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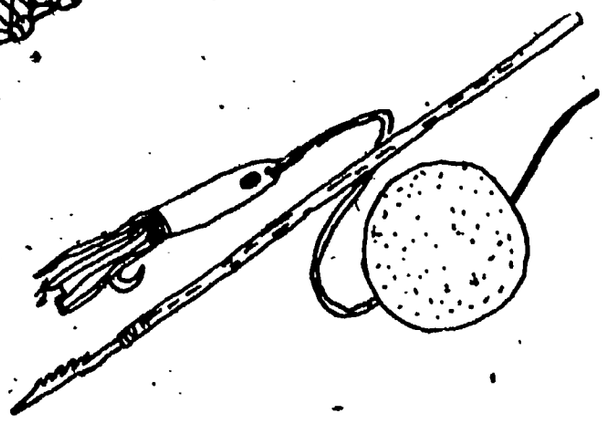
ABSTRACT

This manual for the Marianas Test of English Achievement (MTEA) provides a description of the tests, directions for administration and scoring, a discussion of the interpretation of scores, and norms based on all 1,780 children in grades 6 through 9 in the Northern Marianas Islands in October 1977 and May 1978. There are two equivalent forms of the test and separate norms for each form for both fall testing and spring testing. The tests are based on the Tate Oral English syllabus and have three parts: listening comprehension (45 items), structure and vocabulary (60 items), and reading comprehension (30 items). There are also norms for total scores. The test is designed for children for whom English is a second language. Norms for 42 children classed as native speakers are provided for comparison. Conversion tables for normal curve equivalents and for percentile ranks are given. In addition to the percentile rank equivalent to each raw score there is also an upper limit and a lower limit and a lower limit provided to express the range of one standard error of measurement above and below the percentile rank. A table provides Kuder-Richardson and test-retest reliability data for all subscores and the total score. (CTM)

Marianas Test of English Achievement

Manual



Marianas English Program

MARIANAS TEST of ENGLISH ACHIEVEMENT

MANUAL

1979 Edition
Forms A & B

Listening Comprehension
Structure and Vocabulary
Reading Comprehension

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The authors are indebted to the teachers and pupils in the Northern Marianas Islands who took part in the norming of the MTEA.

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DESCRIPTION OF THE TEST

General Description

The Marianas Test of English Achievement (MTEA) (Klingbergs and Doorn, 1977) is designed to measure listening comprehension, structure and vocabulary, and reading comprehension skills for pupils who are learning English as a second language (ESL) using the Tate Oral English syllabus.

The equivalent forms (A and B) for each of the three subtests of the MTEA are available, each intended for use with grades six to nine inclusive. While the three subtests of the MTEA may be given separately for diagnostic purposes, the test was designed to provide an overall measure of English as a second language proficiency.

Each form of the MTEA consists of two booklets. The first booklet contains Part 1, which consists of 45 sets of three pictures each. These sets of pictures provide the alternatives for listening comprehension sentences which are read orally to students. Parts 2 and 3 consist of 55 Structure and Vocabulary, and 30 Reading Comprehension items respectively in a four option multiple-choice format.

All results are recorded on either a hand or machine scorable standard score sheet. Practice items are provided to introduce students to the types of item presented in each of the three parts of the test. For students unaccustomed to standardized testing, a practice test is also available containing sample items similar to those found in each of the three parts of the test. The use of the practice test is designed to familiarize students with the different types of item and to develop test taking skills so that the MTEA itself will be a more valid measure of students' language proficiency.

Historical Development

The original form of the MTEA was developed by Daniel J. Doorn in 1972 and was tried out with seventh, eighth and ninth grade students in the Spring of that year. The test was designed to meet the need for an instrument which could evaluate the effectiveness of the learning and teaching of English as a second language using the first thirteen[1] books of the Tate Oral English syllabus which had then been in use in the Marianas for five years. Soon after the test's development, the MTEA was adopted by the Marianas Education Department for use as the selection criteria for students entering the tenth grade.

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[1] Books 14 and 15 were not yet available in the Marianas Islands.

In 1974, the original version of the MTEA was revised and a parallel form developed by Imants E. Klingbergs. In addition, it was decided to do an item analysis on both forms of the test since some items did not seem to be working effectively. Arrangements were made through a Title III funded program, Project LEAP, to have the necessary analyses performed and to have Fall and Spring norms established for both forms. These analyses were performed using Spring and Fall 1976 test data for grades six through ten (Baldauf and Annesley, 1977). Revisions were suggested and subsequently made in the Spring of 1977. These changes were then trialled using a second smaller sample of sixth, seventh and eighth grade students.

A final version of the MTEA was then prepared. The norm data for the MTEA was collected in the Fall of 1977 by administering the test to all Mariana Islands sixth, seventh, eighth and ninth grade students during the last week in September and the first week in October. To obtain norm equivalence for both forms of the test, half the students in each classroom were randomly assigned to take either Form A or Form B (Arigoff, 1977, p.569). The same students received the same form of the test in the Spring 1978 norming period, the last week in April and the first week in May. The Fall and Spring norms are therefore based on the same random fifty percent sample of students.

Rationale

Introduction. The MTEA has been designed to assess students' English skills relating to listening comprehension, discrimination of selected grammar points, and comprehension of selected reading passages. The major focus is on evaluating students' understanding of English and not on their ability to apply the language. The Tate Oral English syllabus, Books 8-13, has been followed as a source for item selection. Although the items were based on Tate Oral English structures and patterns, they were also selected to be representative of the whole spectrum of English structures and vocabulary that any competent English speaker should control.

In the selection of items, the focus was on discrete points of grammar. However, since these grammar points are tested in complete utterances with various parts of speech being used as distractors, it can not be said that the approach strictly follows that of a discrete structure-point test. There are too many other language variables that play a part in helping the student make a choice. While the focus of each item is on a particular structure, knowledge of whole chunks of English grammar is necessary in order to interpret those particular points. In this respect, the test has similarities to an integrative structure-point test, that is, a test which examines much more than just the grammar point being focused on.

Part 1: Listening Comprehension. This part of the MTEA is designed to test the understanding of significant elements of English in a single integrated stream of speech. To avoid any interference from lack of knowledge of the graphic representations of the language and to concentrate solely on assessing aural competence, photographs of real situations are used as item alternatives. The situations in the photographs represent the elements of English to be tested. The three photographs in each set represent three real communication situations, one of which the student must correctly match with the testor's oral utterance. Photographs were used because there is evidence that drawings can be misinterpreted by Pacific Islands children (Taylor, 1971).

As indicated in Table 1, nearly equal numbers of items were selected from each Tate Book for Forms A and B. Within forms, items are also relatively equally distributed across each of the eight Tate books.

TABLE 1

Number of Items by Tate Book Levels for Forms A and B (Part 1)

Tate Book	Form A	Form B
8	8	8
9	4	6
10	6	8
11	6	6
12	11	11
13	10	6
Total	45	45

Part 2: Structure and Vocabulary. In part 1, students had to match the meaning of an oral utterance with a picture of a situation representing that meaning. While it was necessary for students to understand the overall meaning of the utterance in order to make a correct choice, they did not need to exhibit complete mastery over the grammatical form. They could make a correct choice as long as they understood the general tense and vocabulary of each utterance and could associate it with one of the pictures.

In part 2 students have to make a choice of the exact grammatical form. A multiple choice format is used for evaluating students' passive knowledge of discrete grammar points. The assumption is that if students have learned the target language well, their linguistic habits will be strong enough to enable them to choose the correct form

from those presented. Discrete item tests allow for the sampling of a large number of objectives in a relatively short time and have generally produced very reliable results (Valette, 1967, p.118).

Item selection for both forms of Part 2 was such that exactly the same structure and vocabulary points are tested by both forms. The number of items selected from each Tate book is also exactly the same, as shown by Table 2.

Table 2

Number of Items by Tate Book Levels for Forms A and B (Part 2)

Tate Book	Form A	Form B
8	8	8
9	11	11
10	10	10
11	10	10
12	10	10
13	11	11
Total	60	60

Part 3: Reading Comprehension. While Parts 1 and 2 dealt with the evaluation of English comprehension at the sentence level, Part 3 focuses on reading comprehension at the paragraph and short story level. As an achievement test, its purpose is to determine how much of the language taught has been learned and therefore how much the student can understand at the passage level. The test is not designed to evaluate reading skills per se, but rather to test a student's understanding of key vocabulary and structure items within the context of a written passage.

Form A includes four stories and Form B includes five stories of varying length. The structural patterns and most of the vocabulary in these stories have been drawn exclusively from the materials students should have studied from the Tate Oral English syllabus and other correlated reading or writing materials. Most of the comprehension questions are based upon implied or indirect references which need to be made from the stories. There are very few direct questions which can be answered by locating a specific sentence in the story. The use of this type of question tests whether students can use the structures and vocabulary they have learned to draw correct inferences from the stories.

Precautions in the Use of MTEA Results

Users of the MTEA should remember that there is error in any measurement. The score obtained on this test is only an estimate of the child's true achievement. Errors of measurement may arise from factors within the child (being tired, sick, angry), from factors within the test (too easy, too hard, unfamiliar format, culturally inappropriate) or from administrative and scoring procedures (classroom too hot, too noisy; improper test timing; careless scoring). Correct use of the MTEA is important if you wish to obtain the best possible estimate of each child's achievement.

The use of the MTEA to measure individual improvement in language skills presents difficulties for interpretation due to the error of measurement found in the two scores involved. Because of errors of measurement, it is relatively easy to get an erroneous picture about individual score differences especially if only a short period of time has elapsed between testing dates. The lack of change in a pupil's score, especially over a short period, does not necessarily mean the pupil has made no progress in language arts.

While difference or gain scores are relatively unreliable for use with individuals due to errors of measurement, such results are usually adequate for use with groups.

Although the norms provided for the MTEA are based on students in the Mariana Islands, they do not represent a standard expectation of language arts performance for all children at a particular grade level. Factors such as language background of the pupils, exposure to English, availability of resource materials, involvement in special programs, teacher training, school administration, and pupil motivation vary and the results should be interpreted accordingly.

The norms presented in this manual were derived in the last week in September - first week in October 1977 and in the last week in April - first week in May 1978. Testing should be done within 3 weeks of these dates for the norms to be valid. The norms are not therefore appropriate for use at any other time of the year.

Since the MTEA is based on the pattern of structures developed in the Tate Oral English series, the tests may not be appropriate to use to evaluate ESL language skills programs based on other instructional methods since the tests may not be specifically related to the skills taught in other programs.

Users of these tests should be aware that the tests are set in a Micronesian cultural context as it exists in the Mariana Islands. This may result in errors of measurement for ESL pupils from groups which do not share this cultural background.

Finally, most of the students for whom these tests were designed have not had the exposure to test taking to the extent common in many American classrooms. As a result, they often lack the necessary test taking skills. It is therefore advisable to administer the MTEA Practice Test to students before they are tested with the MTEA. If this is done, the user is more likely to be measuring language skills rather than test taking proficiency.

Qualifications of Test Users

The MTEA tests should be used only by qualified curriculum specialists, teachers or psychologists. The main purpose of such users should be to better understand the children being tested and to collect data to evaluate the effectiveness of programs of instruction. Interpretation of test scores should be limited to those indicated in the manual.

The Listening Comprehension section of the MTEA was standardized using native speakers of English. For this reason native English speakers without strong regional accents should administer the Listening Comprehension section of the MTEA if student results are to be compared to the norms presented in this manual.

Unqualified users are those people who arbitrarily depart from administration, scoring and interpretation procedures outlined in this manual or who use the tests to label students or teachers as failures rather than use them to provide insights into the learning and teaching process.

The test is currently available only on a restricted basis through the Department of Education, Saipan, Commonwealth of the Northern Mariana Islands 96950.

DIRECTIONS FOR ADMINISTRATION

Preliminary Considerations

> If students have never taken the MTEA, it is strongly recommended that the MTEA Practice Test be administered at least one day before the testing date.

1. Materials required for each child tested

   a. Listening Comprehension test booklet (part 1) and/or the Structure & Vocabulary/Reading Comprehension test booklet (Part 2 and Part 3)

   b. score sheet

   c. lead pencil (#2 pencil if the machine scorable score sheet is used)

   d. soft eraser

2. Time limits

   a. It is usually preferable to test children in the morning when they are fresh and not tired from working or playing. It is cooler in the morning and some children become sleepy after lunch.

   b. At least 30 minutes should be scheduled for the Listening Comprehension test.

