	11	355-356	684	55	401
643	12	357-358	685	56	402
644-645	13	359-360	685	57	403
646	14	361-362	686	58	404
647-648	15	363	687	59	404
649	16	364-365	688	60	405
650	17	366	689	61	406
651	18	367-368	690	62	407
652	19	369	690	63	408
653-654	20	370	691	64	408
655	21	371	692	65	409
656	22	372	693	66	410
657	23	373-374	694	67	411
658	24	375	695	68	412
659	25	376	696	69	413
660	26	377	696	70	414
660	27	378	697	71	415
661	28	379	698	72	415
662	29	380	699	73	416
663	30	381	700	74	417
664	31	382	701	75	418
665	32	383	702	76	419
666	33	383	703	77	420
667	34	384	704	78	421
668	35	385	705-706	79	422
668	36	386	707	80	423
669	37	387	708	81	424
670	38	388	709	82	425-426
671	39	388	710	83	427
672	40	389	711-712	84	428
673	41	390	713	85	429-430
673	42	391	714-715	86	431
674	43	392	716	87	432
675	44	392	717-718	88	433-434

Table 11-13  
 A Crosswalk Table for Language Arts Grade 8 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
719-720	89	435
721	90	436-438
722-724	91	439-440
725-726	92	441-442
727-728	93	443-445
729-731	94	446-448
732-735	95	449-452
736-739	96	453-464
740-745	97	465
746-755	98	466-478
756-819	99	479-520

Table 11-14  
A Crosswalk Table for Language Arts Grade 10 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
535-643	1	290-354	709	45	446
644-650	2	355-367	710	46	447
651-656	3	368-374	711	47	448
657-659	4	375-379	711	48	449
660-663	5	380-382	712	49	450
664-665	6	383-386	713	50	451
666-668	7	387-389	714	51	452
669-670	8	390-392	714	52	453
671-672	9	393-395	715	53	454
673	10	396-397	716	54	455
674-675	11	398-400	717	55	456
676	12	401-402	717	56	457
677-678	13	403-404	718	57	458
679	14	405-406	719	58	459
680-681	15	407-408	720	59	460
682	16	409-410	720	60	461
683	17	411-412	721	61	462
684	18	413	722	62	463
685-686	19	414-415	723	63	464
687	20	416-417	724	64	465
688	21	418	724	65	466
689	22	419-420	725	66	467
690	23	421	726	67	468
691	24	422-423	727	68	469
692	25	424	728	69	470
693	26	425	728	70	471
694	27	426-427	729	71	472
695	28	428	730	72	473
696	29	429	731	73	474
697	30	430	732	74	475
697	31	431-432	733	75	476
698	32	433	734	76	477-478
699	33	434	735	77	479
700	34	435	736	78	480
701	35	436	737	79	481
702	36	437	738	80	482-483
703	37	438	739	81	484
703	38	439	740	82	485
704	39	440	741	83	486-487
705	40	441	742	84	488
706	41	442	743-744	85	489-490
707	42	443-444	745-746	86	491
707	43	445	747	87	492-493
708	44	445	748	88	494-495

Table 11-14  
A Crosswalk Table for Language Arts Grade 10 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
749-750	89	496-497
751	90	498-499
752-754	91	500-501
755-756	92	502-504
757-758	93	505-506
759-761	94	507-509
762	95	510-513
763-767	96	514-517
768-775	97	518-522
776-785	98	523-530
786-835	99	531-630

Table 11-15  
A Crosswalk Table for Social Studies Grade 4 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
460-588	1	170-237	644	45	292
589-595	2	238-246	644	46	293
596-599	3	247-251	645	47	293
600-603	4	252-255	646	48	294
604-605	5	256-258	646	49	294
606-608	6	259-261	647	50	295
609-610	7	262	647	51	295
611-612	8	263-264	648	52	296
613-614	9	265-266	648	53	296
615	10	267	649	54	297
616-617	11	268	650	55	297
618	12	269	650	56	298
619	13	270-271	651	57	298
620-621	14	272	651	58	299
622	15	273	652	59	299
623	16	274	652	60	300
624	17	275	653	61	301
625	18	275	654	62	301
626	19	276	654	63	302
627	20	277	655	64	302
628	21	278	655	65	303
628	22	279	656	66	303
629	23	279	657	67	304
630	24	280	657	68	305
631	25	281	658	69	305
632	26	281	658	70	306
632	27	282	659	71	307
633	28	283	660	72	307
634	29	284	660	73	308
634	30	284	661	74	309
635	31	285	662	75	309
636	32	285	662	76	310
636	33	286	663	77	311
637	34	286	664	78	312-313
638	35	287	665	79	313
638	36	287	665	80	314
639	37	288	666	81	315
640	38	289	667	82	316
640	39	289	668	83	317-318
641	40	290	669	84	318
641	41	290	670	85	319
642	42	291	671	86	320
643	43	291	672	87	321-322
643	44	292	673	88	323-324

Table 11-15  
 A Crosswalk Table for Social Studies Grade 4 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
674-675	89	325-327
676	90	328
677-678	91	329-331
679	92	332
680-681	93	333
682-684	94	334-341
685-687	95	342-358
688-690	96	359-371
691-695	97	372-399
696-702	98	400
703-763	99	400

Table 11-16  
A Crosswalk Table for Social Studies Grade 8 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
523-622	1	230-301	686	45	394
623-630	2	302-321	687	46	395
631-635	3	322-330	688	47	396
636-639	4	331-336	688	48	396
640-642	5	337-340	689	49	397
643-645	6	341-344	689	50	398
646-647	7	345-347	690	51	399
648-650	8	348-350	690	52	400
651-652	9	351-352	691	53	400
653	10	353-354	691	54	401
654-655	11	355-356	692	55	402
656	12	357-358	693	56	403
657-658	13	359-360	693	57	404
659	14	361-362	694	58	404
660-661	15	363	694	59	405
662	16	364-365	695	60	406
663	17	366	695	61	407
664	18	367	696	62	408
665-666	19	368-369	697	63	409
667	20	370	697	64	410
668	21	371	698	65	410
669	22	372	698	66	411
670	23	373	699	67	412
671	24	374	699	68	413
672	25	375	700	69	414
673	26	376-377	701	70	415
674	27	378	701	71	416
674	28	379	702	72	417
675	29	380	702	73	418
676	30	381	703	74	419
677	31	382	704	75	420
678	32	383	704	76	421
678	33	383	705	77	422
679	34	384	706	78	423
680	35	385	706	79	424
680	36	386	707	80	425
681	37	387	708	81	426-427
682	38	388	709	82	428
683	39	389	709	83	429
683	40	390	710	84	430-431
684	41	391	711	85	432
684	42	391	712	86	433-434
685	43	392	713	87	435
686	44	393	714	88	436-437

Table 11-16  
 A Crosswalk Table for Social Studies Grade 8 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
715	89	438-439
716	90	440
717-718	91	441-443
719	92	444-446
720-721	93	447-448
722-723	94	449-452
724-725	95	453-456
726-728	96	457-463
729-731	97	464-472
732-737	98	473-493
738-803	99	494-530

Table 11-17  
A Crosswalk Table for Social Studies Grade 10 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
548-652	1	240	707	45	445
653-659	2	241-344	708	46	446
660-664	3	345-357	708	47	447
665-668	4	358-366	709	48	448
669-670	5	367-372	710	49	449
671-673	6	373-377	710	50	450
674-675	7	378-381	711	51	451
676-677	8	382-385	711	52	452
678-679	9	386-388	712	53	453
680	10	389-391	712	54	454
681	11	392-394	713	55	455
682-683	12	395-396	714	56	456
684	13	397-399	714	57	456
685	14	400-401	715	58	457
686	15	402-404	715	59	458
687	16	405-406	716	60	459
688	17	407-408	716	61	460
689	18	409-410	717	62	461
690	19	411	718	63	462
691	20	412-413	718	64	463
692	21	414-415	719	65	464
693	22	416-417	719	66	465
693	23	418	720	67	466
694	24	419-420	721	68	467
695	25	421	721	69	468
696	26	422-423	722	70	469
696	27	424	723	71	470
697	28	425-426	723	72	471
698	29	427	724	73	472
698	30	428	725	74	473-474
699	31	429-430	725	75	475
700	32	431	726	76	476
700	33	432	727	77	477
701	34	433	727	78	478
702	35	434	728	79	479
702	36	435-436	729	80	480-481
703	37	437	730	81	482
703	38	438	731	82	483
704	39	439	731	83	484-485
704	40	440	732	84	486
705	41	441	733	85	487-488
706	42	442	734	86	489
706	43	443	735	87	490-491
707	44	444	736	88	492-493

Table 11-17

A Crosswalk Table for Social Studies Grade 10 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
737-738	89	494-495
739	90	496-497
740-741	91	498-499
742	92	500-502
743-744	93	503-504
745-747	94	505-508
748-749	95	509-511
750-752	96	512-516
753-757	97	517-522
758-764	98	523-530
765-821	99	531-620

Table 11-18  
A Crosswalk Table for Science Grade 4 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
421-553	1	170-225	636	45	297
554-564	2	226-234	637	46	298
565-570	3	235-241	638	47	299
571-576	4	242-246	639	48	299
577-580	5	247-251	639	49	300
581-584	6	252-254	640	50	301
585-587	7	255-257	641	51	301
588-591	8	258-259	642	52	302
592-593	9	260-261	642	53	302
594-595	10	262-263	643	54	303
596-597	11	264-265	644	55	304
598-599	12	266-267	645	56	304
600-601	13	268	645	57	305
602-603	14	269-270	646	58	305
604-605	15	271	647	59	306
606	16	272-273	647	60	307
607-608	17	274	648	61	307
609	18	275	649	62	308
610-611	19	276	650	63	309
612	20	277	650	64	309
613	21	278-279	651	65	310
614-615	22	280	652	66	310
616	23	281	653	67	311
617	24	282	653	68	312
618	25	282	654	69	312
619	26	283	655	70	313
620	27	284	656	71	314
621	28	285	656	72	314
622	29	286	657	73	315
623	30	287	658	74	316
624	31	288	659	75	317
625	32	288	660	76	317
626	33	289	660	77	318
627	34	290	661	78	319
628	35	291	662	79	320
629	36	291	663	80	321
630	37	292	664	81	322
631	38	293	665	82	322
632	39	293	666	83	323
632	40	294	667	84	324-325
633	41	295	668	85	326
634	42	295	669	86	327
635	43	296	670	87	328
635	44	297	671	88	329

Table 11-18  
 A Crosswalk Table for Science Grade 4 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
672-673	89	330-331
674	90	332
675	91	333-334
676-677	92	335-336
678-679	93	337-339
680-681	94	340-341
682-683	95	342-345
684-685	96	346-349
686-689	97	350-354
690-694	98	355-366
695-799	99	367-440

Table 11-19  
A Crosswalk Table for Science Grade 8 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
487-619	1	230-308	697	45	394
620-631	2	309-319	698	46	395
632-638	3	320-327	698	47	396
639-644	4	328-332	699	48	397
645-648	5	333-337	700	49	398
649-651	6	338-340	700	50	399
652-654	7	341-343	701	51	400
655-657	8	344-346	702	52	401
658-659	9	347-349	702	53	402
660-661	10	350-351	703	54	402
662-663	11	352-353	704	55	403
664-665	12	354-355	704	56	404
666-667	13	356-357	705	57	405
668	14	358-359	706	58	406
669-670	15	360-361	706	59	407
671	16	362	707	60	408
672	17	363-364	708	61	409
673-674	18	365	708	62	409
675	19	366-367	709	63	410
676	20	368	710	64	411
677	21	369-370	711	65	412
678	22	371	711	66	413
679	23	372	712	67	414
680	24	373	713	68	415
681	25	374-375	714	69	416
682	26	376	714	70	417
683	27	377	715	71	418
684	28	378	716	72	419
685	29	379	717	73	420
686	30	380	717	74	421
687	31	381	718	75	422
687	32	382	719	76	423
688	33	383	720	77	424
689	34	384	721	78	425
690	35	385	722	79	426
690	36	386	723	80	427
691	37	387	724	81	428-429
692	38	388	725	82	430
693	39	389	726	83	431
693	40	390	727	84	432-433
694	41	391	728	85	434
695	42	392	729	86	435-436
695	43	393	730	87	437
696	44	394	731-732	88	438-439

Table 11-19  
 A Crosswalk Table for Science Grade 8 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
733	89	440-441
734-735	90	442-443
736	91	444-445
737-738	92	446-448
739-740	93	449-451
741-743	94	452-454
744-745	95	455-458
746-748	96	459-464
749-752	97	465-471
753-758	98	472-484
759-857	99	485-560

Table 11-20  
A Crosswalk Table for Science Grade 10 Based on State Percentile

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT	Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
501-628	1	240	725	45	448
629-646	2	241-330	726	46	449
647-657	3	331-351	726	47	450
658-664	4	352-362	727	48	451
665-669	5	363-371	728	49	452
670-673	6	372-377	729	50	453
674-676	7	378-382	730	51	454
677-680	8	383-387	730	52	455
681-682	9	388-390	731	53	456
683-684	10	391-394	732	54	457
685-687	11	395-397	733	55	458
688-689	12	398-400	733	56	459
690	13	401-402	734	57	460
691-692	14	403-405	735	58	461
693-694	15	406-407	736	59	462
695	16	408-409	737	60	462
696-697	17	410-411	737	61	463
698	18	412-413	738	62	464
699	19	414-415	739	63	465
700-701	20	416-417	739	64	466
702	21	418-419	740	65	467
703	22	420	741	66	468
704	23	421-422	742	67	469
705	24	423	743	68	470
706	25	424-425	743	69	471
707-708	26	426	744	70	472
709	27	427-428	745	71	473
710	28	429	746	72	474
711	29	430-431	746	73	475
712	30	432	747	74	476
713	31	433	748	75	477
714	32	434	749	76	478
715	33	435-436	750	77	479
715	34	437	751	78	480-481
716	35	438	751	79	482
717	36	439	752	80	483
718	37	440	753	81	484
719	38	441	754	82	485-486
720	39	442	755	83	487
721	40	443	756-757	84	488
722	41	444	758	85	489-490
722	42	445	759	86	491
723	43	446	760	87	492-493
724	44	447	761	88	494-495

Table 11-20  
 A Crosswalk Table for Science Grade 10 Based on State Percentile (Cont.)

Fall 2004 WKCE	State Percentile	Fall 2005 WKCE-CRT
762-763	89	496
764	90	497-498
765-766	91	499-500
767-768	92	501-503
769-770	93	504-505
771-773	94	506-508
774-775	95	509-511
776-779	96	512-516
780-783	97	517-521
784-790	98	522-529
791-893	99	530-610

Figure 8-1  
Non-converged Item: Reading Grade 7 Form A/B/C FT #82

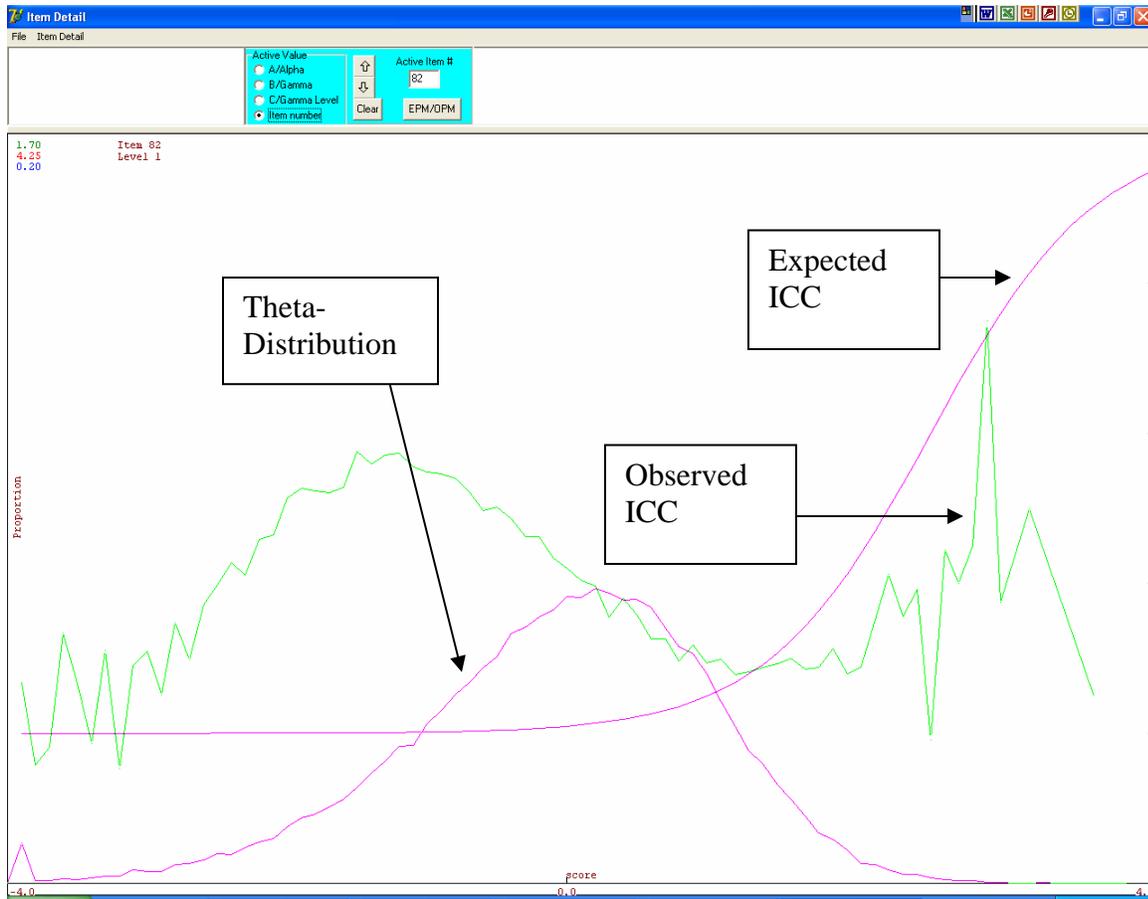


Figure 8-2  
Non-converged Item: Mathematics Grade 7 Form B FT #73

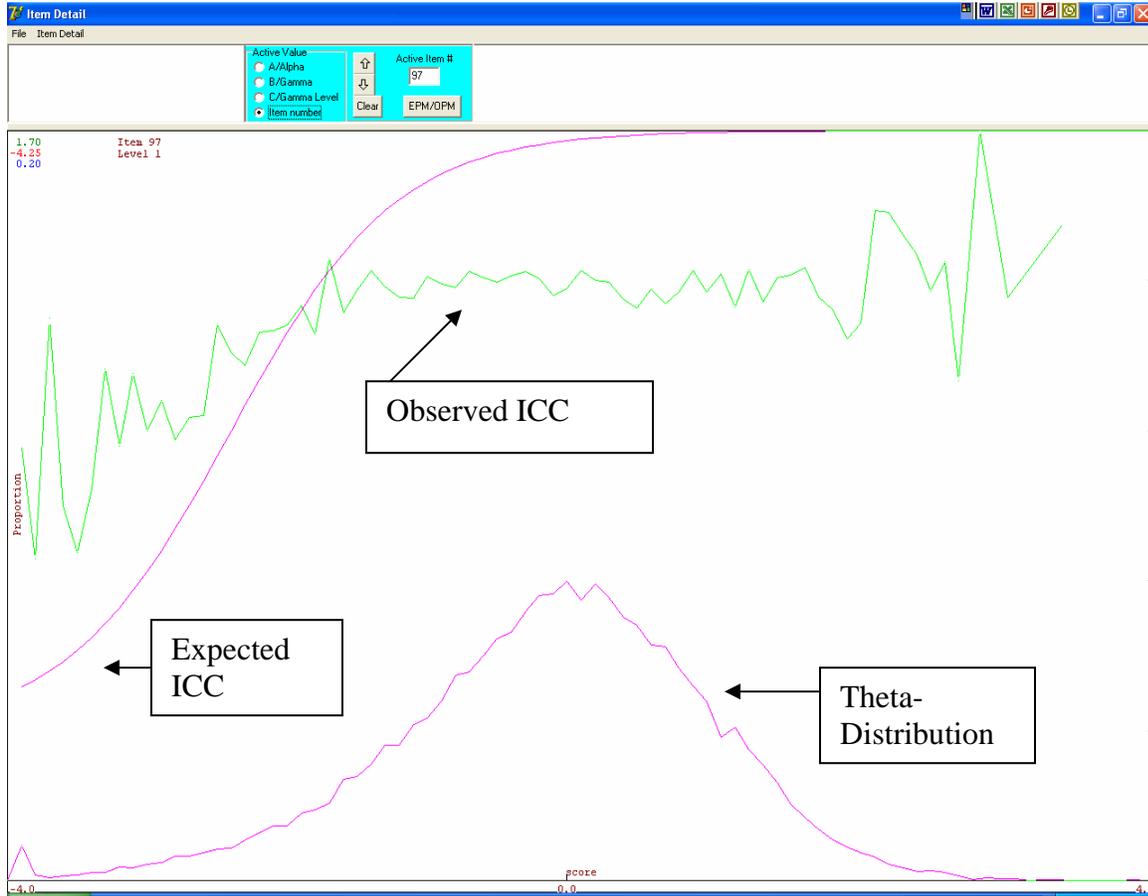


Figure 8-3  