      * 10 minutes approximately for distribution of papers, practice items, etc.

      * 15 seconds exactly between each item, from the time you stop talking for one item to when you start reading the next item.

   c. At least 45 minutes should be scheduled for the Structure and Vocabulary test.

      * 10 minutes approximately for distribution of papers, practice items, etc.

      * 35 minutes approximately for the actual testing. Allow students all the time they need, within reason, to complete this part of the test.

   d. At least 45 minutes should be scheduled for the Reading Comprehension test.

      * 10 minutes approximately for distribution of papers, practice items, etc.

      * 35 minutes approximately for the actual testing. Allow additional time if needed, to complete the test.

   e. Since the test is quite long, it is advisable to have a break between each part of the test. Normally, Part 1 should be administered on the first day, and Parts 2 and 3, with a break in between, a day later.

3. Testor familiarity with the "Detailed Instructions"

   Study all the directions which follow, paying particular attention to the specific directions for administering the test. Practice giving the directions orally until you can do it smoothly and easily. However, do not memorize the directions but read them exactly as they are printed. This practice should be done in conjunction with a copy of the tests and answer sheets at least one day before testing.

4. If there are any children who are not being tested in any one session, arrangements should be made for their care. Students who are being tested should be told that the test will be given in the same manner as is usual for regular classroom tests.

Immediately before Testing

1. Make arrangements so that testing will not be disturbed or interrupted. Place a notice on the door: TESTING - DO NOT DISTURB.

2. Before the test, ensure that the children have a quiet period in a calm relaxed atmosphere. Do not give any difficult work - either mental or physical.

3. Make sure lighting, ventilation, and seating conditions are the best possible for the room in use and see that pencils are sharpened and desks are clear of other material.

4. Make sure that the students are seated far enough away from each other to eliminate any chance of copying.

5. Draw an example of the score sheet on the blackboard as follows.

NAME _____
LAST FIRST MIDDLE

SCHOOL _____

GRADE _____ DATE _____

Draw this for the machine scorable score sheet.

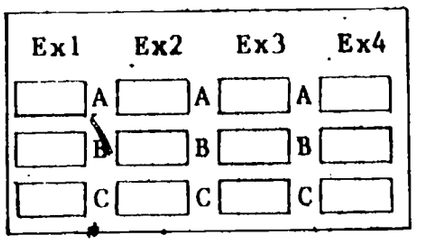
FORM
A ☐
B ☐

Examples

Ex1	a	b	c	☐
Ex2	a	b	c	☐
Ex3	a	b	c	☐
Ex4	a	b	c	☐

OR

Draw this for the hand scorable score sheet. A ☐ B ☐



During the Testing Sessions

1. Follow exactly the detailed instructions and the time limits for the test, but avoid the feeling of strain on the part of the pupils by treating the testing as a normal school activity. Establish a friendly atmosphere, and avoid anxiety, excitement, and scolding.

2. Allow sufficient time for the marking of practice items.

3. Check that answers are being marked on the answer sheets correctly. After the children begin work, move quietly around the class to ensure that the children are following the directions correctly.

4. Be sure the children can not copy from one another.

5. Note unusual circumstances which may effect an individual or the class test results.

6. Distract the children as little as possible while they are working on the test.

7. If a loud distraction occurs during the listening comprehension, stop and wait until it is quiet again before continuing.

8. If you are using machine scorable score sheets, be sure students make their marks very black.

Detailed Instructions

Listening Comprehension (Part 1). The instructions to be read aloud are printed in *italic type*.

1. Pass out the score sheets and the pencils.

2. Start the session by saying:

Turn your score sheet sideways so the heading MTEA is on the top. Take your pencil and mark an X in the box after Form A (or B as applicable) the same way I do it on the blackboard. Now, fill in your last name, first name, and full middle name, the name of the school, the grade and today's date.

Allow a reasonable time for students to fill in this information. Check that it has been done clearly and correctly. Then say:

Put your pencils down.
I am going to give each one of you a test book. Do not open your test book yet. Do not make any mark in this book. Keep it clean. Mark only on your score sheet.

Now pass out the test books to the students. Count how many you pass out as you go. Then, hold up one book and open it to Example One. Tell the students:

Open your books and look at Example One. Example One has three pictures; picture A, B and C. I will say a sentence. Look at all three pictures and find the correct picture for my sentence. Only one picture is correct. Remember, look at all the pictures before you pick your answer. Raise your hand when you know which is the correct picture.

Pause before beginning the specific examples.

Listen to my sentence. I will say it only once. "Example One. I want a fork for my rice please." Which picture is correct? A? B? C?
Yes, picture B is correct.

*Look at your score sheet. Find the example box for Part 1. (Make an X in the box by the letter B for Example One.) (Blacken in the box with the letter b printed on it for Example One. Make your mark very black.)**

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* For machine scorable score sheets.

Mark the correct box on the blackboard. Then, walk around and check the students' papers. Make sure they have made the marks very black and very even. Then tell the students:

Look at Example Two in your books.

Listen to my sentence. This time don't raise your hand. Answer on the score sheet where it says Example Two.

"Example Two. Here's a picture on my T.V. set."

Wait about 15 seconds so that everyone has time to answer:

Which picture is correct? A? B? C?

Yes, picture C is correct.

*Look at your score sheet. (Did you make an X in the box by the letter C under Example Two?) (Did you blacken in the box with the letter C printed on it for Example Two? Did you make your mark very black?)**

Mark the correct box on the blackboard. Then walk around and check the students' papers. Make sure their marks are black.

Now, look at Example Three and listen to my sentence.

"Tom was at the door."

Wait about 15 seconds so that everyone has time to answer.

Which picture is correct?

Accept all the answers the class gives you but don't tell them the correct one. Try to lead them to discover for themselves which picture is correct and why. Their ability to interpret the pictures correctly in terms of verb tense is crucial to the validity of the test. Then say:

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* For machine scorable score sheets.

Look at picture A. Is Tom at the door? (Wait for an answer.) *No. Was Tom at the door?* (Wait for an answer.) *No, he is still walking to the door.*

Look at picture B. Is Tom at the door? (Wait for an answer.) *No. Was Tom at the door?* (Wait for an answer.) *Yes, he was at the door.*

Look at picture C. Is Tom at the door? (Wait for an answer.) *Yes, he is at the door. Can we say he was at the door?* (Wait for an answer.) *No, because he is still at the door.*

*So, what's the correct answer? That's right. Picture B is the correct answer. (Mark an X in the box by the letter B.) (Blacken in the box with the letter b printed on it. Make your mark very black.)**

Mark the correct box on the blackboard. Then walk around and quickly check the students' papers.

Look at Example Four and listen to my sentence. "Mary swept the floor."

Wait about 15 seconds so that everyone has time to answer.

Which picture is correct?

Again, repeat the same procedure as with Example Three. Accept all answers but don't tell the students which is the correct one. Try to lead the class to discover for themselves which picture is correct and why.

---

* For machine scorable score sheets!

Look at picture A. Did Mary sweep the floor? (Wait for an answer.) *No, the floor is still dirty.*

Look at picture B. Did Mary sweep the floor? (Wait for an answer.) *No, Mary is still sweeping it.*

Look at picture C. Did Mary sweep the floor? (Wait for an answer.) *Yes, that's right Mary swept the floor. The correct answer is C.*

*(Make an X in the box by the letter C for Example Four.) (Blacken the box with the letter C printed on it for Example Four. Make your mark very black.)**

Mark the correct box on the blackboard. Then walk around and check the students' papers. Then tell the students.

Now we will begin the test. I will say each sentence only ONE time. Look carefully at all the pictures. Then pick the best picture for my sentence.

*Mark only on your score sheets. (Put an X by the correct letter for each number on the score sheet.) (Blacken in the box with the correct letter printed on it for each number on the score sheet.)**
Do you all see where to start on your score sheets? We will start with number 1. You will have 15 seconds to answer each item.

Begin the test.

Call out the number of each item and then read the corresponding sentence.

Time exactly 15 seconds between each item, that is, from when you stop talking for one item to when you start reading the next item.

Read each sentence in a normal way. If there is a loud distraction from outside, stop and continue when it is quiet again.

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* For machine scorable score sheets.

When you have completed item 45 say:

Stop. Close your test books.

Collect the test books. Count them to make sure you have collected all the books you passed out. Then say:

Now, look at your score sheets. Make sure all your answers are marked clearly. Erase any wrong answers completely.

If students are only doing the listening comprehension test, collect the score sheets.

Structure and Vocabulary (Part 2). The instructions to be read aloud are printed in *italics*.

If the students are starting with Part 2 and haven't done Part 1,

1. Pass out the score sheets and pencils.
2. Start the session by saying:

Turn your score sheet sideways so the heading MTEA is on the top. Take your pencil and mark an X in the box after Form A (or B as applicable). Now, fill in your last name, first name and full middle name, the name of the school, the grade and today's date.

Allow a reasonable time for students to fill in this information. Check that it has been done clearly and correctly. Then say:

Put your pencils down.
I am going to give each one of you a test book.
Do not open your test book yet. Do not make any mark in this book. Keep it clean. Mark only on your score sheet.

Now pass out the test books to the students. Count how many you pass out as you go. Then tell the students:

Open your books now. Find the example box on page 1.

Hold up the test book and point to the answer box.

Look at Example One.

"Example One. What are you _____?

A. the? B. doing? C. be? D. some?

What is the correct answer?

Yes, letter B, doing, is correct.

Now, find the example box on your score sheet.

Have students point to it.

*(Make an X by letter B for Example One) (Mark the box with the letter b on it for Example One. Make your mark very black and very even.)**

Walk around and check that students are marking their score sheets correctly. Then say:

Now, look at Example Two in your books.

"Example Two. I can see a _____ in there."

What is the correct answer?

Yes, letter C is correct.

*Look at your score sheets again for Example Two. (Make an X by letter C for Example Two.) (Mark the box with the letter c on it for Example Two. Make your mark very black and even.)**

Walk around and check students' papers. Then say:

*You will have enough time to do Part 2. Mark only your score sheet. (Put an X by the correct answer.) (Mark the box with the correct letter on it. Make your mark very black.)**

When you see the STOP sign on page 6, stop and close your books. Then put your score sheet under your test book. Any questions?

BEGIN

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* **For machine scorable score sheets.**

Check to see that the students all begin in the correct place, turn over their score sheets to the back side after item 77, (item 92 for the machine scorable score sheets) and stop when finished with Part 2.

Keep students who finish early quiet so they do not disturb those who are still working.

After all students have completed Part 2, allow them to have a short break.

Reading Comprehension (Part 3). Before testing, draw an example of the Part 3 example box from the score sheet on the blackboard. The instructions to be read aloud are printed in *italics*.

Open your books to page 7 and look at the example story in the box. Read the story silently as I read aloud.

Read the story to the students. Then say:

There are 5 questions about the story. First, look at Example One.

"Who gave Maria some flowers?"

What is the correct answer? A? B? C? D?

Yes, letter C is correct. Her mother gave her some flowers.

*Find the example box on your score sheet and mark it the same way I mark mine on the blackboard. (Make an X by the letter C for Example One.) (Mark the box with the letter c on it for Example One.)**

Walk around and check that students are marking their score sheets correctly with the marks very black for the machine scorable sheets. Then say:

Look at Example Two.

"To whom did Maria give a flower?"

What is the correct answer?

Yes, letter B is correct. Maria gave her sister a flower.

*Find the example box on your score sheet and mark it the same way I mark mine on the blackboard. (Make an X by the letter B for Example Two.) (Mark the box with the letter b on it for Example Two.)**

Walk around and check students' papers. Make sure the marks are very black for the machine scorable score sheets. Then say:

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* For machine scorable score sheets.

Now, do examples 3, 4, and 5 in the same way. Make the correct mark for each question by the number in your example box. Do not turn the page until I tell you to do so.

Walk around and check that the students are answering the questions. Make sure the marks are very black if they are using machine scorable score sheets. Allow enough time for the students to finish. Then say:

Now look at your example box.

What is the correct answer for Example Three?

Yes, letter D is correct.

What is the correct answer for Example Four?

Yes, letter D is correct. Notice that both letters A and B are correct and that's why letter D is the best answer.

What is the correct answer for Example Five?

Yes, letter D is correct.

Now you will have enough time to do Part 3.