Non-converged Item: Language Arts Grade 8 item #32

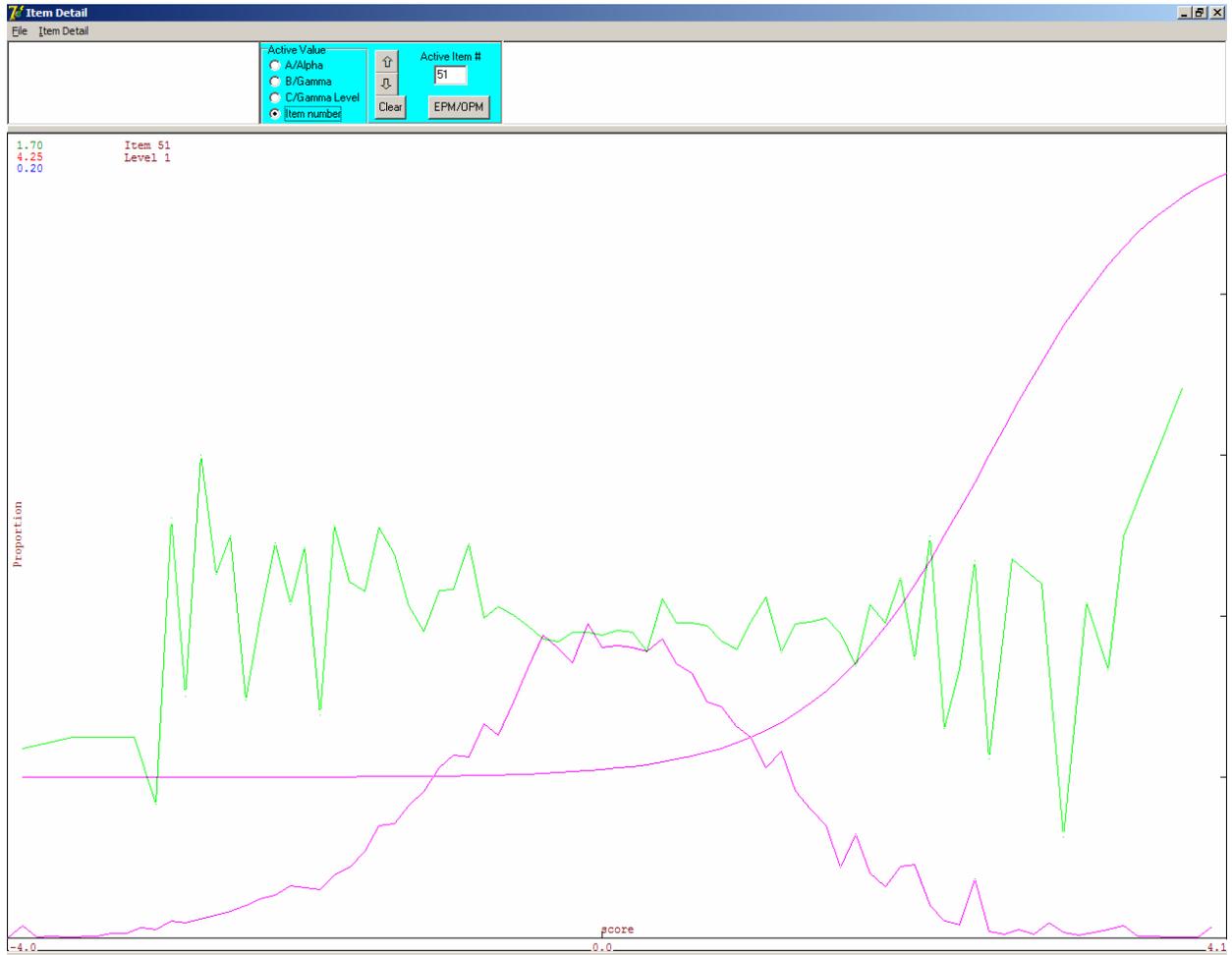


Figure 8-4  
TCC Curve for Reading Grades 3-8, 10

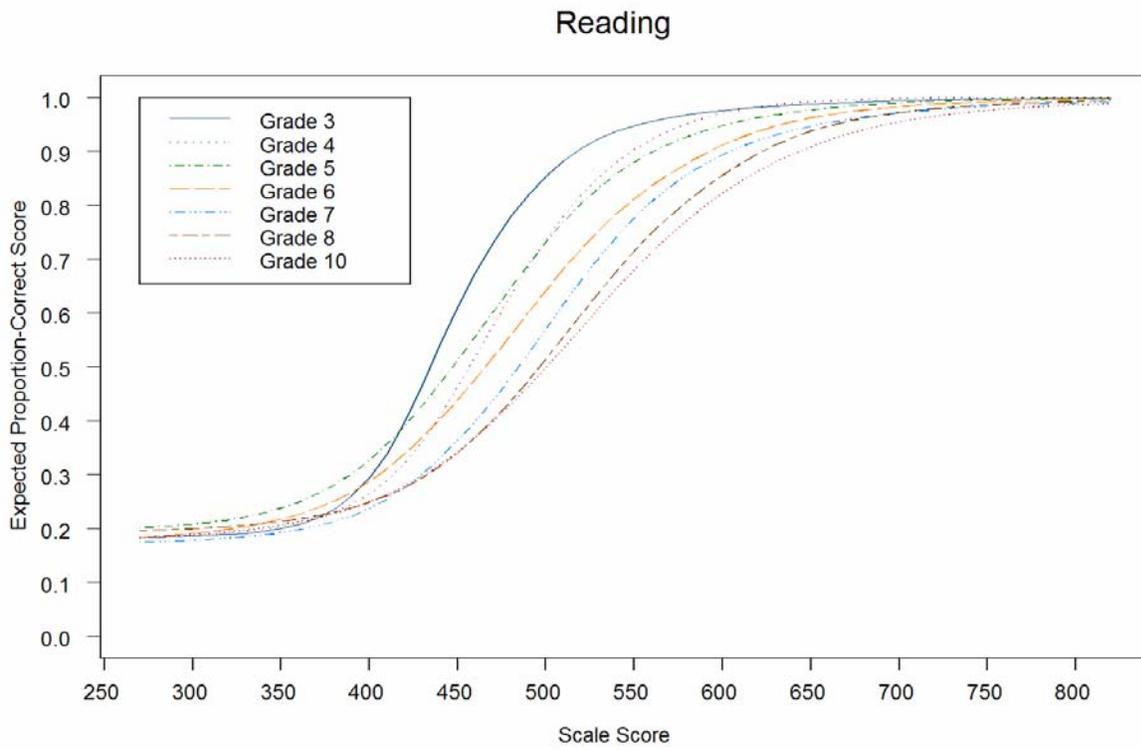


Figure 8-5  
TCC Curve for Mathematics Grades 3-8, 10

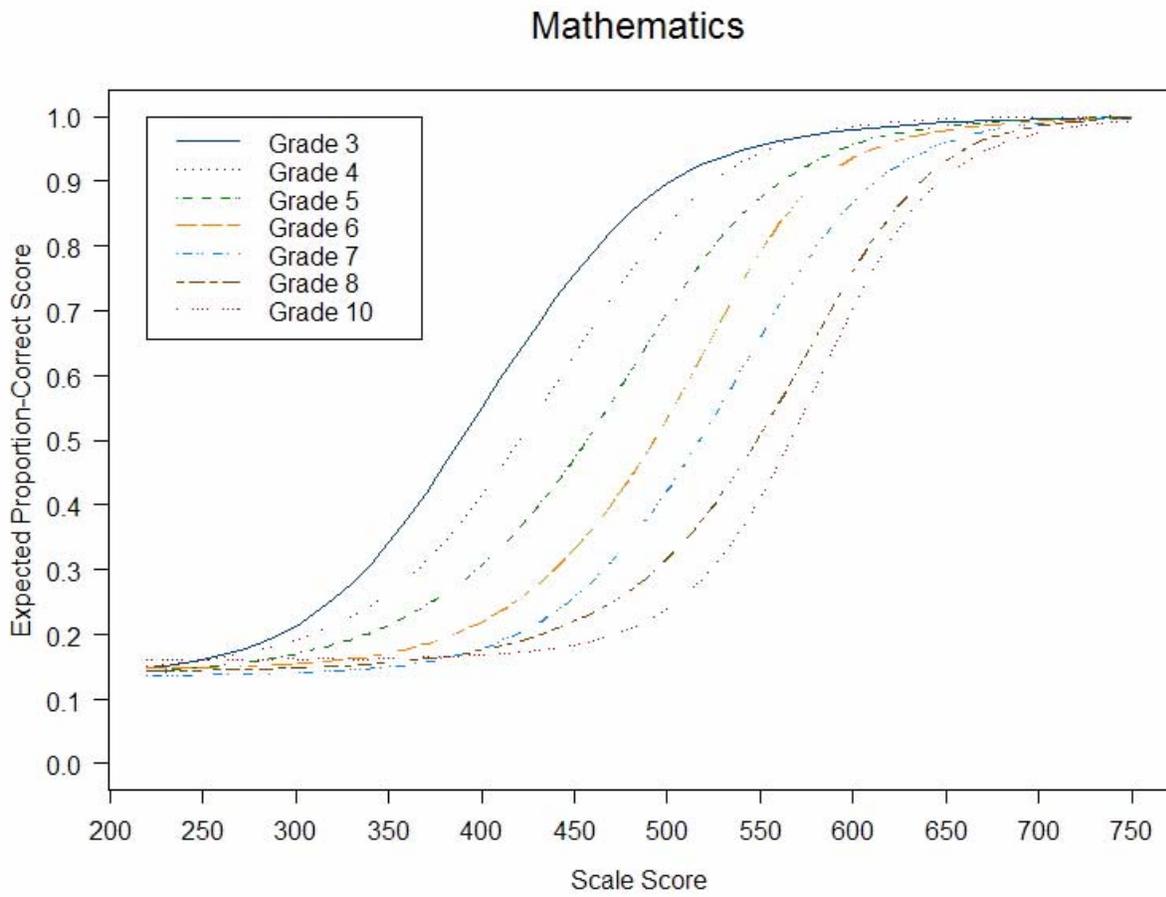


Figure 8-6  
TCC Curve for Language Arts Grades 4, 8, 10

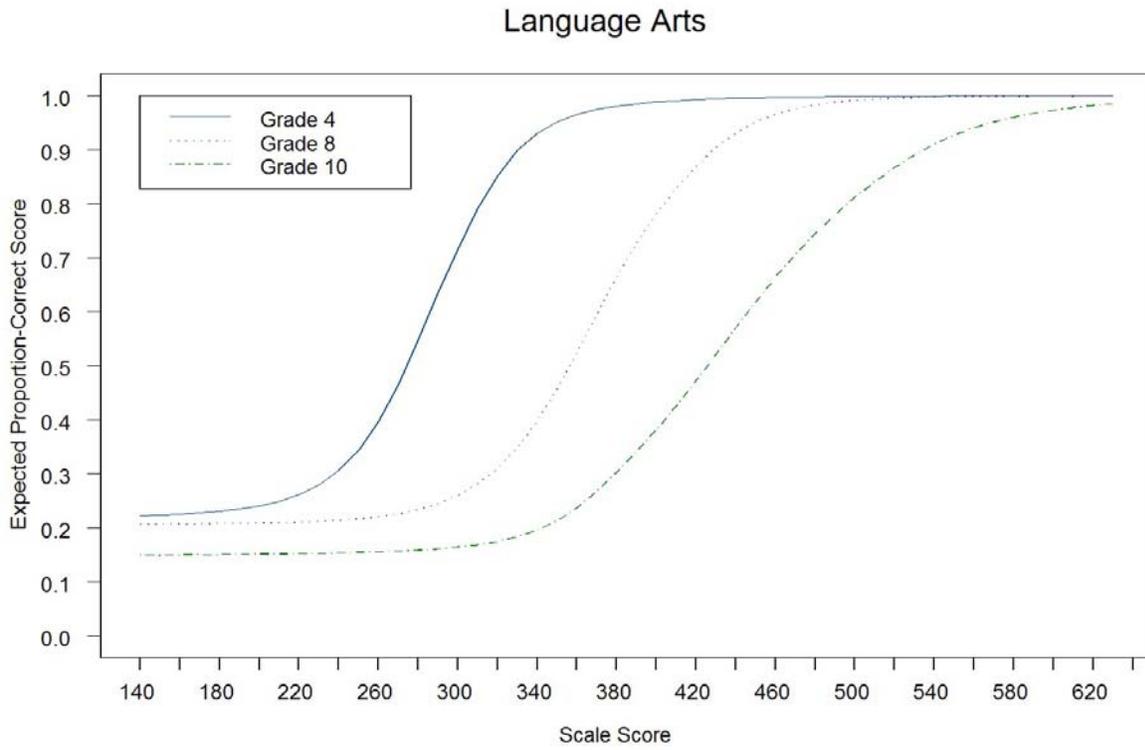


Figure 8-7  
TCC Curve for Social Studies Grades 4, 8, 10

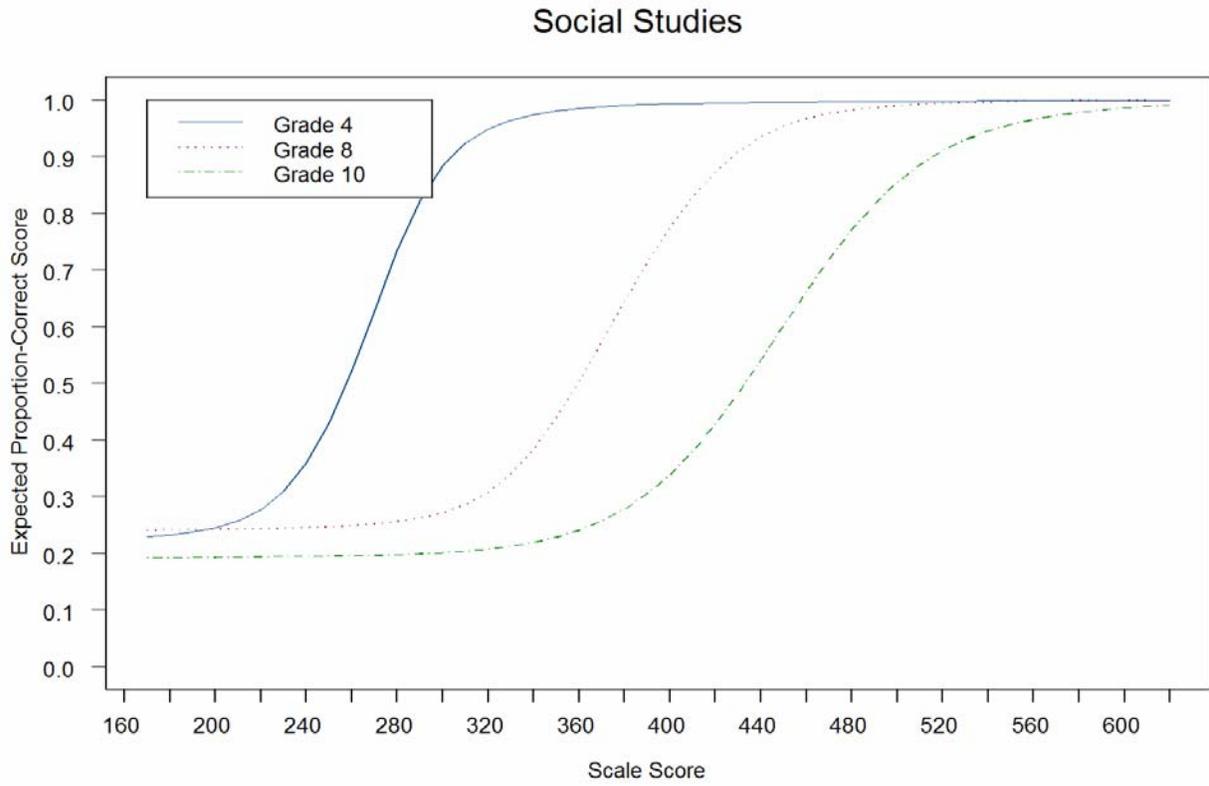


Figure 8-8  
TCC Curve for Science Grades 4, 8, 10

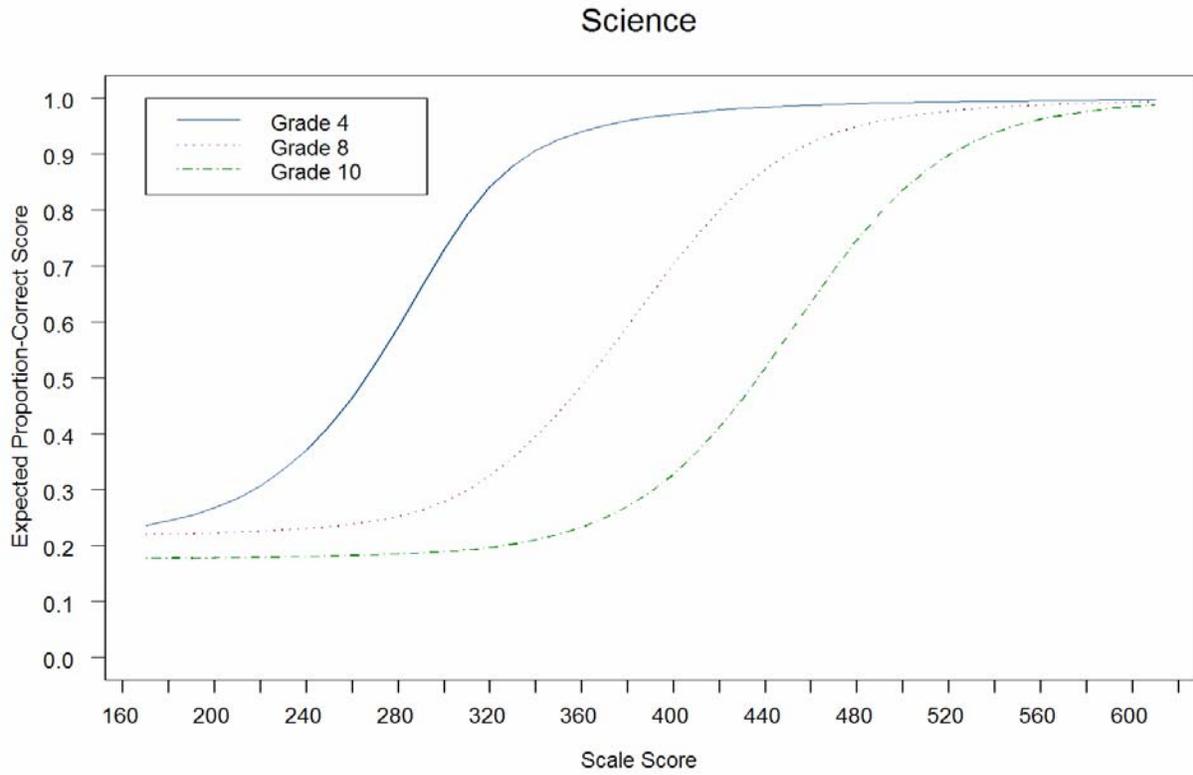


Figure 8-9  
SEM Curves, Reading Grades 3-6

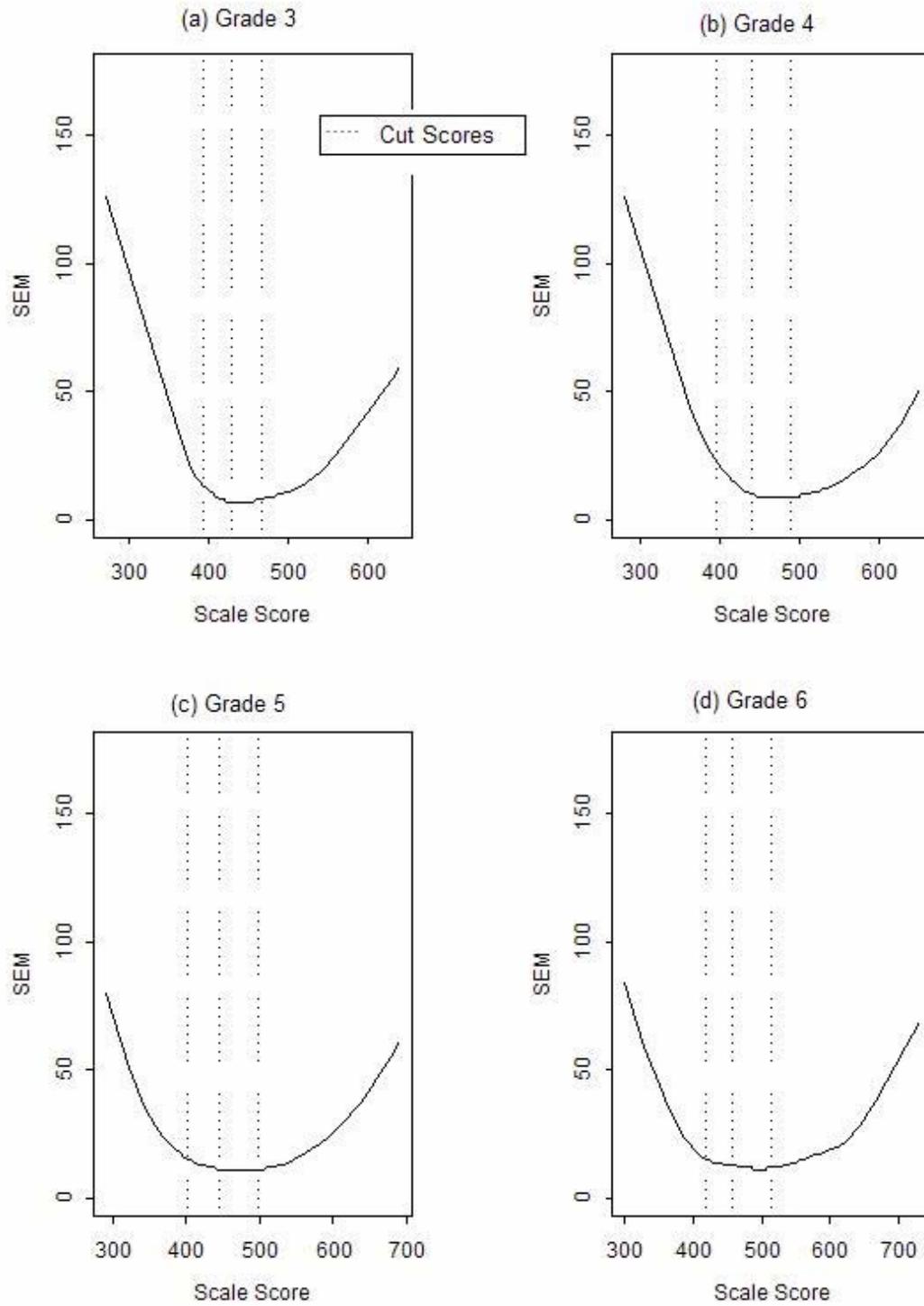


Figure 8-9  
SEM Curves, Reading Grades 7, 8, 10

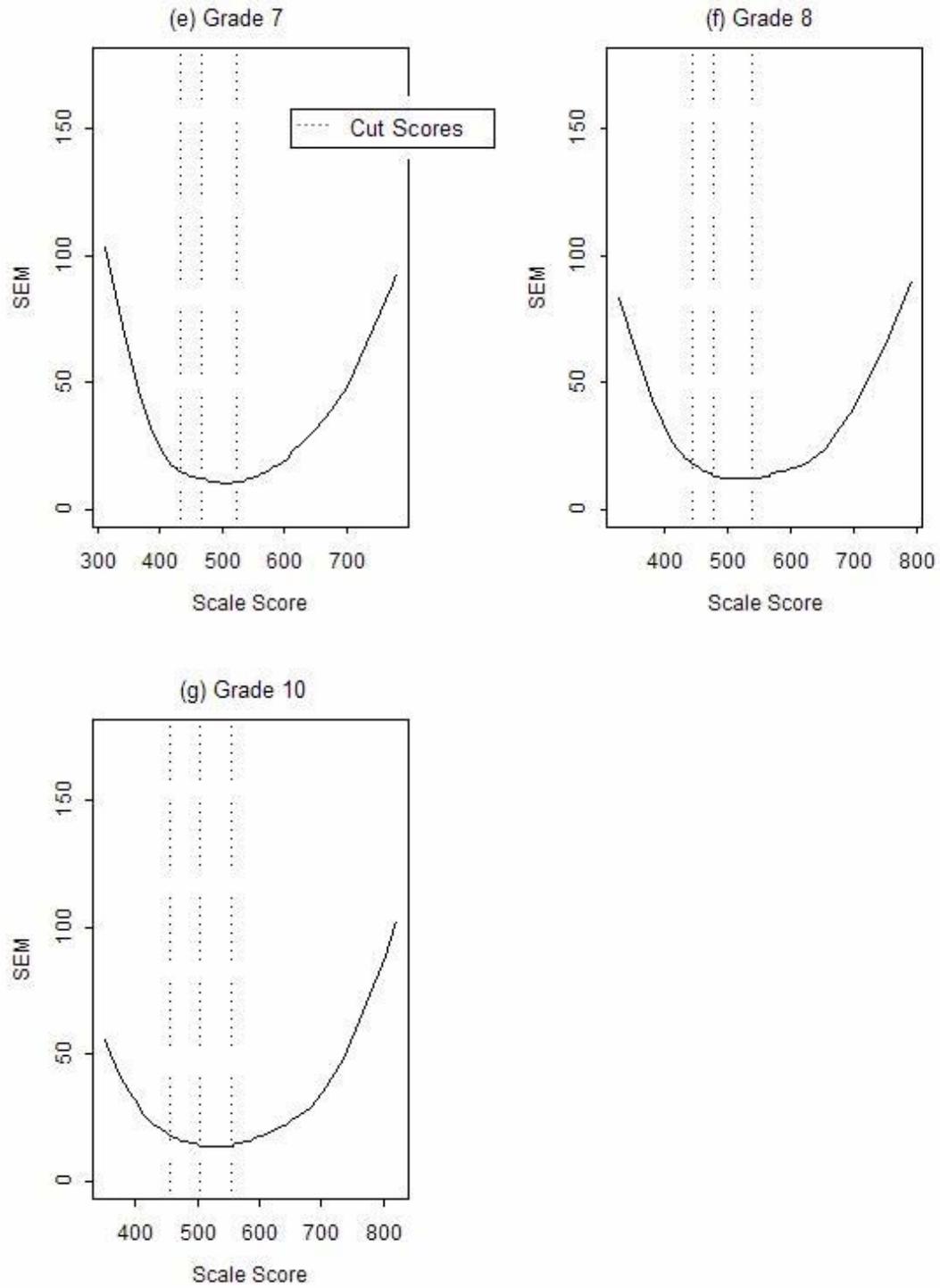


Figure 8-10  
SEM Curves, Mathematics Grades 3-6

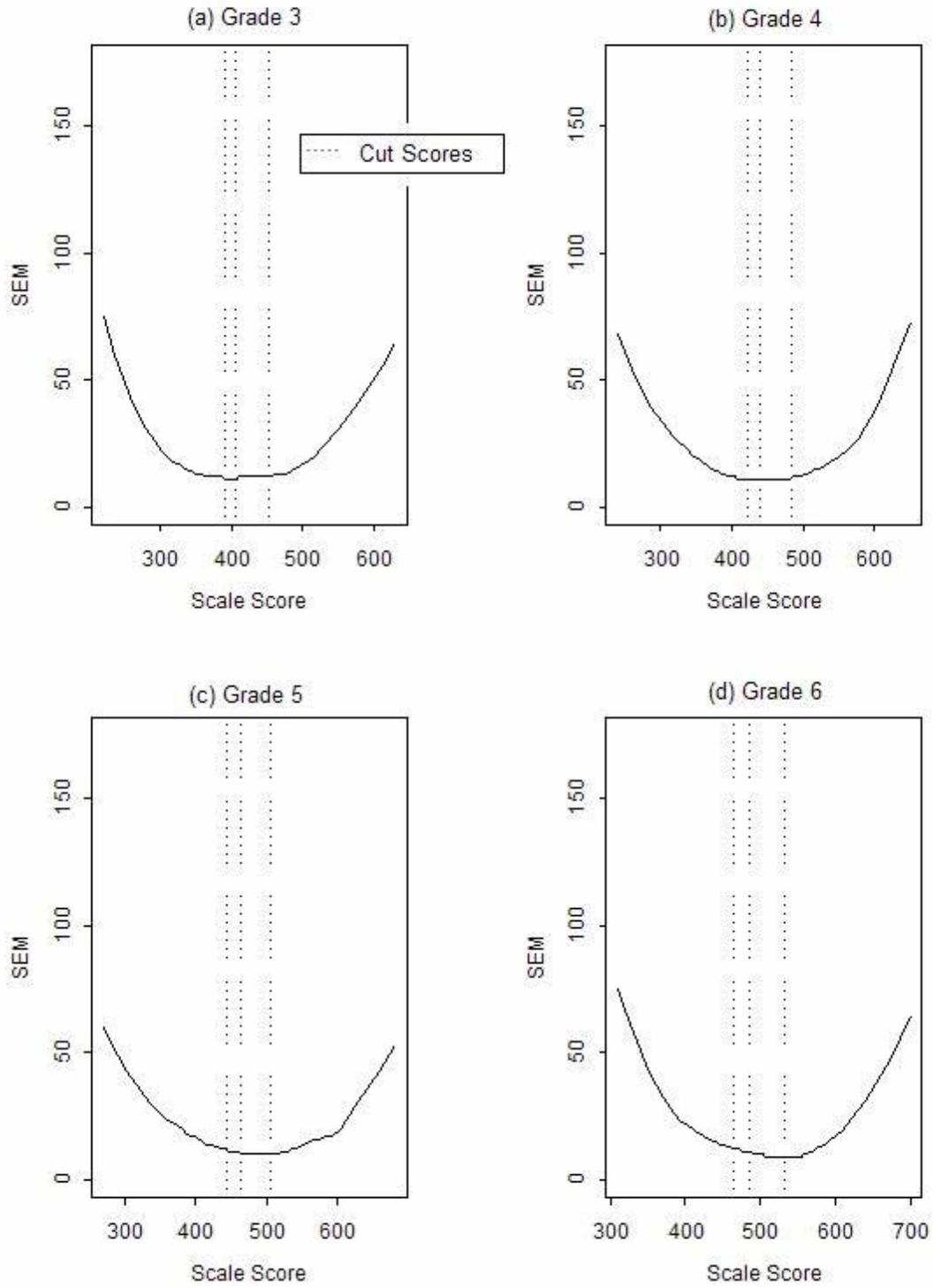


Figure 8-10 Cont'd  
SEM Curves, Mathematics Grades 7, 8, 10

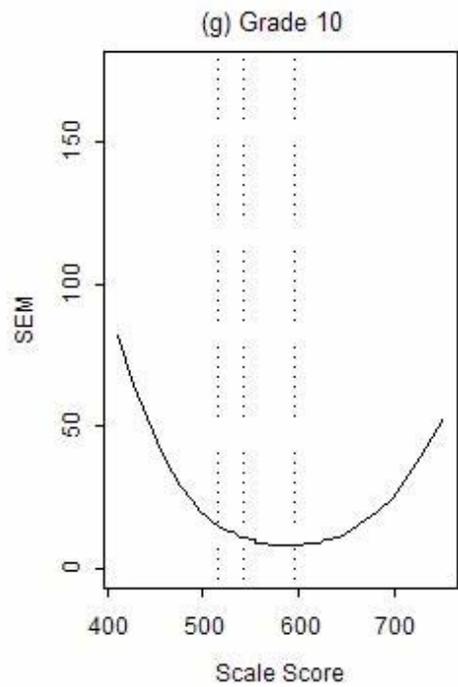
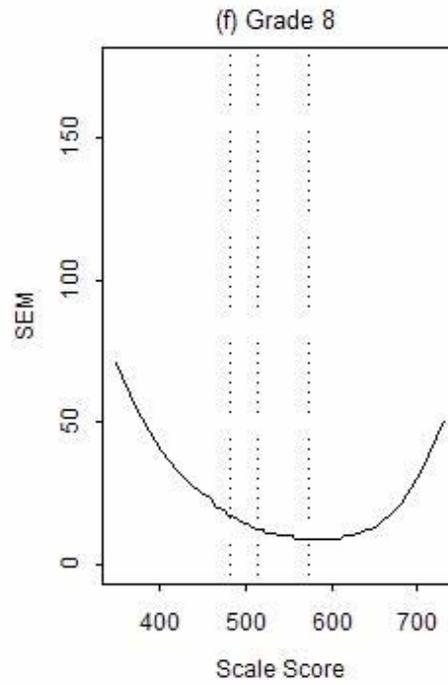
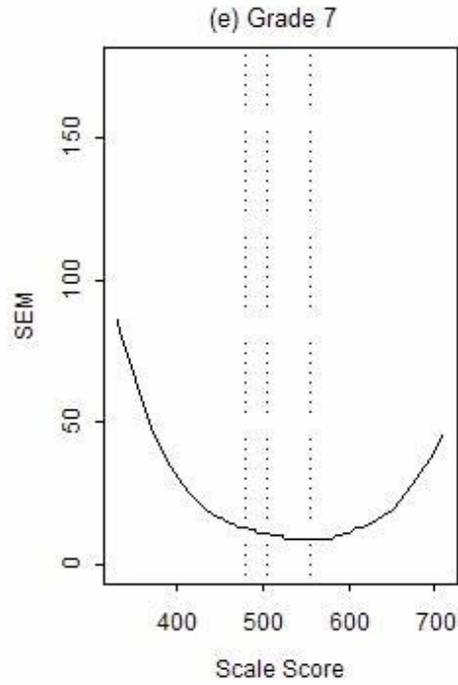