*There are 4 (Form A)/5 (Form B) stories to read in Part 3. Read each story first before you answer the questions. Mark only your score sheet. (Put an X by the correct letter.) (Blacken the box of the correct letter. Make your mark very black.)**

When you are finished, close your test book and put your score sheet under your test book.

Are there any questions? All right, turn the page and BEGIN.

Walk around and check that students are all on page 8.

After all the students have finished, collect the test books being sure you get back the total number of test books that you passed out to the students. Then say:

Now, check your score sheets for Parts 2 and 3. Make sure your answers are marked clearly. Erase any wrong answers completely.

Now, collect the score sheets and pencils. Before the students leave, make sure all test books and score sheets have been collected.

Record any unexpected variations from the normal testing procedure that may have occurred. Such details should be recorded to be considered when the scores are interpreted.

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* For machine scorable score sheets.

DIRECTIONS FOR SCORING

Marking the Papers

Care in marking is essential in order to accurately assess children's performances.

1. Mark score sheets for only a limited time (twenty or thirty minutes) and then take a rest.

2. Marking is an important and demanding task which requires concentration. Work in a place which is quiet and without distractions.

3. Mark papers when you are fresh, not when you are tired.

4. If you are using more than one form of the test, be sure you have the correct answer key.

5. Be extra careful when counting the number of student mistakes and with adding or subtracting numbers. Use a calculator to total mistakes made on the three parts. These are the most common causes of scoring mistakes.

Hand Scoring. When correcting score sheets, use the scoring key provided. Pay particular attention to the following points

1. Whenever a child has clearly marked more than one answer to a question, the question should be marked wrong.

2. If a child has only partially erased one choice, and it is clear that he intends another choice to be taken as the answer, mark the question according to the answer key based on the other choice.

3. If a child omits to place an X in the boxes but indicates the correct answer in some other way, the answers are scored correct.

4. No marks should be given to practice items.

5. If the child omits the question, mark the question wrong.

6. The child's raw score is the number of answers correct. Check the scoring by first counting the right then the wrong answers including omissions. These counts should add up as follows for either Form A or B.

Listening Comprehension	45
Structure and Vocabulary	60
Reading and Comprehension	30
Total	135

The following procedure is recommended when scoring tests.

1. Place score sheets face up in a pile. Separate Forms A and B if both forms were given.

2. Lay the appropriate answer template over the score sheet making sure that the holes in the template are over the correct columns on the score sheet.

3. Using a red pencil, put a single stroke through all the blanks. Follow the same procedure for the second side.

4. Check all the answers on the score sheet to make sure you mark all questions with more than one answer wrong.

5. Check all the answers on the score sheet to make sure you have marked correct answers falling outside the correct box or answers marked in some other way if they are correct.

6. For each of the three sections of the test count the number of wrong answers and subtract it from the total. It is strongly recommended that the number of correct answers also be counted and compared with the first figure as a check on scoring accuracy. Copy the number right for each subtest into its respective box on the front of the score sheet.

7. Add the three subtest scores to obtain the total number correct and copy it into the total correct box on the front of the score sheet.

8. Accuracy can be improved by having each score sheet scored twice, by different scorers.

Some double checking is essential if one wishes to be confident in the scoring accuracy of the results.

Once we are confident that the raw scores are correct, standard scores may be obtained from the appropriate norm tables and copied into their respective boxes on the front of the score sheet.

Machine Scoring. Machine scoring is performed with the 3M 550 Electronic Test Scorer. Directions for the use of this machine can be found in the Owners Manual that accompanies the machine.

The machine will mark wrong answers with a red minus sign next to the item number. The total number correct for each side of the score sheet will be printed next to the words NUMBER RIGHT at each side of the answer sheet.

In addition to following the Owners Manual directions, the following procedures are recommended.

1. Check each students' paper to make sure that the answers are dark enough. If the answers have not been blackened sufficiently, the machine may score them incorrectly.

2. To check for accuracy, blacken suspected papers marking with a soft number 2 pencil. Then blacken in the RESCORE box at the bottom of the score sheet and rescore the paper. A second print-out of the total right will be printed next to the first one.

3. After scoring all four sides of the score sheet, add the two scores for Part 2 and then copy the number right for each subtest into its respective box on the front of the score sheet.

4. Add the three subtest scores to obtain the total number correct.

Suspect Results. Whether you scored the test by hand or used the machine, give some thought to the number correct for each subpart of the test. An unusually high or low score on any part of the test may indicate the possibility of error. Errors could be due to

1. Incorrect scoring, either by hand or on the machine,

2. Students skipping an item, thereby putting the rest out of sequence,

3. Students copying from others on a subpart, or

4. A paper being dirty or having stray marks on it.

If pretest scores are available, it is possible to compare results by subtest to check for any unusual changes to help establish whether there may be an error in the current results.

Availability of Answer Keys

Answer keys for the MTEA are available only on a restricted basis to maintain test security. The Oral Utterance Sheets for Part 1 and answer keys for hand or machine scoring are available to authorized users from the English Specialist, Department of Education, Saipan, Commonwealth of the Northern Mariana Islands 96950.

Important Concepts in Testing

Inference. "When we use a test to measure such abstract characteristics as a student's conceptual understanding or his verbal or mathematical skills, it is important that we have a clear understanding of precisely what we are trying to do. We cannot measure these intangibles directly, as we would a physical characteristic, by 'taking a reading' on some standard measuring device and recording the observed measurement as an accomplished fact. When we use a test, we are measuring indirectly by taking a series of 'readings' (one for each test question), not of the characteristic that we are trying to measure, but rather of various indicators of that characteristic. Then we must try to infer something about the characteristic itself from the indicators we have collected.

It is important for us to know, then, that when we have finished administering a test and we have the test results before us, a vital portion of the measurement process still remains to be done, and that we do not have an infallible set of rules to guide us to the conclusion of hard, cold facts about the students. But, by means of systematic, standardized procedures, tests can help us to estimate how accurate our judgments might be (Educational Testing Service, 1969)."

Samples. It should also be clear that any test is only a sample of tasks which could be asked about a particular subject area or syllabus. It also should be recognized that a variety of question formats could be used to measure the same tasks. The items found on the MTEA are one sample of possible items and item formats which we have tried to make representative of the population of possible items which could be designed to measure the tasks found in the Tate Oral English syllabus, Books 8-13.

Since a test is a sample of items, an alternative form of the same test will be a somewhat different sample of tasks and will not therefore yield an identical result even though the test items have been carefully selected and matched. For this reason, the two forms of the MTEA have been statistically equated to make them more nearly equivalent. However, it must be remembered that these test scores are only estimates of students' achievement in English and may not therefore yield identical results.

Since the accuracy of measurement can generally be improved by increasing the number of items, total test scores are likely to provide a more accurate picture of student achievement than subtest results.

Continuous Values. Test scores are treated as if

they were continuous, i.e. the result of measuring rather than counting, mainly for statistical convenience. However, it should be remembered that educational tests are in general rather inexact instruments which provide an estimate of the characteristic we seek to measure.

Types of Test Scores

There are a number of different types of test scores or scales which may be used to express test results. In the paragraphs which follow, some of the most common types of test scores are discussed in terms of their use for student or group evaluation (For further discussion, see Lyman, 1978).

Raw Scores. Raw scores are most commonly defined as the "number of items correct". Although they are commonly used, they have by themselves little or no meaning. That is, knowing a student scores "25 items correct" tells us very little unless we know either what the items measure or how other similar students scored on the same test.

Percentages. Percentages are raw scores divided by the number of items on the test. Although percentages are often seen to be better than raw scores, they are really very similar. They are usually taken to represent some absolute judgment that the student has mastered some percentage of the material under consideration. However, the use of percentages assumes there is general agreement on both goals and standards of performance, something which rarely exists. These scores also fail to consider the relative difficulty of groups of test items or the differences among students being tested. While percentages are appropriate for criterion-referenced tests, in general, they should be avoided when reporting scores because they tend to mislead the user.

Norm Groups. A norm group is any group we wish to make comparisons against. The use of a norm group creates a standard which allows us to evaluate student or group performance. The four norm groups for the MTEA were all children in grades 6, 7, 8 and 9 in the Northern Mariana Islands. A variety of scales could have been developed from these norm group scores and the advantages and disadvantages of some of these are briefly discussed in the paragraphs which follow.

Grade Equivalent Scores. While grade-equivalent (GE) scores are undoubtedly the most common means of reporting educational standing or progress, they should not be used to measure achievement gains. GE scores seem intuitively simple, but they present us with two basic problems.

First, the simplicity of GE score is illusory; it is almost impossible to say what a particular GE score

means. Test results should indicate something about the skills a student has, or where the student stands in relation to others, or both. GE scores do neither of these things and do not therefore help us to interpret individual results. Second, technical problems found in the generation of GE scores (i.e. lack of equal-interval units, use of estimates at the extremes, statistical smoothing of uneven student growth) mean that they are misleading and unsuitable for use with evaluation studies (Horst, 1976).

Percentile Ranks. Percentile ranks always run from 1 through 99 and define the percent of the norming sample which achieved a score less than or equal to a particular score. For example, if Juan had a raw score of 24 on the MTEA Reading Comprehension test which corresponded to a percentile rank of 75, it means that his score was greater than or equal to 75 percent of the students scores in the norm group. While the percentile rank is useful as an individual indicator of student achievement since it tells where the student stands in relation to other students, it is not an equal-interval scale and can not therefore be averaged or used with evaluation studies.

Stanines. Stanines are a standard score system which uses nine intervals. Since these are equal-interval scores, test and subtest performances may be compared. They are useful in providing general achievement information to parents. However, because they lack fine discrimination, they are not useful for evaluation purposes.

Normal Curve Equivalents (NCEs). NCEs are equal interval, normalized, standard scores with a mean of 50 and a standard deviation of 21.06. These scores have a range from 1 to 99 and match the percentile rank at values 1, 50 and 99. NCEs are closely related to stanines as there are approximately 11 NCEs to each stanine. These scores were designed especially for Title I evaluation purposes (Tallmadge & Wood, 1976).

Consistency of Test Scores

Since a test is only a sample of tasks, it should be clear that a test score is only an estimate of pupil achievement. We know that if we take two samples of student achievement, the results are likely to differ slightly although the students ability has not changed. Careful test construction, administration, and scoring procedures help to minimize these differences.

The extent of these differences may be estimated for the test by the test's reliability and for the individual by the standard error of measurement. A fuller discussion of these terms, along with the technical details of their calculation for the MTEA, is provided in the Technical Supplement of this manual.

To emphasize this variability of a student's score, percentile rank ranges or bands are provided in the norms tables using one standard error of measurement (SE_m) to create a band around the obtained percentile rank score. Table 3 provides five examples of percentile ranks with upper and lower limits. These examples are discussed further in the section on Evaluation of Student Performance.

Using Test Scores.

Suggested Steps for Converting Raw Scores to Standard Scores Using the Norms Data.

a. Turn to the Test Norms section

b. Locate the appropriate norms table noting carefully whether the norms are for (1) FALL or SPRING, (2) FORM A or FORM B, and (3) PART 1: LISTENING, PART 2: STRUCTURE, PART 3: READING or TOTAL.

c. Find the appropriate raw score and look across the table for the percentile rank or NCE under the child's grade. Enter the percentile rank or NCE score found in the tables in the box labelled standard score on the answer sheet

When recording norms for a class or a group, you should record all the results for one part of the MTEA for all students in the group before going on to the next part. This will make it less likely that you will make an error when recording the standard scores. It is also advisable to have a second person check at least a few of the standard scores to make sure the conversion was done correctly. It is very important that the results are accurate so that we can draw the correct inferences about student and group performance.

Example: Juan, a grade 6 pupil, has the following raw scores on the MTEA, Form A which he took on September 28th.

FORM
A [X]
B [ ]

	Raw Score	NCE Stand. Score
PART 1	31	51
PART 2	31	50
PART 3	15	50
TOTAL	77	50

First find the norms TABLE A1 for PART 1: LISTENING. Find the raw score of 31 and then look across to the NCE column for Grade 6 and record the standard score as 51 on the answer sheet. Then find TABLE A2 (Part 2), TABLE A3 (PART 3), and TABLE A4 (TOTAL) and record the

standard scores found there under NCE for Grade 6 for each of the raw scores obtained. Enter these scores on the answer sheet as in the example.

You may also wish to record the percentile rank and upper limit (UL) and lower limit (LL) for each part of the test to help you interpret individual results. Remember the UL and LL scores provide a score band which more accurately reflects the variability in an individual pupil's achievement. Examples of Fall and Spring test results for five pupils with ULs, PRs, LLs and NCEs is given in Table 3.