Figure 8-11  
SEM Curves, Language Arts Grades 4, 8, 10

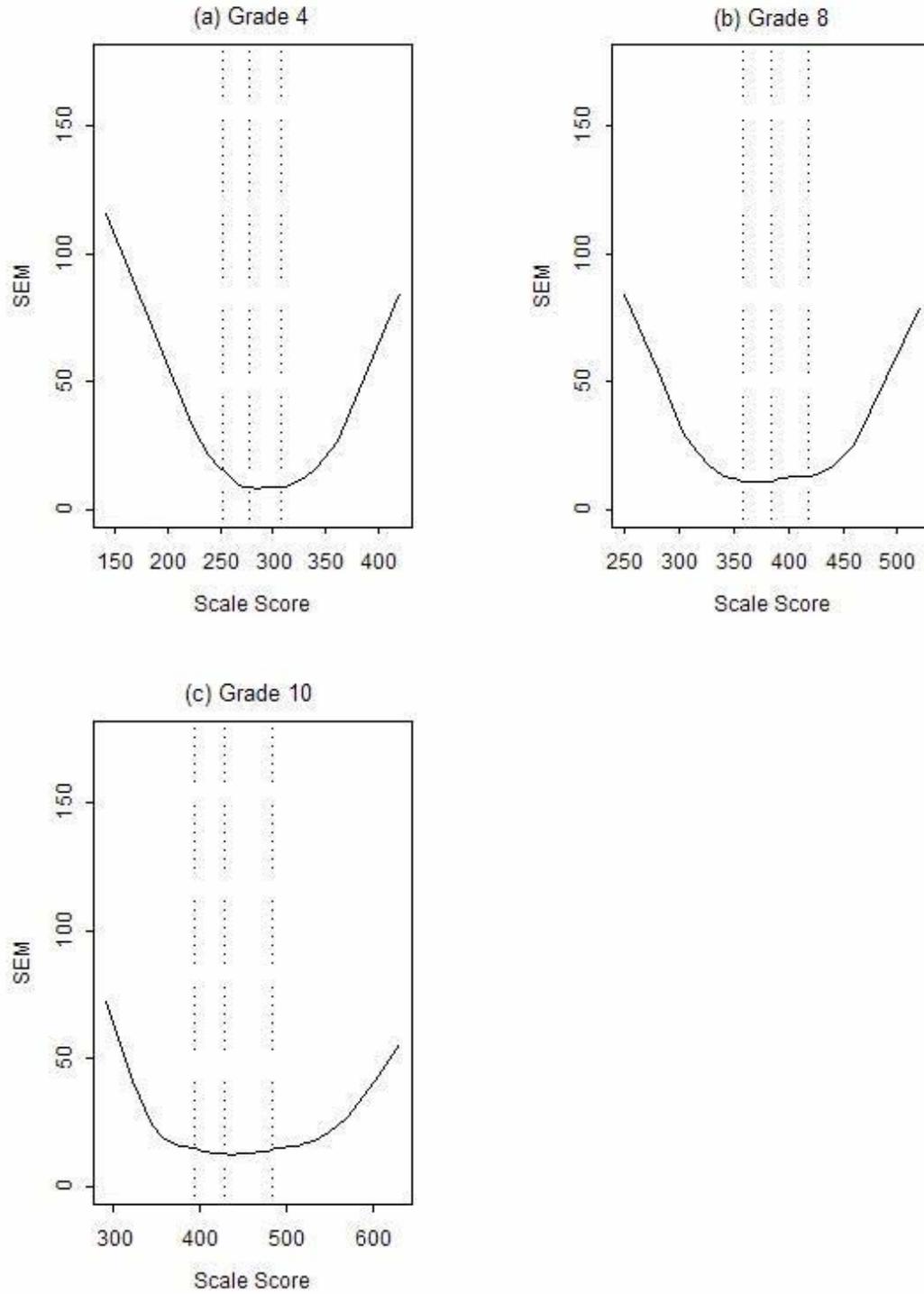


Figure 8-12  
SEM Curves, Social Studies Grades 4, 8, 10

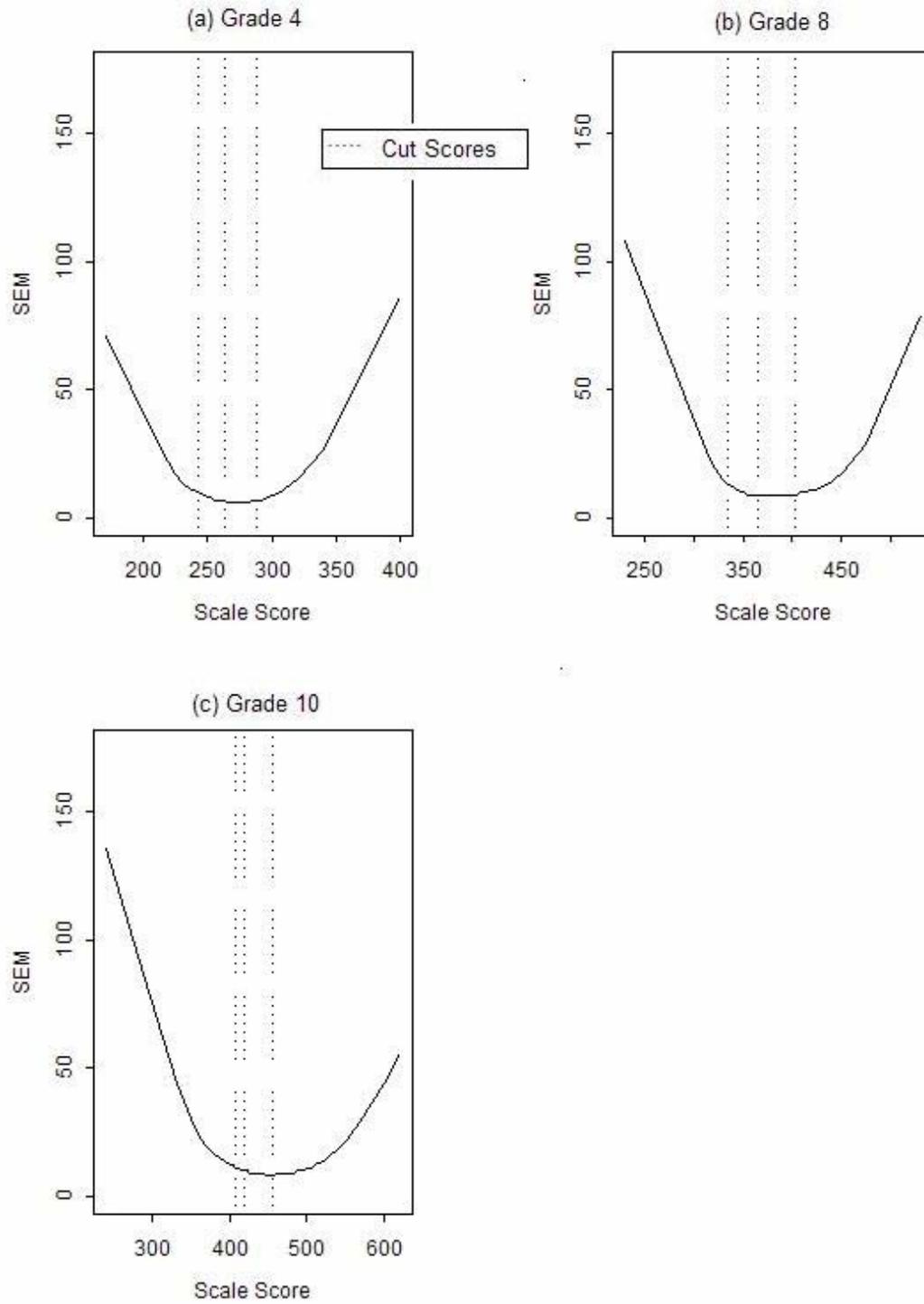


Figure 8-13  
SEM Curves, Science Grades 4, 8, 10

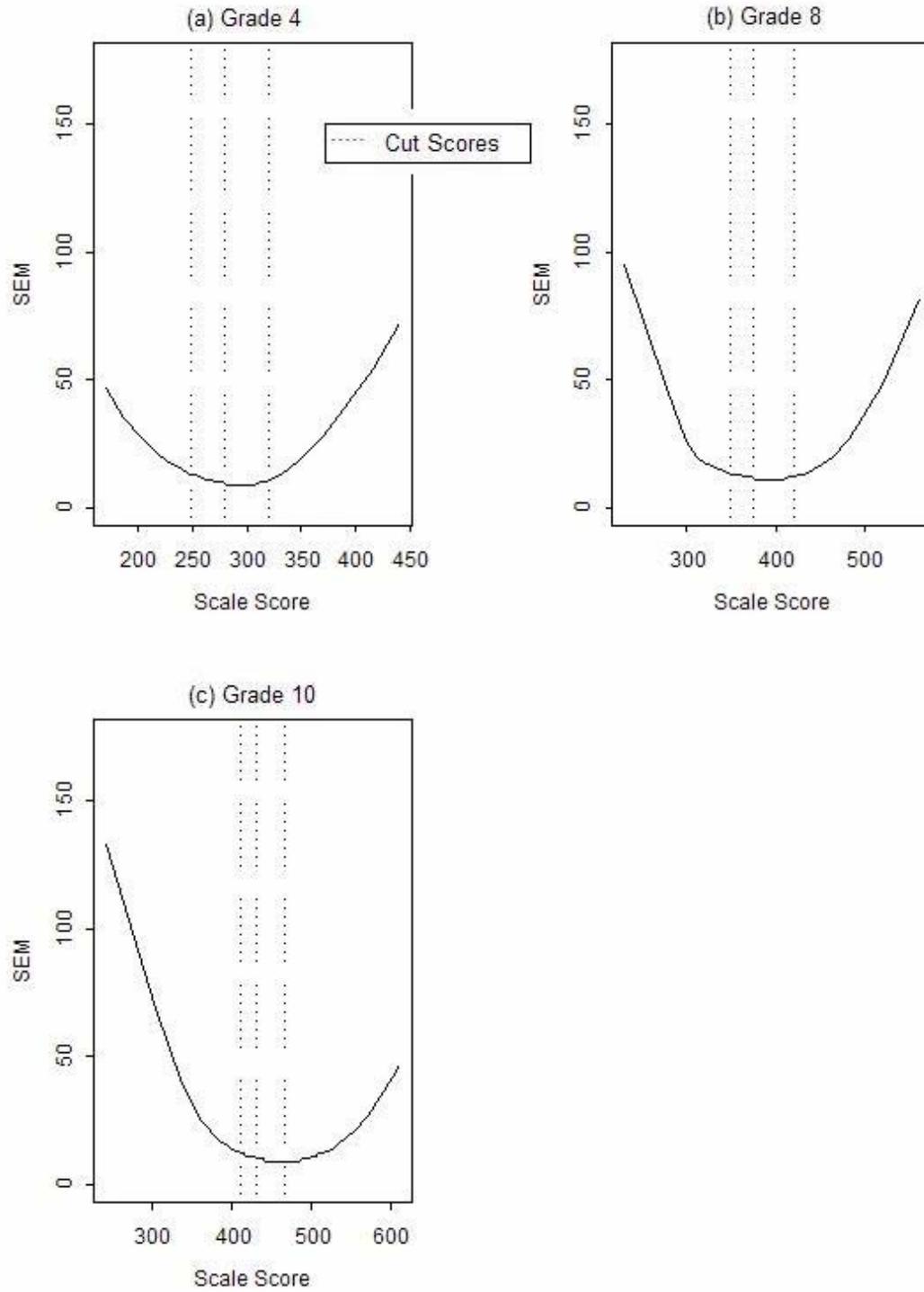


Figure 10-1

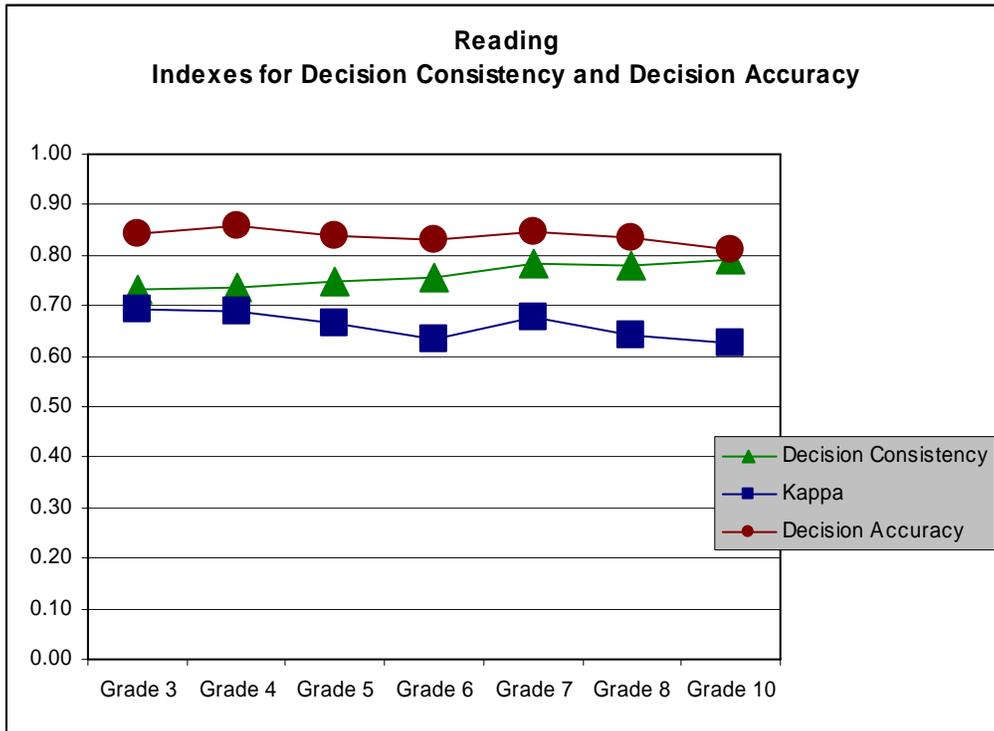


Figure 10-2