Some Things to Consider When Using the Norms Data.

a. You will find that some percentile ranks at the upper end of the norms tables have been assigned the value of 100. This value indicates that no student in the norming sample achieved this score. Such scores have been assigned an NCE of 99 for evaluation purposes, but it is not possible to accurately interpret individual results.

b. You will find that some raw scores at the lower end of the norms table are not listed. These scores fall well below the score a student could obtain by chance, or by just filling in the answer sheet without reading the test questions. Such results are meaningless and so have not been included in the norms tables. If such results are obtained you should check to see that the tests have been scored properly.

c. You will find that percentile ranks are not given for some raw scores at the lower end of the norms tables. This indicates that insufficient data was available to develop percentile rank ranges. Such scores should be checked for scoring accuracy and may be given an NCE of 1 for evaluation purposes.

d. You are reminded that percentile ranks are determined by the proportion of pupils falling at or below a particular score point. They are not to be confused with the percentage of items correctly answered by an individual pupil.

e. It is possible to use the norms tables to equate raw scores for different forms of the MTEA. Suppose a student took Form A, Part 1 and Form B, Parts 2 and 3 by mistake. It is possible to calculate an equivalent Form B, Part 1 raw score so that a total score may be calculated by following these steps.
   1. Find the appropriate percentile rank for the Part 1 raw score in the table for Form A.
   2. Look up the percentile rank just found under the appropriate grade in the Form B table and use the corresponding raw score as the best estimate of the students performance on Form B.
   3. Add this raw score to those for Parts 2 and 3 to get the total score.

Evaluation of Student Performance. Percentile ranks are the most useful measure of individual pupil performance. The subtest and total test results can provide three types of information useful to the classroom teacher. These are illustrated using the results provided in Table 3.

a. How does a student's performance compare to that of other students? Juan had a better overall Fall result (55 51 47) than Claria (44 38 31). Note that their percentile rank ranges do not overlap. Claria (44 38 31) and Leo (33 28 21) can not be said to have significantly different results because their percentile rank ranges overlap.

b. Is the student's performance consistent across subtest areas? Using the Fall results we would say Juan performed equally well in all subtest areas because his percentile rank ranges overlap for all three subtests. In the Spring results Leo had significantly better Listening test results than those in Structure and Vocabulary or Reading.

c. Has the student made the progress expected during the year? Looking at total scores, Jackie's raw score increase of 59 to 73 from Fall to Spring is what we would have expected for her during the year (i.e., the percentile ranks overlap). Juan's raw score increase from 77 to 108 is a larger than the expected increase (i.e. the percentile ranks do not overlap. He has made greater than average progress. Leo's raw score change of 57 to 60 indicates he is just barely making the progress expected over the period of the year (i.e. the percentile ranks 33 28 21 and 22 18 14 just overlap).

Evaluation of Group Performance. Using the norms provided in the following section it is possible to use the norm-referenced model (Horst, Tallmadge and Wood, 1975 pp.72-75) to evaluate group performance. This model may be used if the pretest and posttest have been given within a few weeks of the empirical normative dates (last week in September/first week in October; last week in April/first week in May), and if the pretest has not been used to select the group being evaluated. The following steps should be followed:

Step 1. Convert each student's pretest and posttest raw score to NCEs using the Fall and Spring norms tables in this manual.

Step 2. Compute the means and standard deviations of the NCEs for the pretest and posttest scores. Also compute the correlation between the pretest and posttest scores. Computational formulas for these statistics can be found in any basic statistics book.

Step 3. The pretest NCE represents the no-treatment posttest expectation. That is, in the absence of any special treatment, it would be expected

TABLE 3

MTEA Scores for five Grade 6 Pupils (FORM A)

Name	TEST[1]	FALL Raw Score	FALL PR RANK UL	FALL PR RANK PR	FALL PR RANK LL	FALL NCE	SPRING Raw Score	SPRING PR RANK UL	SPRING PR RANK PR	SPRING PR RANK LL	SPRING NCE
Thomas	L	17	13	6	2	17	22	17	9	3	22
	SV	11	8	1	0	1	14	9	4	1	13
	R	11	48	35	16	42	8	16	9	1	22
	T	39	12	6	0	17	44	9	4	1	13
Claria	L	30	60	47	32	48	35	65	40	37	50
	SV	27	47	39	35	44	30	37	29	25	38
	R	8	35	16	3	29	18	54	48	38	49
	T	65	44	38	31	44	83	45	40	34	45
Leo	L	31	66	52	36	51	31	46	33	24	41
	SV	17	27	16	8	29	20	20	15	9	28
	R	9	40	24	5	35	9	19	12	5	25
	T	57	33	28	21	38	60	22	18	14	31
Jackie	L	28	52	36	26	42	30	41	28	22	38
	SV	22	36	31	23	40	28	31	27	22	37
	R	9	40	24	5	35	15	43	35	27	42
	T	59	36	30	24	39	73	34	30	24	39
Juan	L	31	66	52	36	51	35	65	50	37	50
	SV	31	54	49	42	50	49	85	76	67	65
	R	15	64	50	40	50	24	85	75	64	64
	T	77	55	41	47	50	108	77	70	62	61

[1] L = Listening, SV = Structure and Vocabulary, R = Reading, T = Total.

that a group of pupils would achieve the same average NCE on the posttest as the pretest. This would mean that students were learning at the same rate as students in the norm group.

Step 4. Compare the posttest NCE mean to the pretest (expected) one. If the posttest mean is greater than the expected one, achievement gains greater than those expected may have occurred. The statistical significance of the difference can be checked using the following formula:

$$t_{N-1} = \frac{\bar{Y} - \bar{X}}{\sqrt{\frac{S_X^2 + S_Y^2 - 2r_{XY}S_XS_Y}{n-1}}}$$

where $\bar{Y}$ = mean posttest score

$\bar{X}$ = mean pretest (expected) score

S_Y = posttest standard deviation

S_X = pretest standard deviation

r_{XY} = correlation between pre- and posttest scores

n = number of children

$N-1$ = degrees of freedom in t table.

The one-tailed probability of the t value can be found in tables located in most statistical texts. If the value obtained is greater than or equal to the value in the tables, the group may be said to have made statistically significant achievement gains.

Step 5. There is no generally acceptable criterion for deciding whether an achievement gain is educationally significant. However, as a rule of thumb Horst, et al (1975) suggest that if posttest scores exceed the pretest (expected) scores by one-third of a standard deviation (or 7.02 NCEs), the treatment effect may be considered educationally significant.

TEST NORMS

Introduction

The data on which the following norms are based was collected in the last week of September - the first week of October 1977 (FALL) and in the last week of April - the first week of May 1978 (SPRING). This fact should be considered when interpreting test results obtained at other times of the year.

The norms for each form are based on a random 50% sample of the total school population in the Northern Mariana Islands for each of the four grades tested. The FALL and SPRING norms are based on the same sample of students, that is, only students with both FALL and SPRING scores were included in the sample. Further information on sampling is included in a section of the Technical Supplement entitled Norms Sample.

Before converting raw scores to percentile rank ranges or to NCE's, the user should be familiar with the discussion on interpretation of scores provided in this manual. Table 4 provides a key for locating the norms desired from the sixteen tables of norms provided in this section of the manual.

TABLE 4

Key to Percentile Rank Ranges and Normal Curve Equivalent Score Tables

		FALL		SPRING	
		Form A	Form B	Form A	Form B
Part 1:	Listening	A1	B1	A5	B5
Part 2:	Language	A2	B2	A6	B6
Part 3:	Reading	A3	B3	A7	B7
Total		A4	B4	A8	B8

TABLE A1

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (UL) of Range.
Listening Comprehension - FORM A FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
45	100	99	93	99	100	99	90	99	100	99	88	99	100	98	89	93	45
44	100	98	90	93	100	98	84	93	100	97	81	90	100	94	81	83	44
43	100	96	88	87	100	95	78	83	100	93	72	81	98	89	72	76	43
42	99	93	86	81	99	90	74	77	99	88	63	75	94	81	65	68	42
41	98	90	82	77	98	84	70	71	97	81	57	68	89	72	58	62	41
40	96	88	78	75	95	78	66	66	93	72	52	62	81	65	49	58	40
39	93	86	74	73	90	74	61	64	88	63	47	57	72	58	42	54	39
38	90	82	70	69	84	70	54	61	81	57	42	54	65	49	36	50	38
37	88	78	66	66	78	66	47	59	72	52	38	51	58	42	28	46	37
36	86	74	60	64	74	61	41	56	63	47	36	48	49	36	25	42	36
35	82	70	56	61	70	54	37	52	57	42	33	46	42	28	22	28	35
34	78	66	52	59	66	47	31	48	52	38	30	44	36	25	20	36	34
33	74	60	47	55	61	41	26	45	47	36	27	42	28	22	16	34	33
32	70	56	41	53	54	37	24	43	42	33	22	41	25	20	12	32	32
31	66	52	36	51	47	31	22	40	38	30	18	39	22	16	10	29	31
30	60	47	32	48	41	26	19	36	36	27	15	37	20	12	9	25	30
29	56	41	28	45	37	24	17	35	33	22	13	34	16	10	7	23	29
28	52	36	26	42	31	22	15	34	30	18	10	31	12	9	4	22	28
27	47	32	24	40	26	19	11	32	27	15	9	28	10	7	3	19	27
26	41	28	22	38	24	17	9	30	22	13	7	26	9	4	3	13	26
25	36	26	18	36	22	15	7	28	18	10	6	23	7	3	3	10	25
24	32	24	15	35	19	11	6	24	15	9	6	22	4	3	2	10	24
23	28	22	13	34	17	9	5	22	13	7	4	19	3	3	2	10	23
22	26	18	11	31	15	7	4	19	10	6	2	17	3	2	1	7	22
21	24	15	9	28	11	6	3	17	9	6	2	17	3	2	1	7	21
20	22	13	6	26	9	5	2	15	7	4	1	13	2	1	1	1	20
19	18	11	4	24	7	4	1	13	6	2	1	7	2	1	1	1	19
18	15	9	3	22	6	3	1	10	6	2	1	7	1	1	1	1	18
17	13	6	2	17	5	2	1	7	4	1	1	1	1	1	1	1	17
16	11	4	1	13	4	1	1	1	2	1	0	1	1	1	0	1	16
15	9	3	1	10	3	1	1	1	2	1	0	1					15
14	6	2	1	7	2	1	1	1	1	1	0	1					14
13	4	1	0	1	1	1	1	1									13
12	3	1	0	1	1	1	1	1									12
11	2	1	0	1	1	1	0	1									11