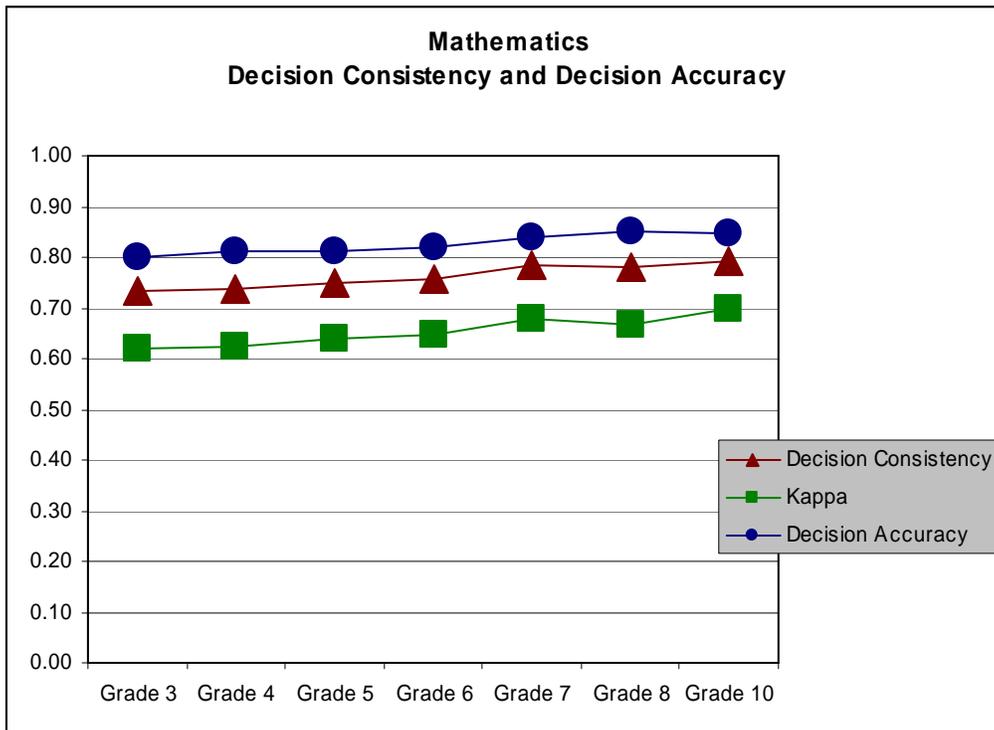


Figure 10-3

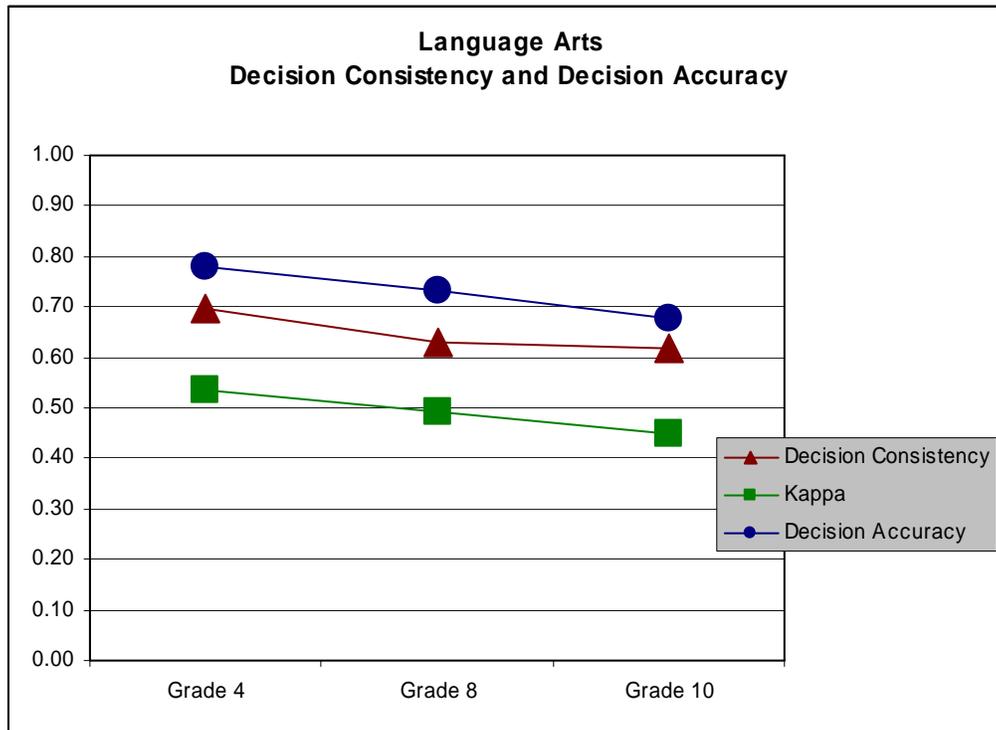


Figure 10-4

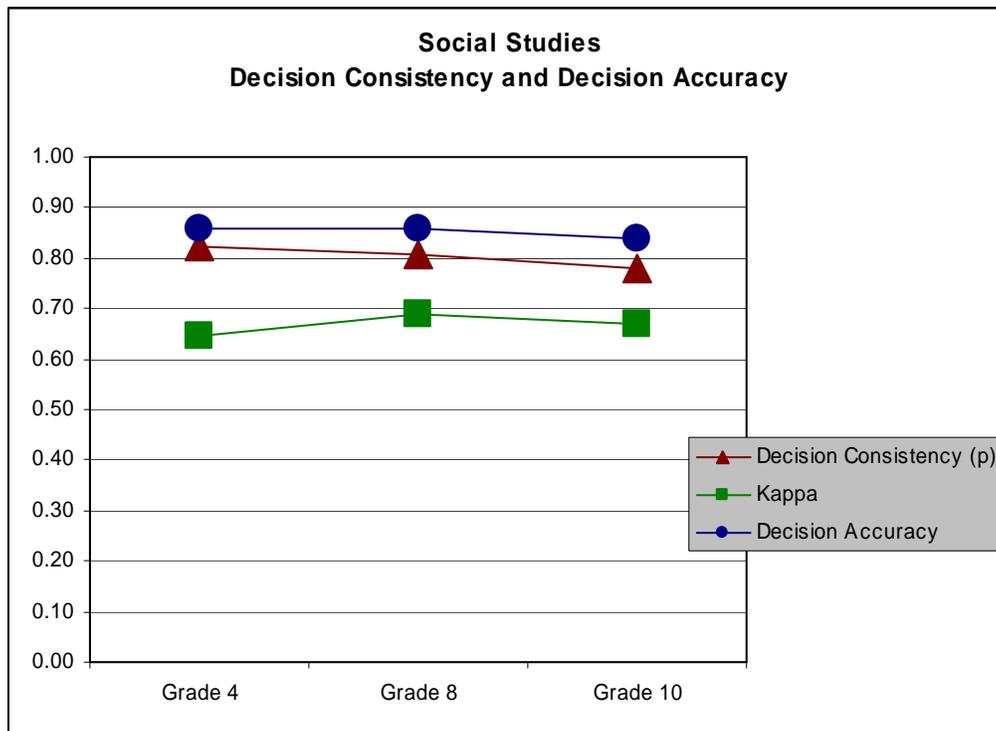


Figure 10-5

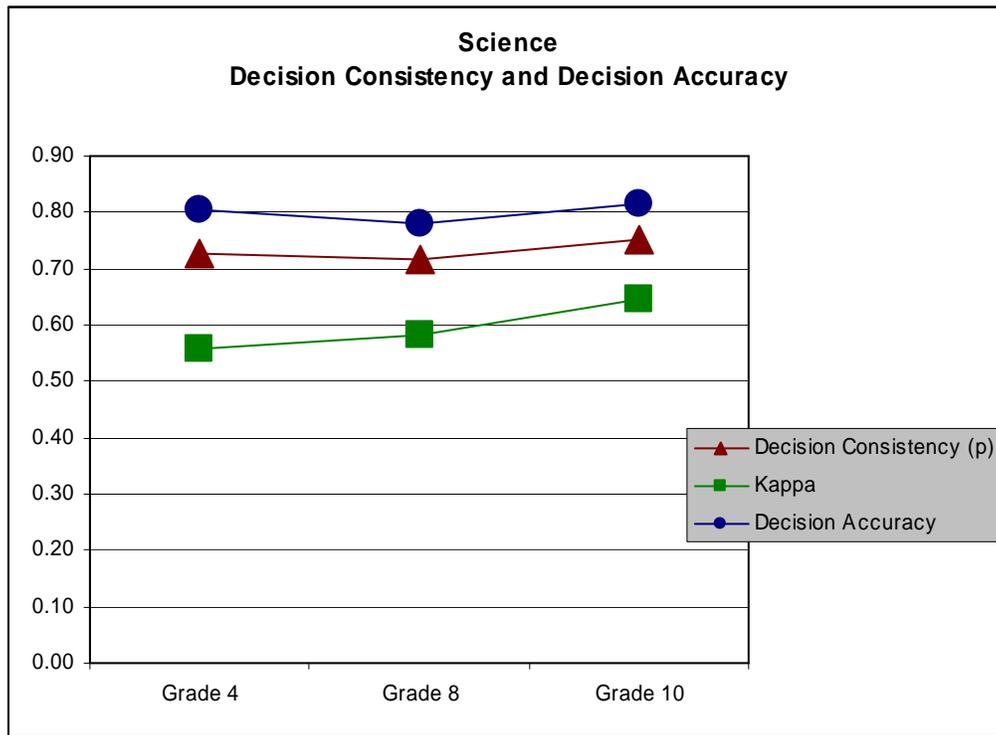


Figure 11-1  
Cut Scores for Reading

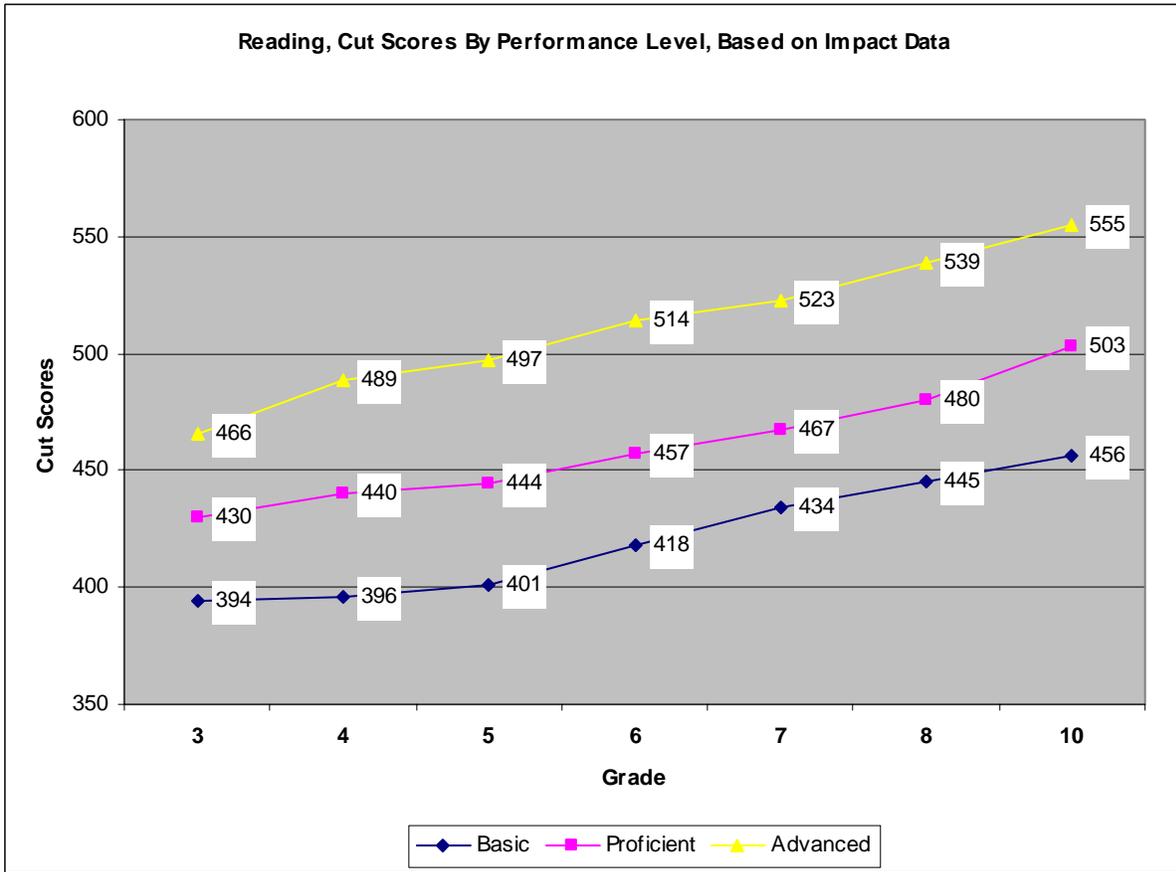


Figure 11-2  
Cut Scores for Mathematics

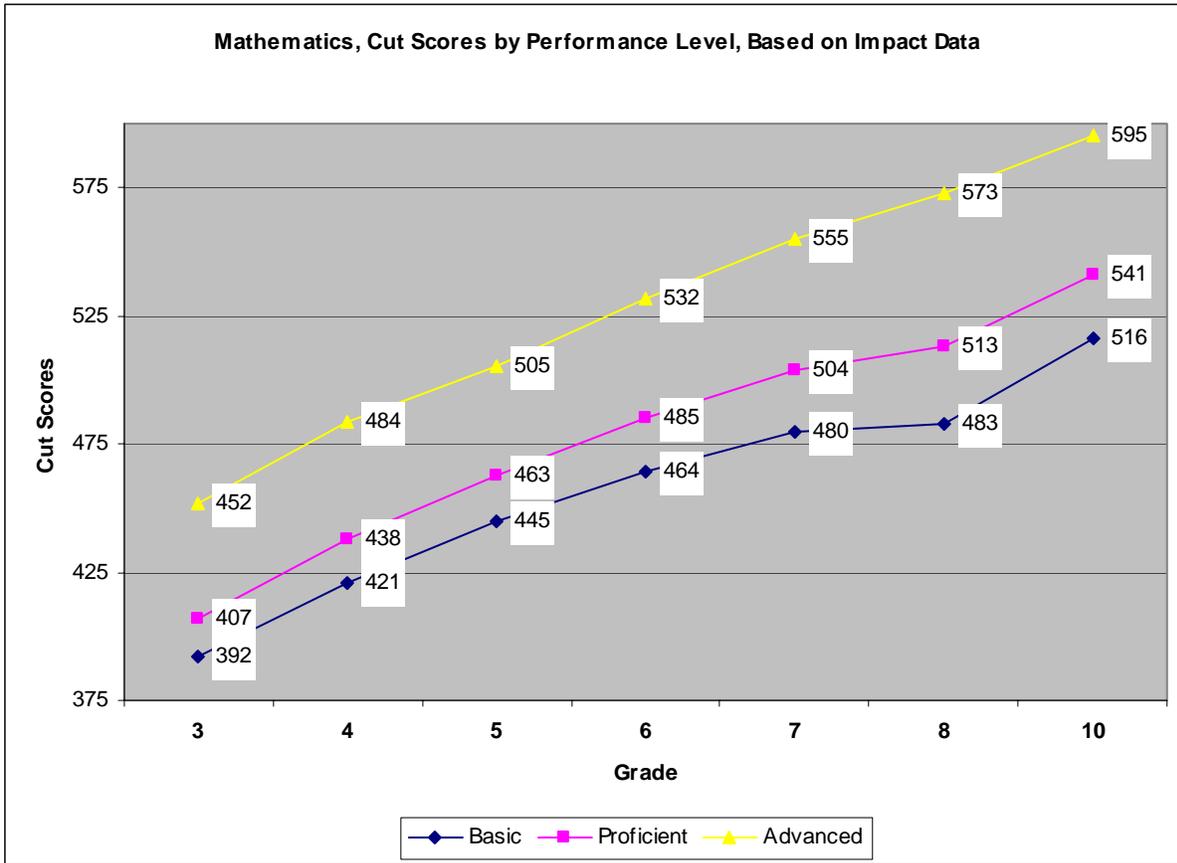


Figure 11-3  
Cut Scores for Language Arts

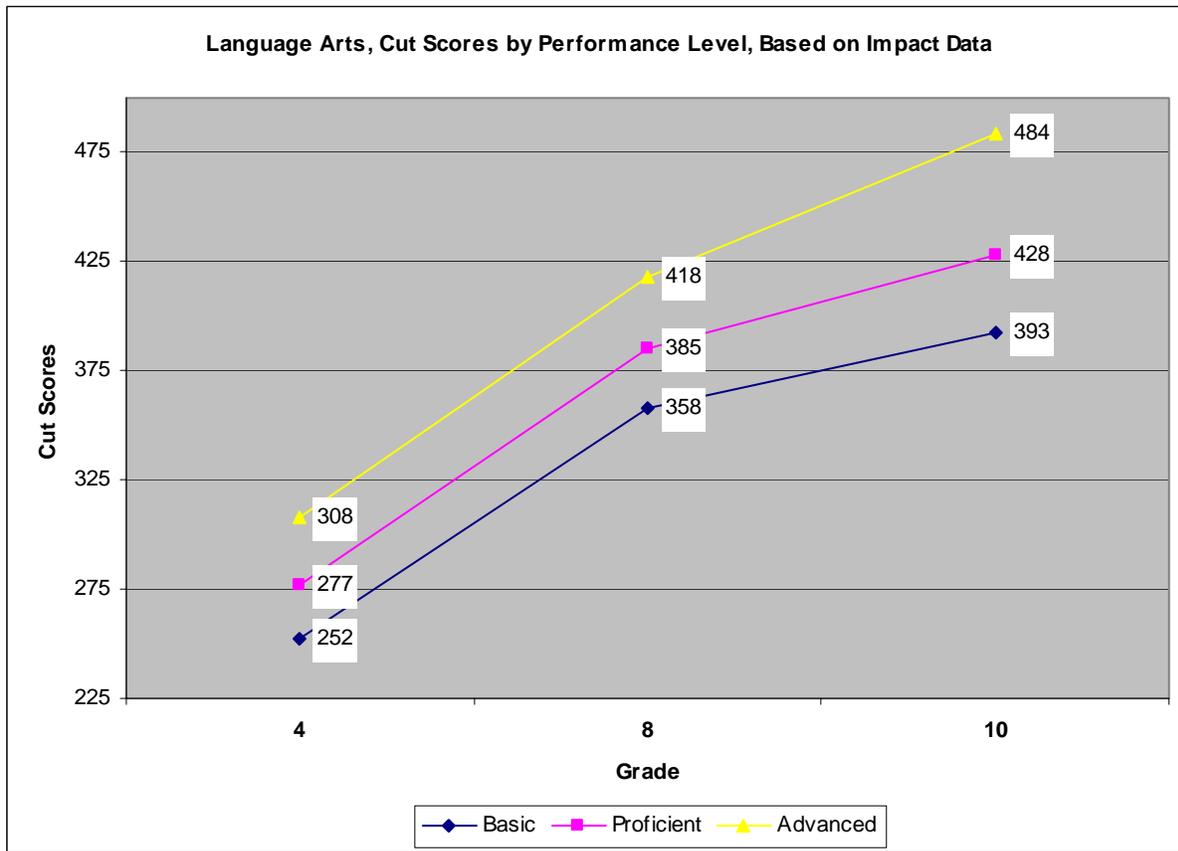


Figure 11-4  
Cut Scores for Social Studies

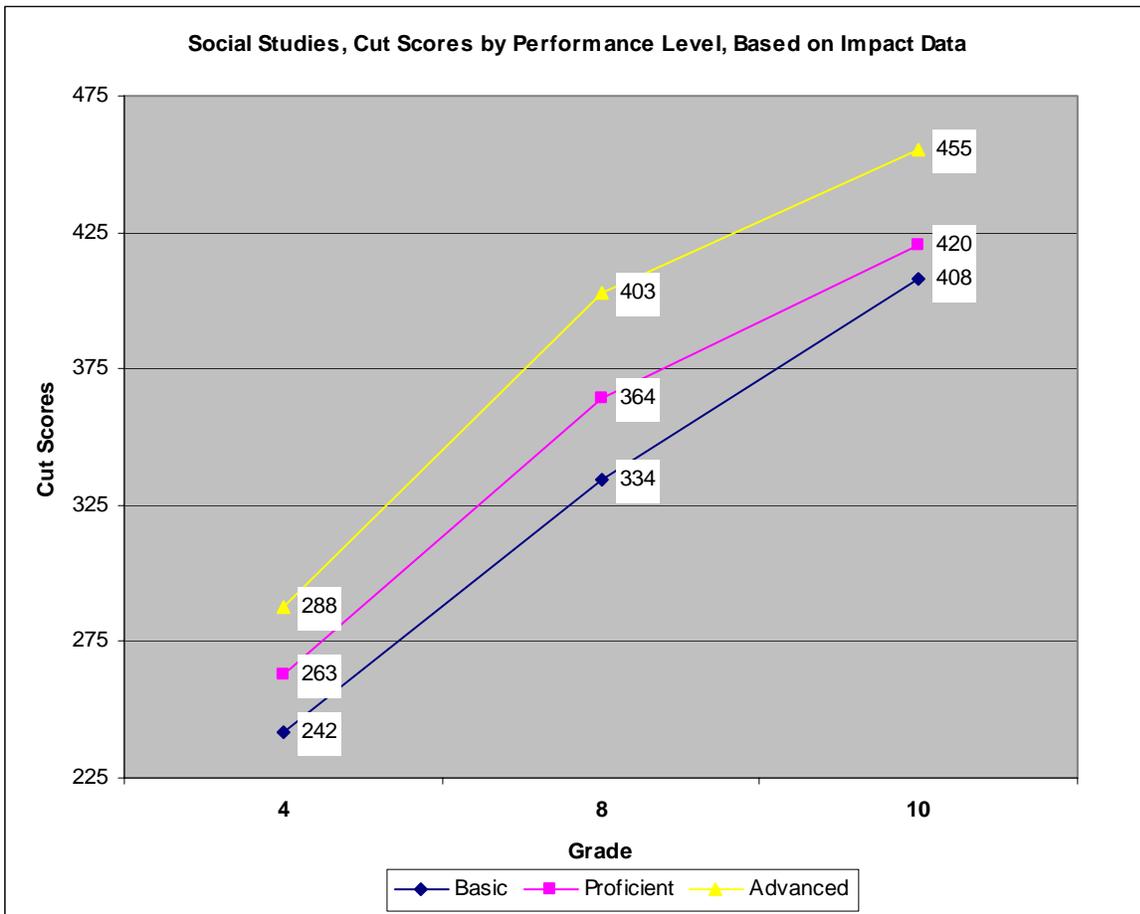


Figure 11-5  
Cut Scores for Science



Figure 11-6  
Percent of Students for Reading

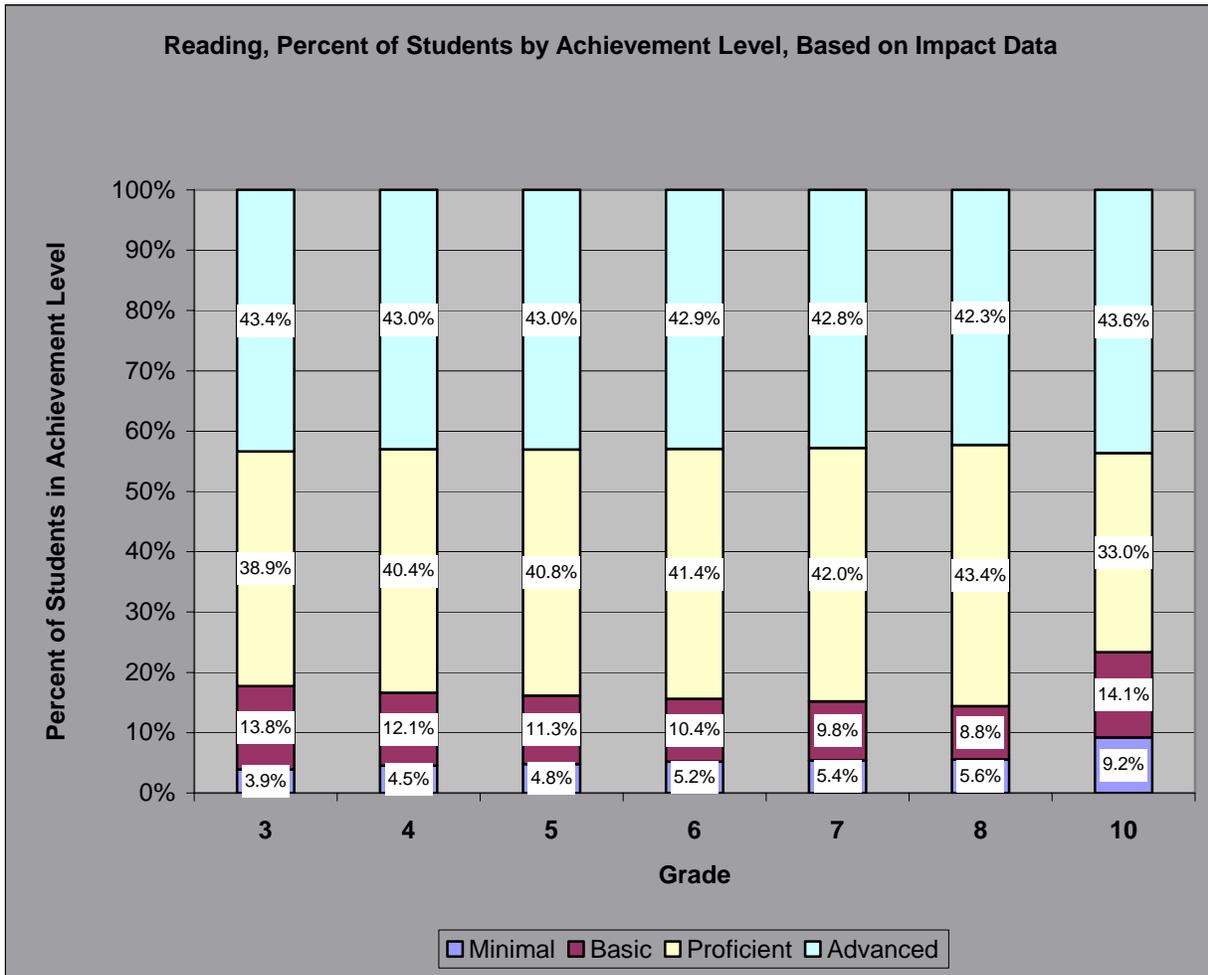


Figure 11-7  
 Percent of Students for Mathematics