TABLE A2

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Structure & Vocabulary - FORM A FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
60	100	99	97	99	100	99	97	99	100	100	97	99	100	100	95	99	60
59	100	99	95	99	100	99	96	99	100	100	95	99	100	99	92	99	59
58	100	99	93	99	100	98	93	93	100	99	92	99	100	98	89	93	58
57	99	97	92	90	99	97	91	90	100	97	89	90	100	95	86	85	57
56	99	95	92	85	99	96	89	87	100	95	87	85	99	92	82	80	56
55	99	93	90	81	98	93	86	81	99	92	84	80	98	89	77	76	55
54	97	92	89	80	97	91	84	78	97	89	80	76	95	86	73	73	54
53	95	92	87	80	96	89	82	76	95	87	76	74	92	82	70	69	53
52	93	90	85	77	93	86	80	73	92	84	73	71	89	77	67	66	52
51	92	89	83	76	91	84	77	71	89	80	69	68	86	73	64	63	51
50	92	87	81	74	89	82	73	69	87	76	64	64	82	70	61	61	50
49	90	85	79	72	86	80	69	68	84	73	59	63	77	67	58	59	49
48	89	83	77	70	84	77	64	67	80	69	56	60	73	64	53	58	48
47	87	81	75	68	82	73	62	63	76	64	54	58	70	61	48	56	47
46	85	79	73	67	80	69	59	60	73	59	52	55	67	58	44	54	46
45	83	77	71	66	77	64	57	58	69	56	49	53	64	53	40	52	45
44	81	75	68	64	73	62	56	56	64	54	47	52	61	48	35	49	44
43	79	73	66	63	69	59	52	55	59	52	44	51	58	44	31	47	43
42	77	71	65	62	64	57	40	54	56	49	42	50	53	40	27	45	42
41	75	68	63	60	62	56	48	53	54	47	40	48	48	35	24	42	41
40	73	66	60	59	59	52	46	51	52	44	37	47	44	31	22	40	40
39	71	65	58	58	57	50	43	50	49	42	35	46	40	27	22	37	39
38	68	63	56	57	56	48	41	49	47	40	32	45	35	24	20	35	38
37	66	60	54	55	52	46	38	48	44	37	29	43	31	22	17	34	37
36	65	58	52	54	50	43	35	46	42	35	28	42	27	22	15	34	36
35	63	56	51	53	48	41	33	45	40	32	26	40	24	20	13	33	35
34	60	54	49	52	46	38	30	44	37	29	25	38	22	17	13	30	34
33	58	52	47	51	43	35	28	42	35	28	25	38	22	15	12	28	33
32	56	51	45	50	41	33	26	41	32	26	23	36	20	13	11	26	32
31	54	49	42	50	38	30	24	39	29	25	22	36	17	13	11	26	31
30	52	47	39	48	35	28	22	38	28	25	21	36	15	12	10	25	30
29	51	45	37	47	33	26	21	36	26	23	19	34	13	11	9	24	29
28	49	42	36	46	30	24	19	35	25	22	18	34	13	11	7	24	28
27	47	39	35	44	28	22	18	34	25	21	16	33	12	10	6	23	27
26	45	37	34	43	26	21	15	33	23	19	13	32	11	9	6	22	26
25	42	36	31	42	24	19	14	32	22	18	12	31	11	7	5	19	25
24	39	35	29	42	22	18	13	31	21	16	11	29	10	6	4	17	24
23	37	34	27	41	21	15	12	28	19	13	10	26	9	6	3	17	23
22	36	31	23	40	19	14	11	27	18	12	9	25	7	5	3	15	22
21	35	29	18	38	18	13	10	26	16	11	7	24	6	4	2	13	21
20	34	27	16	37	15	12	8	25	13	10	6	23	6	3	2	10	20
19	31	23	13	34	14	11	5	24	12	9	5	22	5	3	2	10	19
18	29	18	11	31	13	10	4	23	11	7	4	19	4	2	1	7	18
17	27	16	8	29	12	8	4	20	10	6	3	17	3	2	1	7	17
16	23	13	5	26	11	5	3	15	9	5	2	15	3	2	1	7	16
15	18	11	3	24	10	4	1	13	7	4	2	13	2	1	0	1	15
14	16	8	1	20	8	4	1	13	6	3	1	10	2	1	0	1	14
13	13	5	1	15	5	3	1	10	5	2	1	7	2	1	0	1	13
12	11	3	1	10	4	1	0	1	4	2	1	7	1	1	0	1	12
11	8	1	0	1	4	1	0	1	2	1	0	1					11
10	5	1	0	1	3	1	0	1	2	1	0	1					10
9									2	1	0	1					9
8																	8

TABLE A3

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Reading Comprehension - FORM A FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
30	100	99	95	99	100	99	93	99	100	99	94	99	100	99	87	99	30
29	100	98	93	93	100	97	88	90	100	98	89	93	100	94	79	83	29
28	100	96	90	87	99	93	83	81	99	94	82	83	99	87	72	74	28
27	99	95	86	85	97	88	79	75	98	89	75	76	94	79	65	67	27
26	98	93	81	81	93	83	76	70	94	82	69	69	87	72	57	62	26
25	96	90	76	77	88	79	71	67	89	75	62	64	79	65	49	58	25
24	95	86	72	73	83	76	67	65	82	69	56	60	72	57	41	54	24
23	93	81	70	68	79	71	62	62	75	62	51	56	65	49	35	50	23
22	90	76	67	65	76	67	57	59	69	56	46	53	57	41	30	45	22
21	86	72	64	62	71	62	52	56	62	51	42	50	49	35	27	42	21
20	81	70	59	61	67	57	48	54	56	46	38	47	41	30	22	39	20
19	76	67	54	59	62	52	44	51	51	42	35	46	35	27	18	37	19
18	72	64	50	58	57	48	38	49	46	38	31	44	30	22	17	34	18
17	70	59	48	55	52	44	33	47	42	35	27	42	27	18	14	31	17
16	67	54	44	52	48	38	30	44	38	31	24	40	22	17	10	30	16
15	64	50	40	50	44	33	27	41	35	27	21	37	18	14	8	27	15
14	59	48	35	49	38	30	24	39	31	24	19	35	17	10	7	23	14
13	54	44	30	47	33	27	21	37	27	21	16	33	14	8	6	20	13
12	50	40	24	45	30	24	16	35	24	19	13	32	10	7	4	19	12
11	48	35	16	42	27	21	12	33	21	16	11	29	8	6	2	17	11
10	44	30	10	39	24	16	8	29	19	13	8	26	7	4	1	13	10
9	40	24	5	35	21	12	5	24	16	11	5	24	6	2	1	7	9
8	35	16	3	29	16	8	2	20	13	8	2	20	4	1	0	1	8
7	30	10	1	23	12	5	1	15	11	5	1	15	2	1	0	1	7
6	24	5	1	15	8	2	1	7	8	2	1	7	1	1	0	1	6
5	16	3	1	10	5	1	0	1	5	1	0	1					5
4	10	1	0	1	2	1	0	1	2	1	0	1					4

TABLE A4

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Total Scores - FORM A FALL

Raw Score	Grade 6 PR Range UL	PR LL	NCE	Grade 7 PR Range UL	PR LL	NCE	Grade 8 PR Range UL	PR LL	NCE	Grade 9 PR Range UL	PR LL	NCE	Raw Score
135	100	100 99	99	100	100 99	99	100	100 98	99	100	100 96	99	135
134	100	99 98	99	100	100 99	99	100	100 98	99	100	100 94	99	134
133	100	99 97	99	100	100 97	99	100	100 98	99	100	99 92	99	133
132	100	99 96	99	100	100 96	99	100	99 97	99	100	99 91	99	132
131	100	99 95	99	100	100 93	99	100	99 96	99	100	98 90	93	131
130	100	99 94	99	100	99 92	99	100	98 94	93	100	96 89	87	130
129	99	98 94	93	100	99 91	99	100	98 92	93	100	94 87	83	129
128	99	97 94	90	100	97 91	90	100	98 91	93	99	92 85	80	128
127	99	96 94	87	100	96 90	87	99	97 90	90	99	91 83	78	127
126	99	95 93	85	100	93 89	81	99	96 88	85	98	90 80	77	126
125	99	94 92	83	99	92 88	80	98	94 87	83	96	89 79	76	125
124	98	94 92	83	99	91 87	78	98	92 84	80	94	87 78	74	124
123	97	94 92	83	97	91 85	78	98	91 82	78	92	85 75	72	123
122	96	94 91	83	96	90 84	77	97	90 80	76	91	83 73	70	122
121	95	93 90	81	93	89 83	76	96	88 78	74	90	80 71	68	121
120	94	92 89	80	92	88 82	75	94	87 77	73	89	79 69	67	120
119	94	92 89	80	91	87 82	74	92	84 75	71	87	78 68	66	119
118	94	92 88	80	91	85 81	72	91	82 73	68	85	75 67	64	118
117	94	91 87	78	90	84 79	71	90	80 72	68	83	73 65	63	117
116	93	90 86	77	89	83 78	70	88	78 70	66	80	71 63	62	116
115	92	89 85	76	88	82 77	69	87	77 68	66	79	69 62	60	115
114	92	89 84	76	87	82 76	69	84	75 65	64	78	68 60	60	114
113	92	88 83	75	85	81 74	68	82	73 64	63	75	67 58	49	113
112	91	87 82	74	84	79 73	67	80	72 62	62	73	65 56	58	112
111	90	86 81	73	83	78 70	66	78	70 59	61	71	63 54	57	111
110	89	85 80	72	82	77 68	66	77	68 57	60	69	62 51	56	110
109	89	84 79	71	82	76 66	65	75	65 55	58	68	60 48	55	109
108	88	83 78	70	81	74 65	64	73	64 54	58	67	58 46	54	108
107	87	82 77	69	79	73 64	63	72	62 52	56	65	56 44	53	107
106	86	81 75	68	78	70 63	61	70	59 50	55	63	54 42	52	106
105	85	80 75	68	77	68 62	60	68	57 50	54	62	51 39	50	105
104	84	79 74	67	76	66 61	59	65	55 49	53	60	48 38	49	104
103	83	78 72	66	74	65 59	58	64	54 48	52	58	46 35	48	103
102	82	77 72	66	73	64 57	58	62	52 46	51	56	44 33	47	102
101	81	75 71	64	70	63 56	57	59	50 45	50	54	42 32	46	101
100	80	75 70	64	68	62 54	56	57	50 44	50	51	39 30	44	100
99	79	74 68	64	66	61 53	56	55	49 43	50	48	38 28	44	99
98	78	72 66	62	65	59 53	55	54	48 42	49	46	35 26	42	98
97	77	72 65	62	64	57 52	54	52	46 40	48	44	33 24	41	97
96	75	71 64	62	63	56 51	53	50	45 39	47	42	32 22	40	96
95	75	70 63	61	62	54 49	52	50	44 37	47	39	30 21	39	95
94	74	68 62	60	61	53 47	52	49	43 36	46	38	28 21	38	94
93	72	66 61	59	59	53 44	52	48	42 35	46	35	26 21	36	93
92	72	65 60	58	57	52 43	51	46	40 35	45	33	24 19	36	92
91	71	64 59	58	56	51 43	50	45	39 35	44	32	22 18	34	91
90	70	63 58	57	54	49 42	50	44	37 34	43	30	21 17	33	90
89	68	62 57	56	53	47 40	48	43	36 33	42	28	21 16	33	89
88	66	61 56	56	53	44 38	47	42	35 31	42	26	21 15	33	88
87	65	60 55	55	52	43 37	46	40	35 30	42	24	19 14	32	87
86	64	59 54	55	51	43 36	46	39	35 30	42	22	18 14	31	86
85	63	58 54	54	49	42 35	46	37	34 29	41	21	17 14	30	85
84	62	57 53	54	47	40 34	45	36	33 29	41	21	16 14	29	84
83	61	56 52	53	44	38 33	44	35	31 28	40	21	15 13	28	83
82	60	55 51	53	43	37 32	43	35	30 27	29	19	14 13	29	82
81	59	54 50	52	43	36 31	42	35	30 27	39	18	14 12	27	81