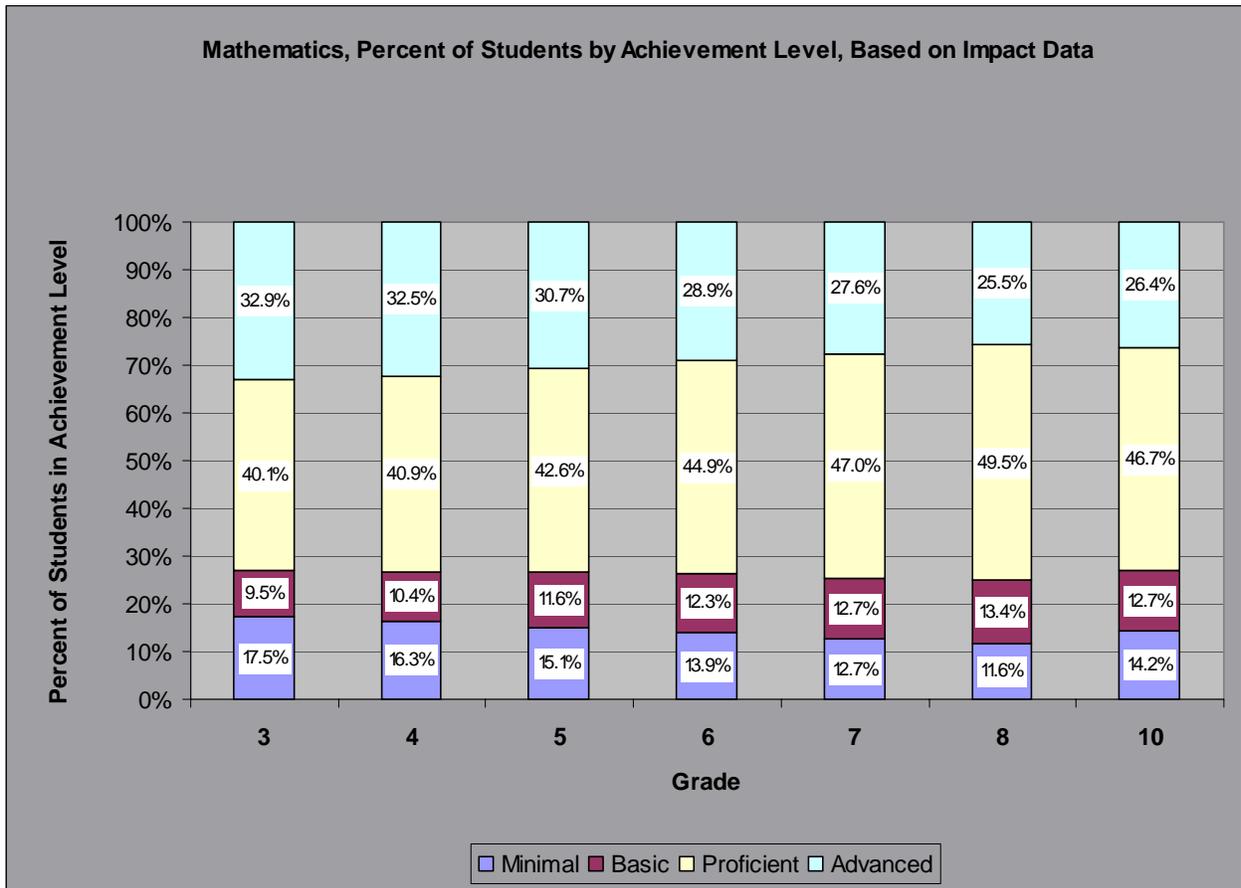


Figure 11-8  
Percent of Students for Language Arts

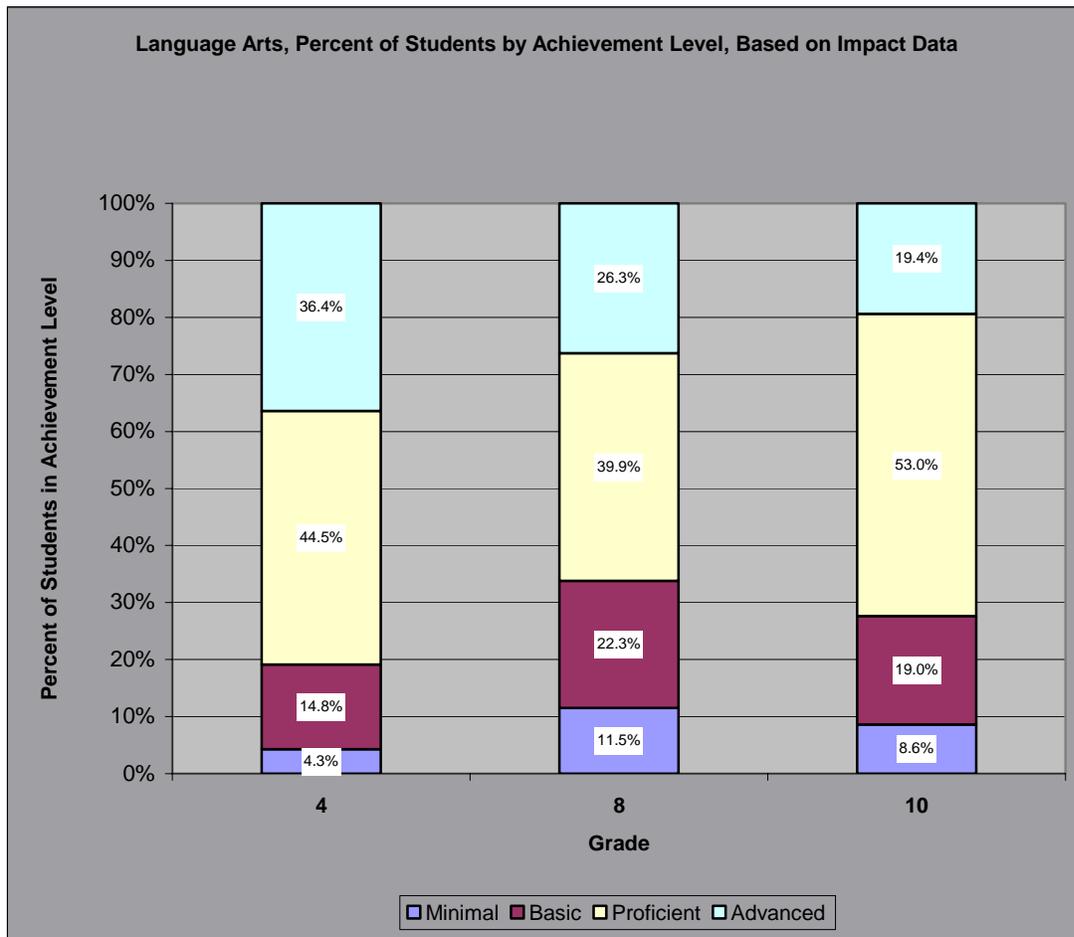


Figure 11-9  
Percent of Students for Social Studies

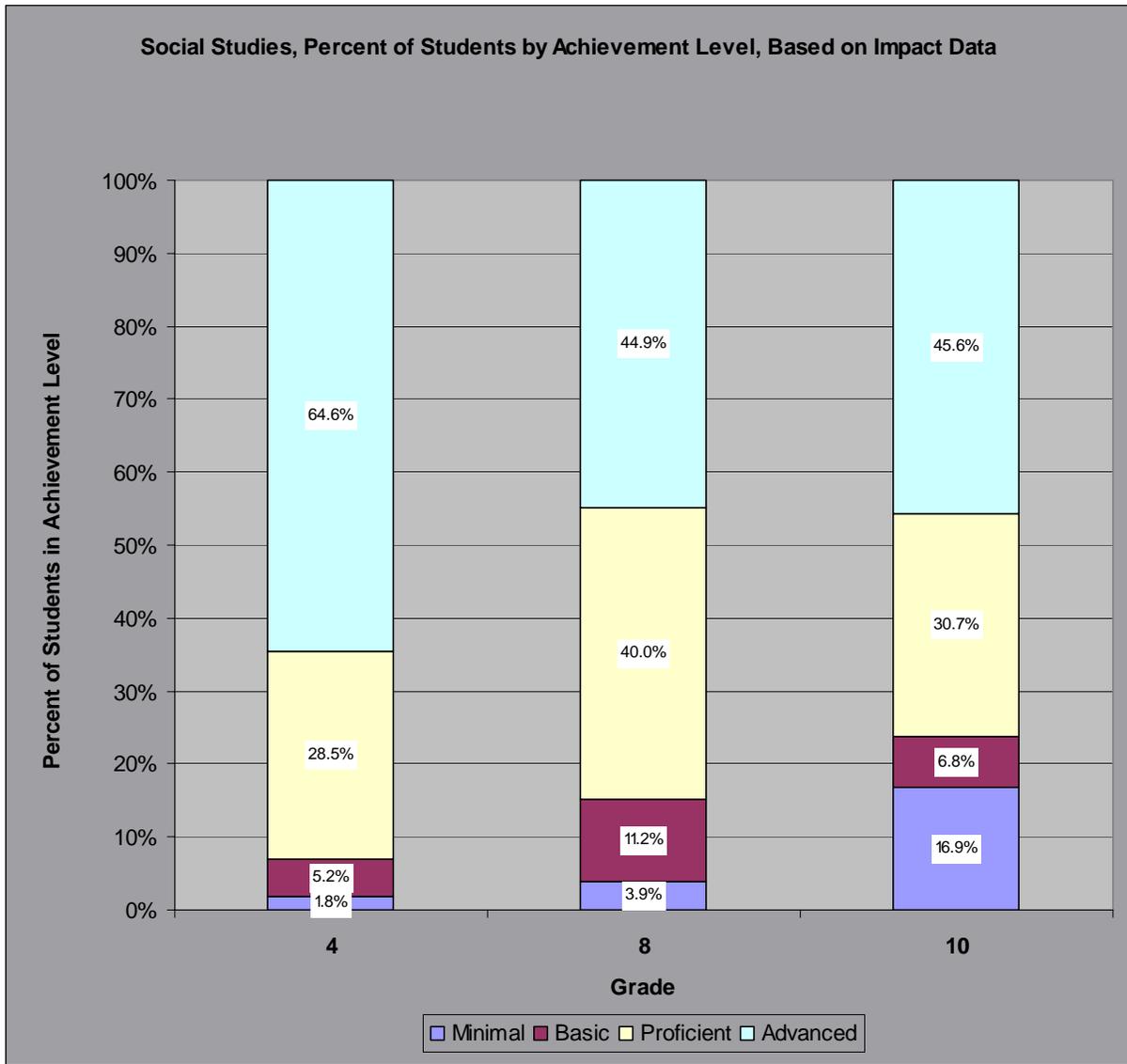
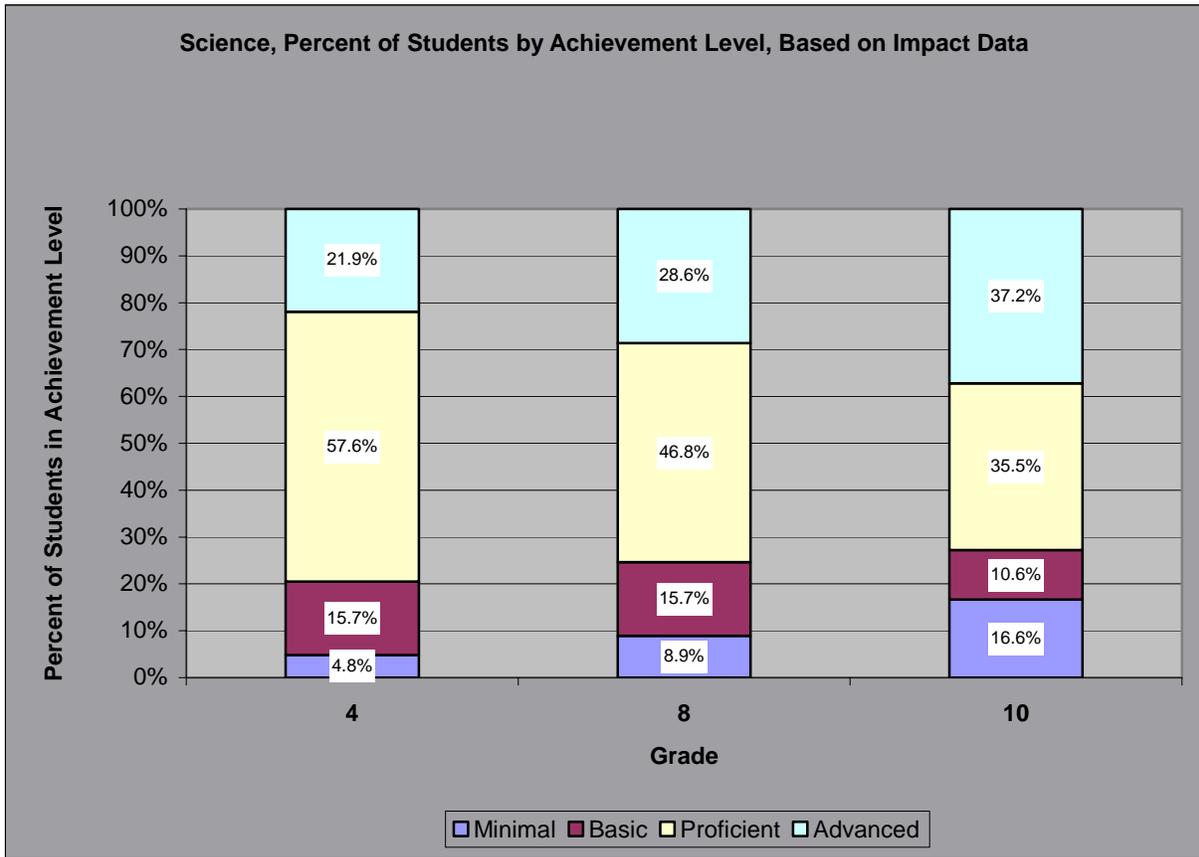


Figure 11-10  
Percent of Students for Science



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