TABLE A4 (Cont.) NCEs & PRs. Total Scores - FORM A FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
80	58	54	49	52	42	35	29	42	34	29	26	38	17	14	11	27	80
79	57	53	48	52	40	34	28	41	33	29	25	38	16	14	11	27	79
78	56	52	48	51	38	33	27	41	31	28	23	38	15	13	11	26	78
77	55	51	47	50	37	32	26	40	30	27	22	37	14	13	10	26	77
76	54	50	46	50	36	31	25	40	30	27	22	37	14	12	10	25	76
75	54	49	44	50	35	29	23	38	29	26	22	36	14	11	10	24	75
74	53	48	43	49	34	28	22	38	29	25	22	36	14	11	10	24	74
73	52	48	42	49	33	27	22	37	28	23	21	34	13	11	9	24	73
72	51	47	40	48	32	26	21	36	27	22	21	34	13	10	8	23	72
71	50	46	39	48	31	25	21	36	27	22	20	34	12	10	7	23	71
70	49	44	38	47	29	23	20	34	26	22	19	34	11	10	7	23	70
69	48	43	36	46	28	22	19	34	25	22	18	34	11	10	7	23	69
68	48	42	35	46	27	22	17	34	23	21	17	33	11	9	7	22	68
67	47	40	33	45	26	21	16	33	22	21	16	33	10	8	6	20	67
66	46	39	31	44	25	21	15	33	22	20	16	32	10	7	6	19	66
65	44	38	31	44	23	20	15	32	22	19	15	32	10	7	5	19	65
64	43	36	30	42	22	19	15	32	22	18	14	31	10	7	4	19	64
63	42	35	29	42	22	17	14	30	21	17	12	30	9	7	4	19	63
62	40	33	28	41	21	16	13	29	21	16	11	29	8	6	4	17	62
61	39	31	26	40	21	15	12	28	20	16	10	29	7	6	3	17	61
60	38	31	25	40	20	15	11	28	19	15	9	28	7	5	3	15	60
59	36	30	24	39	19	15	11	28	18	14	8	27	7	4	2	13	59
58	35	29	22	38	17	14	10	27	17	12	7	25	7	4	2	13	58
57	33	28	21	38	16	13	10	26	16	11	7	24	6	4	1	13	57
56	31	26	20	36	15	12	9	25	16	10	6	23	6	3	1	10	56
55	31	25	19	36	15	11	9	24	15	9	6	22	5	3	1	10	55
54	30	24	19	35	15	11	8	24	14	8	5	20	4	2	1	7	54
53	29	22	18	34	14	10	7	23	12	7	5	19	4	2	1	7	53
52	28	21	17	33	13	10	6	23	11	7	4	19	4	1	1	1	52
51	26	20	14	32	12	9	6	22	10	6	4	17	3	1	1	1	51
50	25	19	13	32	11	9	5	22	9	6	3	17	3	1	1	1	50
49	24	19	12	32	11	8	4	20	8	5	3	15	2	1	1	1	49
48	22	18	11	31	10	7	4	19	7	5	2	15	2	1	1	1	48
47	21	17	10	30	10	6	3	17	7	4	2	13	1	1	1	1	47
46	20	14	9	27	9	6	2	17	6	4	2	13	1	1	0	1	46
45	19	13	8	26	9	5	2	15	6	3	2	10					45
44	19	12	6	25	8	4	2	13	5	3	1	10					44
43	18	11	4	24	7	4	1	13	5	2	1	7					43
42	17	10	4	23	6	3	1	10	4	2	1	7					42
41	14	9	2	22	6	2	1	7	4	2	1	7					41
40	13	8	1	20	5	2	1	7	3	2	1	7					40
39	12	6	0	17	4	2	1	7	3	1	1	1					39
38	11	4	0	13	4	1	1	1	2	1	0	1					38
37	10	4	0	13	3	1	0	1	2	1	0	1					37
36	9	2	0	7	2	1	0	1	2	1	0	1					36
35	8	1	0	1	2	1	0	1	2	1	0	1					35
34					2	1	0	1	1	1	0	1					34
33					1	1	0	1									33
32																	32
31																	31

TABLE A5

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Listening Comprehension - FORM A SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
45	100	99	87	99	100	99	81	99	100	99	87	99	100	97	78	90	45
44	100	95	83	85	100	95	73	85	100	95	79	85	100	90	67	77	44
43	100	90	78	77	100	88	68	75	99	87	71	74	97	78	58	66	43
42	99	87	72	74	99	81	62	68	95	79	62	67	90	67	50	59	42
41	95	83	65	70	95	73	54	63	87	71	53	62	78	58	41	57	41
40	90	78	59	66	88	68	47	60	79	62	45	56	67	50	32	50	40
39	87	72	55	62	81	62	40	56	71	53	38	52	58	41	26	45	39
38	83	65	50	58	73	54	34	52	62	45	33	47	50	32	23	40	38
37	78	59	46	55	68	47	30	48	53	38	28	44	41	26	19	36	37
36	72	55	41	53	62	40	27	45	45	33	24	41	32	23	15	34	36
35	65	50	37	50	54	34	23	41	38	28	20	38	26	19	13	32	35
34	59	46	33	48	47	30	20	39	33	24	17	35	23	15	11	28	34
33	55	41	28	45	40	27	17	37	28	20	15	32	19	13	8	26	33
32	50	37	26	43	34	23	15	34	24	17	13	30	15	11	6	24	32
31	46	33	24	41	30	20	12	32	20	15	10	28	13	8	6	20	31
30	41	28	22	38	27	17	9	30	17	13	8	26	11	6	5	17	30
29	37	26	20	36	23	15	8	28	15	10	6	23	8	6	3	17	29
28	33	24	17	36	20	12	7	25	13	8	5	20	6	5	3	15	28
27	28	22	15	34	17	9	6	22	10	6	4	17	6	3	2	10	27
26	26	20	13	32	15	8	6	20	8	5	3	15	5	3	2	10	26
25	24	17	9	30	12	7	4	19	6	4	2	13	3	2	2	7	25
24	22	15	6	28	9	6	4	17	5	3	2	10	3	2	1	7	24
23	20	13	5	26	8	6	3	17	4	2	1	7	2	2	1	7	23
22	17	9	3	22	7	4	3	13	3	2	1	7	2	1	1	1	22
21	15	6	2	17	6	4	3	13	2	1	1	1	2	1	1	1	21
20	13	5	2	15	6	3	3	10	2	1	0	1	1	1	1	1	20
19	9	3	1	10	4	3	2	10	1	1	0	1					19
18	6	2	1	7	4	3	1	10									18
17	5	2	1	7	3	3	1	10									17
16	3	1	1	1	3	2	1	7									16
15	2	1	1	1	3	1	1	1									15
14	2	1	0	1	3	1	1	1									14
13	1	1	0	1	2	1	1	1									13
12	1	1	0	1	1	1	0	1									12
11																	11

TABLE A6

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Structure & Vocabulary - FORM A SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
60	100	100	95	99	100	99	95	99	100	99	94	99	100	99	92	99	60
59	100	99	93	99	100	98	92	93	100	98	91	93	100	98	89	93	59
58	100	97	91	90	100	97	91	90	100	97	87	90	100	95	87	85	58
57	100	95	89	85	99	95	89	85	99	94	83	83	99	92	82	80	57
56	99	93	87	81	98	92	86	80	98	91	80	78	98	89	76	76	56
55	97	91	85	78	97	91	82	78	97	87	76	74	95	87	71	75	55
54	95	89	82	76	95	89	79	76	94	83	72	70	92	82	68	69	54
53	93	87	79	74	92	86	75	73	91	80	68	68	89	76	64	65	53
52	91	85	76	72	91	82	71	69	87	76	65	65	87	71	61	62	52
51	89	82	72	69	89	79	65	67	83	72	60	62	82	68	56	60	51
50	87	79	69	67	86	75	61	64	80	68	55	60	76	64	50	58	50
49	85	76	67	65	82	71	58	62	76	65	52	58	71	61	46	56	49
48	82	72	64	62	79	65	54	58	72	60	50	55	68	56	41	53	48
47	79	69	61	60	75	61	52	56	68	55	47	53	64	50	37	50	47
46	76	67	58	59	71	58	48	54	65	52	43	41	61	46	33	48	46
45	72	64	56	58	65	54	44	52	60	50	40	50	56	41	30	45	45
44	69	61	53	56	61	52	41	51	55	47	38	48	50	37	27	43	44
43	67	58	49	54	58	48	38	49	52	43	35	46	46	33	23	41	43
42	64	56	46	53	54	44	35	47	50	40	32	45	41	30	19	39	42
41	61	53	44	52	52	41	32	45	47	38	29	44	37	27	16	37	41
40	58	49	44	50	48	38	29	44	43	35	26	42	33	23	13	34	40
39	56	46	43	48	44	35	28	42	40	32	23	40	30	19	12	32	39
38	53	44	41	47	41	32	25	40	38	29	22	38	27	16	11	29	38
37	49	44	40	47	38	29	22	38	35	26	21	36	23	13	10	26	37
36	46	43	37	46	35	28	19	38	32	23	20	34	19	12	10	25	36
35	44	41	33	45	32	25	18	36	29	22	19	34	16	11	9	24	35
34	44	40	31	45	29	22	17	34	26	21	17	33	13	10	9	23	34
33	43	37	29	43	28	19	16	32	23	20	15	32	12	10	8	23	33
32	41	33	27	41	25	18	15	31	22	19	14	32	11	9	8	22	32
31	40	31	26	40	22	17	14	30	21	17	13	30	10	9	7	22	31
30	37	29	25	38	19	16	14	29	20	15	12	28	10	8	6	20	30
29	33	27	23	37	18	15	12	28	19	14	10	27	9	8	6	20	29
28	31	26	22	36	17	14	11	27	17	13	9	26	9	7	5	19	28
27	29	25	21	36	16	14	10	27	15	12	8	25	8	6	4	17	27
26	27	23	20	34	15	12	9	25	14	10	8	23	8	6	3	17	26
25	26	22	18	34	14	11	8	24	13	9	8	22	7	5	3	15	25
24	25	21	16	33	14	10	8	23	12	8	6	20	6	4	3	13	24
23	23	20	15	32	12	9	7	22	10	8	5	20	6	3	3	10	23
22	22	18	13	31	11	8	6	20	9	8	4	20	5	3	3	10	22
21	21	16	11	29	10	8	5	20	8	6	3	17	4	3	2	10	21
20	20	15	9	28	9	7	4	19	8	5	3	15	3	3	1	10	20
19	18	13	7	26	8	6	4	17	8	4	2	13	3	3	1	1	19
18	16	11	6	24	8	5	3	15	6	3	2	10	3	2	0	1	18
17	15	9	4	22	7	4	2	13	5	3	1	10	3	1	0	1	17
16	13	7	2	19	6	4	1	13	4	2	1	7	3	1	0	1	16
15	11	6	1	17	5	3	1	10	3	2	1	7					15
14	9	4	1	13	4	2	1	7	3	1	0	1					14
13	7	2	1	7	4	1	0	1	2	1	0	1					13
12	6	1	0	1	3	1	0	1	2	1	0	1					12
11	4	1	0	1	2	1	0	1	1	1	0	1					11
10	2	1	0	1													10
9	1	1	0	1													9
8	1	1	0	1													8

TABLE A7

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Reading Comprehension - FORM A SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
30	100	99	92	99	100	97	88	90	100	99	89	99	100	97	84	90	30
29	100	96	89	87	100	93	81	81	100	95	81	85	100	91	73	78	29
28	99	92	85	80	97	88	76	75	99	89	73	76	97	84	63	71	28
27	96	89	80	76	93	81	73	68	95	81	65	68	91	73	53	63	27
26	92	85	75	72	88	76	67	65	89	73	58	63	84	63	43	57	26
25	89	80	70	68	81	73	57	63	81	65	51	58	73	53	36	52	25
24	85	75	64	64	76	67	49	59	73	58	46	54	63	43	31	46	24
23	80	70	58	61	73	57	43	54	65	51	42	50	53	36	28	42	23
22	75	64	54	58	67	49	37	50	58	46	36	48	43	31	23	40	22
21	70	58	51	54	57	43	32	46	51	42	31	46	36	28	18	38	21
20	64	54	48	52	49	37	28	43	46	36	28	42	31	23	15	34	20
19	58	51	43	50	43	32	26	40	42	31	25	40	28	18	13	31	19
18	54	48	38	49	37	28	23	38	36	28	22	38	23	15	11	28	18
17	51	43	35	46	32	26	20	36	31	25	19	36	18	13	9	26	17
16	48	38	32	44	28	23	18	34	28	22	17	34	15	11	8	24	16
15	43	35	27	42	26	20	15	32	25	19	16	32	13	9	6	22	15
14	38	32	22	40	23	18	12	31	22	17	13	30	11	8	4	20	14
13	35	27	19	37	20	15	10	28	19	16	9	29	9	6	3	17	13
12	32	22	16	34	18	12	8	25	17	13	7	26	8	4	2	13	12
11	27	19	12	32	15	10	6	23	16	9	4	22	6	3	1	10	11
10	22	16	9	29	12	8	4	20	13	7	2	19	4	2	1	7	10
9	19	12	5	25	10	6	2	17	9	4	1	13	3	1	0	1	9
8	16	9	1	22	8	4	1	13	7	2	1	7					8
7	12	5	1	15	6	2	1	7	4	1	1	2					7
6	9	1	0	1	4	1	0	1	2	1	0	1					6
5					2	1	0	1	1	1	0	1					5
4																	4

TABLE A8

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Total Scores - FORM A SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
135	100	100	96	99	100	100	97	99	100	99	97	99	100	100	94	99	135
134	100	99	95	99	100	99	94	99	100	99	97	99	100	100	92	99	134
133	100	99	95	99	100	99	93	99	100	99	95	99	100	99	89	99	133
132	100	98	94	93	100	99	91	99	100	99	93	99	100	98	88	93	132
131	100	97	94	90	100	99	90	99	100	98	91	93	100	96	86	87	131
130	100	96	92	87	100	97	88	90	99	97	90	90	100	94	83	83	130
129	99	95	91	85	99	94	86	83	99	97	88	90	100	92	81	80	129
128	99	95	90	85	99	93	85	81	99	95	85	85	99	89	80	76	128
127	98	94	89	83	99	91	85	78	99	93	83	81	98	88	78	75	127
126	97	94	88	83	99	90	85	77	98	91	80	78	96	86	75	75	126
125	96	92	87	80	97	88	83	75	97	90	77	77	94	83	72	70	125
124	95	91	85	78	94	86	82	73	97	88	74	75	92	81	68	68	124
123	95	90	84	77	93	85	81	72	95	85	72	72	89	80	66	68	123
122	94	89	84	76	91	85	80	72	93	83	71	70	88	78	64	66	122
121	94	88	83	75	90	85	78	72	91	80	70	68	86	75	62	64	121
120	92	87	80	74	88	83	76	70	90	77	67	66	83	72	60	62	120
119	91	85	78	72	86	82	74	69	88	74	65	64	81	68	57	60	119
118	90	84	77	71	85	81	71	68	85	72	64	62	80	66	55	59	118
117	89	84	76	71	85	80	68	68	83	71	63	62	78	64	52	58	117
116	88	83	75	70	85	78	65	66	80	70	60	61	75	62	50	56	116
115	87	80	74	68	83	76	63	65	77	67	58	59	72	60	49	55	115
114	85	78	73	66	82	74	61	64	74	65	55	58	68	57	47	54	114
113	84	77	70	66	81	71	59	62	72	64	53	58	66	55	44	53	113
112	84	76	67	65	80	68	57	60	71	63	50	57	64	52	42	51	112
111	83	75	66	64	78	65	55	58	70	60	47	55	62	50	40	50	111
110	80	74	64	64	76	63	54	57	67	58	45	54	60	49	38	50	110
109	78	73	63	63	74	61	53	56	65	55	44	53	57	47	35	48	109
108	77	70	62	61	71	59	41	55	64	53	43	52	55	44	33	47	108
107	76	67	62	59	68	57	49	54	63	50	42	50	52	42	30	46	107
106	75	66	61	59	65	55	48	53	60	47	41	48	50	40	27	45	106
105	74	64	58	58	63	54	46	52	58	45	40	47	49	38	25	44	105
104	73	63	57	57	61	53	44	52	55	44	38	47	47	35	23	42	104
103	70	62	56	56	59	51	41	50	53	43	36	46	44	33	21	41	103
102	67	62	55	56	57	49	40	50	50	42	35	46	42	30	20	39	102
101	66	61	53	56	55	48	39	49	47	41	34	45	40	27	19	37	101
100	64	58	51	54	54	46	38	48	45	40	33	45	38	25	16	36	100
99	63	57	49	54	53	44	36	47	44	38	32	44	35	23	16	34	99
98	62	56	48	53	51	41	34	45	43	36	31	42	33	21	15	33	98
97	62	55	47	53	49	40	31	45	42	35	30	42	30	20	15	32	97
96	61	53	46	52	48	39	29	44	41	34	29	41	27	19	15	32	96
95	58	51	46	50	46	38	28	44	40	33	28	41	25	16	14	29	95
94	57	49	46	50	44	36	27	42	38	32	27	40	23	16	14	29	94
93	56	48	45	49	41	34	27	41	36	31	26	40	21	15	13	28	93
92	55	47	44	48	40	31	26	40	35	30	25	39	20	15	13	28	92
91	53	46	44	48	39	29	26	38	34	29	24	38	19	15	12	28	91
90	51	46	43	48	38	28	25	38	33	28	24	38	16	14	11	27	90
89	49	46	42	48	36	27	24	37	32	27	23	37	16	14	11	27	89
88	48	45	40	47	34	27	24	37	31	26	23	36	15	13	10	26	88
87	47	44	39	47	31	26	22	36	30	25	22	36	15	13	10	26	87
86	46	44	38	47	29	26	22	36	29	24	21	35	15	12	9	25	86
85	46	43	37	46	28	25	21	36	28	24	19	35	14	11	9	24	85
84	46	42	36	46	27	24	20	36	27	23	18	34	14	11	9	24	84
83	45	40	34	45	27	24	19	36	26	23	17	34	13	10	9	23	83
82	44	39	33	44	26	22	18	34	25	22	16	34	13	10	9	23	82
81	44	38	32	44	26	22	18	34	24	21	15	33	12	9	8	22	81

TABLE A8 (Cont.) NCEs & PRs. Total Scores - FORM A SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
80	43	37	31	43	25	21	16	33	24	19	14	32	11	9	8	22	80
79	42	36	31	42	23	20	15	32	23	18	13	31	11	9	7	22	79
78	40	34	30	41	24	19	15	32	23	17	13	30	10	9	7	22	78
77	39	33	28	41	22	18	15	31	22	16	12	29	10	9	7	22	77
76	38	32	26	40	22	18	14	31	21	15	11	28	9	8	6	20	76
75	37	31	25	40	21	16	13	29	19	14	10	27	9	8	6	20	75
74	36	31	24	40	20	15	12	28	18	13	10	26	9	7	6	19	74
73	34	30	24	39	19	15	11	28	17	13	9	26	9	7	6	19	73
72	33	28	23	38	18	15	10	28	16	12	9	25	9	7	5	19	72
71	32	26	23	36	18	14	10	27	15	11	8	24	8	6	5	17	71
70	31	25	22	36	16	13	10	26	14	10	8	23	8	6	4	17	70
69	31	24	21	35	15	12	10	25	13	10	7	23	7	6	3	17	69
68	30	24	20	35	15	11	10	24	13	9	7	22	7	6	3	17	68
67	28	23	19	34	15	10	9	23	12	9	7	22	7	5	3	15	67
66	26	23	18	34	14	10	8	23	11	8	7	20	6	5	3	15	66
65	25	22	18	34	13	10	8	23	10	8	7	20	6	4	3	13	65
64	24	21	17	33	12	10	7	23	10	7	6	19	6	3	3	10	64
63	24	20	16	32	11	10	7	23	9	7	5	19	6	3	3	10	63
62	23	19	15	32	10	9	6	22	9	7	5	19	5	3	2	10	62
61	23	18	15	31	10	8	5	20	8	7	4	19	5	3	2	10	61
60	22	18	14	31	10	8	5	20	8	7	3	19	4	3	1	10	60
59	21	17	14	30	10	7	4	19	7	6	3	17	3	3	1	10	59
58	20	16	13	29	10	7	4	19	7	5	3	15	3	3	1	10	58
57	19	15	12	28	9	6	4	17	7	5	3	15	3	2	1	7	57
56	18	15	11	28	8	5	4	15	7	4	2	13	3	2	1	7	56
55	18	14	10	27	8	5	4	15	7	3	2	10	3	1	1	1	55
54	17	14	9	27	7	4	4	13	6	3	1	10	3	1	1	1	54
53	16	13	9	26	7	4	4	13	5	3	1	10	3	1	1	1	53
52	15	12	8	25	6	4	4	13	5	3	1	10	2	1	1	1	52
51	15	11	7	24	5	4	4	13	4	2	1	7	2	1	1	1	51
50	14	10	6	23	5	4	4	13	3	2	1	7	1	1	1	1	50
49	14	9	4	22	4	4	3	13	3	1	1	1	1	1	1	1	49
48	13	9	3	22	4	4	3	13	3	1	1	1					48
47	12	8	3	20	4	4	3	13	3	1	1	1					47
46	11	7	3	19	4	4	3	13	2	1	0	1					46
45	10	6	2	17	4	4	2	13	2	1	0	1					45
44	9	4	1	13	4	3	2	10	1	1	0	1					44
43	9	3	1	10	4	3	2	10									43
42	8	3	1	10	4	3	1	10									42
41	7	3	1	10	4	3	1	10									41
40	6	2	1	7	4	2	1	7									40
39	4	1	1	1	3	2	0	7									39
38	3	1	1	1	3	2	0	7									38
37	3	1	1	1	3	1	0	1									37
36	3	1	1	1	3	1	0	1									36
35	2	1	0	1	2	1	0	1									35
34	1	1	0	1													34
33																	33
32																	32
31																	31

TABLE 11

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Listening Comprehension - FORM B FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
45	100	99	94	99	100	99	91	99	100	98	83	93	100	99	91	99	45
44	100	99	91	99	100	98	85	93	100	96	74	87	100	97	82	90	44
43	100	98	89	93	100	96	79	87	100	92	66	80	99	91	71	78	43
42	99	94	86	83	99	91	74	78	98	83	58	70	97	82	60	69	42
41	99	91	80	78	98	85	67	72	96	74	52	64	91	71	53	62	41
40	98	89	75	76	96	79	60	67	92	66	46	59	82	60	44	55	40
39	94	86	70	73	91	74	53	64	83	58	40	54	71	53	35	52	39
38	91	80	64	68	85	67	48	59	74	52	35	51	60	44	29	47	38
37	89	75	59	65	79	60	44	55	66	46	31	48	53	35	22	42	37
36	86	70	53	61	74	53	37	52	58	40	27	45	44	29	16	38	36
35	80	64	48	58	67	48	30	49	52	35	23	42	35	22	13	34	35
34	75	59	43	55	60	44	27	47	46	31	19	40	29	16	11	29	34
33	70	53	38	52	53	37	23	43	40	27	16	37	22	13	9	26	33
32	64	48	35	49	48	30	19	39	35	23	13	34	16	11	6	24	32
31	59	43	32	46	44	27	17	37	31	19	10	32	13	9	5	22	31
30	53	38	29	44	37	23	15	34	27	16	8	29	11	6	4	17	30
29	48	35	27	42	30	19	14	32	23	13	8	26	9	5	4	15	29
28	43	32	24	40	27	17	12	30	19	10	6	23	6	4	4	13	28
27	38	29	22	38	23	15	10	28	16	8	5	20	5	4	3	13	27
26	35	27	20	37	19	14	8	27	13	8	4	20	4	4	2	13	26
25	32	24	17	35	17	12	6	25	10	6	3	17	4	3	1	10	25
24	29	22	15	34	15	10	5	23	8	5	2	15	4	2	1	7	24
23	27	20	12	32	14	8	4	20	8	4	2	13	3	1	0	1	23
22	24	17	10	30	12	6	4	17	6	3	1	10	2	1	0	1	22
21	22	15	9	28	10	5	4	15	5	2	1	7	1	1	0	1	21
20	20	12	7	25	8	4	4	13	4	2	1	7					20
19	17	10	5	23	6	4	3	13	3	1	0	1					19
18	15	9	3	22	5	4	2	13	2	1	0	1					18
17	12	7	2	19	4	4	1	13	2	1	0	1					17
16	10	5	2	15	4	3	1	10	1	1	0	1					16
15	9	3	2	10	4	2	1	7									15
14	7	2	1	7	4	1	0	1									14
13	5	2	1	7	3	1	0	1									13
12	3	2	1	7													12
11	2	1	0	1													11

TABLE B2

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Structure & Vocabulary - FORM B FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
60	100	99	97	99	100	99	96	99	100	99	93	99	100	99	93	99	60
59	100	99	95	99	100	98	94	93	100	98	89	93	100	99	90	99	59
58	100	98	94	93	100	97	90	90	100	96	85	87	100	97	85	90	58
57	100	98	93	93	99	96	86	87	99	93	82	81	99	93	80	81	57
56	99	97	91	90	98	94	84	83	98	89	79	76	99	90	76	77	56
55	99	95	88	85	97	90	83	77	96	85	76	72	97	85	72	72	55
54	98	94	86	83	96	86	81	73	93	82	73	69	93	80	70	68	54
53	98	93	84	81	94	84	80	71	89	79	69	67	90	76	66	65	53
52	97	91	82	78	90	83	78	70	85	76	65	65	85	72	63	62	52
51	95	88	80	75	86	81	75	69	82	73	63	63	80	70	60	61	51
50	94	86	77	73	84	80	72	68	79	69	62	60	76	66	57	59	50
49	93	84	75	71	83	78	70	66	76	65	59	58	72	63	53	57	49
48	91	82	73	69	81	75	68	64	73	63	56	57	70	60	49	55	48
47	88	80	72	68	80	72	65	62	69	62	54	56	66	57	46	54	47
46	86	77	71	66	78	70	63	61	65	59	51	55	63	53	42	52	46
45	84	75	70	64	75	68	61	60	63	56	48	53	60	49	39	50	45
44	82	73	69	63	72	65	59	58	62	54	46	52	57	46	35	48	44
43	80	72	68	62	70	63	57	57	59	51	44	50	53	42	32	46	43
42	77	71	66	62	68	61	55	56	56	48	40	49	49	39	29	44	42
41	75	70	64	61	65	59	52	55	54	46	37	48	46	35	25	42	41
40	73	69	62	60	63	57	49	54	51	44	35	46	42	32	21	40	40
39	72	68	59	60	61	55	47	53	48	40	31	45	39	29	18	38	39
38	71	66	55	59	59	52	45	51	46	37	29	43	35	25	15	36	38
37	70	64	53	58	57	49	42	50	44	35	27	42	32	21	14	33	37
36	69	62	53	56	55	47	39	48	40	31	25	40	29	18	13	31	36
35	68	59	51	55	52	45	36	47	37	29	23	39	25	15	12	28	35
34	66	55	49	53	49	42	33	46	35	27	22	37	21	14	11	27	34
33	64	53	47	52	47	39	32	44	31	25	21	36	18	13	8	26	33
32	62	53	44	52	45	36	30	42	29	23	19	34	15	12	7	25	32
31	59	51	41	50	42	33	28	41	27	22	17	34	14	11	7	24	31
30	55	49	38	50	39	32	26	40	25	21	14	33	13	8	6	20	30
29	53	47	35	48	36	30	23	39	23	19	11	32	12	7	5	19	29
28	53	44	33	47	33	28	22	38	22	17	10	30	11	7	4	19	28
27	51	41	31	45	32	26	20	36	21	14	9	27	8	6	3	17	27
26	49	38	28	44	30	23	19	34	19	11	8	24	7	5	3	15	26
25	47	35	26	42	28	22	17	34	17	10	7	23	7	4	2	13	25
24	44	33	22	41	26	20	15	32	14	9	7	22	6	3	2	10	24
23	41	31	18	40	23	19	14	32	11	8	6	20	5	3	2	10	23
22	38	28	15	38	22	17	12	30	10	7	4	19	4	2	1	7	22
21	35	26	12	36	20	15	11	28	9	7	3	19	3	2	1	7	21
20	33	22	8	34	19	14	9	27	8	6	2	17	3	2	1	7	20
19	31	18	6	31	17	12	7	25	7	4	2	13	2	1	1	1	19
18	28	15	5	28	15	11	5	24	7	3	2	10	2	1	1	1	18
17	26	12	3	25	14	9	3	22	6	2	1	7	2	1	1	1	17
16	22	8	2	20	12	7	2	19	4	2	1	7	1	1	1	1	16
15	18	6	2	17	11	5	2	15	3	2	1	7					15
14	15	5	1	15	9	3	1	10	2	1	1	1					14
13	12	3	0	10	7	2	0	7	2	1	1	1					13
12	8	2	0	7	5	2	0	7	2	1	1	1					12
11	6	2	0	7	3	1	0	1	1	1	0	1					11
10	5	1	0	1													10
9																	9
8																	8

TABLE B3

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Reading Comprehension - FORM B FALL

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
30	100	100	98	99	100	100	97	99	100	100	91	99	100	98	85	93	30
29	100	99	96	99	100	99	95	99	100	97	86	90	100	92	78	80	29
28	100	98	94	93	100	97	92	90	100	91	83	78	98	85	70	72	28
27	99	96	91	86	99	95	89	85	97	86	78	73	92	78	63	66	27
26	98	94	88	83	97	92	88	80	91	83	72	70	85	70	56	61	26
25	96	91	85	78	95	89	86	76	86	78	65	66	78	63	49	57	25
24	94	88	83	75	92	88	83	75	83	72	60	62	70	56	43	53	24
23	91	85	79	72	89	86	79	73	78	65	54	58	63	49	38	50	23
22	88	83	77	70	88	83	74	70	72	60	48	55	56	43	30	46	22
21	85	79	74	67	86	79	68	67	65	54	43	52	49	38	25	44	21
20	83	77	70	66	83	74	63	64	60	48	39	49	43	30	21	39	20
19	79	74	67	64	79	68	55	60	54	43	34	46	38	25	18	36	19
18	77	70	63	61	74	63	48	57	48	39	29	44	30	21	15	33	18
17	74	67	59	59	68	55	43	53	43	34	26	41	25	18	12	31	17
16	70	63	56	57	63	48	39	49	39	29	23	38	21	15	11	28	16
15	67	59	51	55	55	43	35	46	34	26	20	36	18	12	9	25	15
14	63	56	46	53	48	39	33	44	29	23	16	34	15	11	7	24	14
13	59	51	42	50	43	35	29	42	26	20	12	32	12	9	6	22	13
12	56	46	36	48	39	33	24	41	23	16	10	29	11	7	4	19	12
11	51	42	29	46	35	29	21	38	20	12	8	25	9	6	2	17	11
10	46	36	22	42	33	24	17	35	16	10	6	23	7	4	2	13	10
9	42	29	15	38	29	21	12	33	12	8	3	20	6	2	1	7	9
8	36	22	9	34	24	17	7	30	10	6	2	17	4	2	1	7	8
7	29	15	4	28	21	12	3	25	8	3	1	10	2	1	0	1	7
6	22	9	1	22	17	7	1	19	6	2	1	7	2	1	0	1	6
5	15	4	1	13	12	3	1	10	3	1	0	1					5
4	9	1	0	1	7	1	1	1									4

TABLE B4

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Total Scores - FORM B FALL

Raw Score	Grade 6 PR Range UL	PR LL	NCE	Grade 7 PR Range UL	PR LL	NCE	Grade 8 PR Range UL	PR LL	NCE	Grade 9 PR Range UL	PR LL	NCE	Raw Score
135	100	99	99	100	100	99	100	98	99	100	98	99	135
134	100	99	99	100	99	99	100	96	99	100	96	99	134
133	100	98	99	100	98	99	100	94	99	100	93	99	133
132	100	97	99	100	98	99	100	93	99	100	92	99	132
131	100	97	99	100	97	99	100	91	99	100	90	97	131
130	100	97	99	100	95	99	100	89	97	100	87	96	130
129	100	97	99	100	95	99	100	87	87	100	83	87	129
128	100	96	93	100	95	93	100	85	83	99	81	81	128
127	100	95	90	100	93	93	100	83	81	99	79	80	127
126	99	95	90	100	91	90	99	82	78	98	77	77	126
125	99	95	90	100	90	85	98	81	76	98	76	64	125
124	99	94	90	99	90	85	96	80	74	96	74	70	124
123	98	93	87	98	89	85	94	77	72	93	72	68	123
122	97	92	85	98	87	81	93	76	70	92	71	67	122
121	97	91	85	97	85	78	91	74	69	90	69	66	121
120	97	90	85	95	84	77	89	72	68	87	68	65	120
119	97	89	83	95	83	77	87	70	68	83	67	64	119
118	96	88	81	95	82	76	85	69	66	81	65	62	118
117	95	88	80	93	81	74	83	66	65	79	63	62	117
116	95	87	79	91	81	72	82	64	64	77	60	60	116
115	95	86	77	90	80	71	81	62	62	76	57	60	115
114	94	84	76	90	79	70	80	61	61	74	54	59	114
113	93	82	75	89	78	69	77	60	60	72	52	58	113
112	92	82	75	87	77	68	76	59	59	71	50	57	112
111	91	82	74	85	76	68	74	57	58	69	47	55	111
110	90	81	73	84	74	68	72	55	56	68	46	54	110
109	89	79	71	83	73	67	70	54	56	67	45	52	109
108	88	78	69	82	71	66	69	53	55	65	43	51	108
107	88	77	69	81	70	66	66	53	55	63	41	50	107
106	87	76	69	81	69	65	64	52	54	60	40	48	106
105	86	75	68	80	67	64	62	50	53	57	36	48	105
104	84	74	67	79	65	63	61	48	52	54	34	47	104
103	82	73	66	78	64	62	60	47	52	52	34	46	103
102	82	72	66	77	61	61	59	46	52	50	33	45	102
101	82	71	65	76	57	60	57	45	51	47	31	45	101
100	81	70	64	74	55	65	55	44	50	46	29	43	100
99	79	69	64	73	55	58	54	42	49	45	28	41	99
98	78	68	63	71	54	58	53	41	48	43	27	41	98
97	77	67	62	70	53	56	53	40	48	41	25	41	97
96	76	66	62	69	52	54	52	39	47	40	23	40	96
95	75	65	61	67	50	53	50	37	47	36	21	38	95
94	74	64	60	65	49	53	48	37	46	34	18	38	94
93	73	64	60	64	48	52	47	35	45	34	16	37	93
92	72	63	59	61	48	52	46	33	45	33	14	36	92
91	71	62	59	57	46	51	45	32	44	31	13	34	91
90	70	61	58	55	45	50	44	31	43	29	12	33	90
89	69	59	58	55	44	50	42	30	43	28	11	31	89
88	68	57	58	54	42	49	41	29	42	27	11	29	88
87	67	56	57	53	42	49	40	28	41	25	11	27	87
86	66	55	56	52	41	48	39	26	40	23	10	26	86
85	65	55	56	50	40	47	37	25	40	21	10	25	85
84	64	55	55	49	38	47	37	24	39	18	10	24	84
83	64	54	54	48	36	47	35	23	38	16	10	24	83
82	63	53	53	48	35	46	33	22	38	14	9	24	82
81	62	51	53	46	33	45	32	20	36	13	8	23	81

TABLE B4 (Cont.) NCEs & PRs. Total Scores - FORM B FALL

Raw Score	Grade 6 PR Range UL	PR LL	NCE	Grade 7 PR Range UL	PR LL	NCE	Grade 8 PR Range UL	PR LL	NCE	Grade 9 PR Range UL	PR LL	NCE	Raw Score
80	61	55 49	53	45	40 33	45	31	25 18	36	12	10 8	23	80
79	59	55 47	53	44	38 32	44	30	24 18	35	11	10 8	23	79
78	57	54 47	52	42	36 31	41	29	23 17	34	11	10 7	23	78
77	56	53 46	52	42	35 29	42	28	22 16	34	11	9 6	22	77
76	55	51 45	50	41	33 27	41	26	20 15	32	10	8 6	20	76
75	55	49 45	50	40	33 26	41	25	18 14	31	10	8 6	20	75
74	55	47 44	48	38	32 24	40	24	18 13	31	10	8 5	20	74
73	54	47 43	48	36	31 23	40	23	17 12	30	10	7 5	19	73
72	53	46 41	48	35	29 23	38	22	16 12	29	9	6 4	17	72
71	51	45 40	46	33	28 23	37	20	15 11	28	8	6 4	17	71
70	49	45 39	47	33	26 23	36	18	14 10	27	8	6 4	17	70
69	47	44 38	47	32	24 23	35	18	13 10	26	8	5 3	15	69
68	47	43 36	46	31	23 23	34	17	12 10	25	7	5 3	15	68
67	46	41 34	45	29	23 22	34	16	12 9	25	6	4 3	13	67
66	45	40 33	45	27	23 20	34	15	11 8	24	6	4 3	13	66
65	45	39 31	44	26	23 19	34	14	10 8	23	6	4 3	13	65
64	44	38 29	44	24	23 18	34	13	10 7	23	5	3 3	10	64
63	43	36 29	43	23	22 16	34	12	10 6	23	5	3 3	10	63
62	41	34 28	41	23	20 15	32	12	9 5	22	4	3 2	10	62
61	40	33 27	41	23	19 14	32	11	8 5	20	4	3 2	10	61
60	39	31 25	40	23	18 13	31	10	8 5	20	4	3 2	10	60
59	38	29 22	38	23	16 12	29	10	7 4	19	3	3 1	10	59
58	36	29 20	38	22	15 12	28	10	6 4	17	3	3 1	10	58
57	34	28 19	38	20	14 11	27	9	5 3	15	3	2 1	7	57
56	33	27 18	37	19	13 11	26	8	5 3	15	3	2 1	7	56
55	31	25 18	36	18	12 10	25	8	5 3	15	3	2 1	7	55
54	29	22 17	34	16	12 9	25	7	4 3	13	3	1 1	1	54
53	29	20 15	32	15	11 8	24	6	4 2	13	3	1 1	1	53
52	28	19 13	32	14	11 8	24	5	3 2	10	2	1 1	1	52
51	27	18 12	31	13	10 7	23	5	3 1	10	2	1 1	1	51
50	25	18 11	31	12	9 7	22	5	3 1	10	2	1 1	1	50
49	22	17 9	30	12	8 6	20	4	3 1	10	1	1 1	1	49
48	20	15 8	28	11	8 5	20	4	2 1	7				48
47	19	13 8	26	11	7 5	19	3	2 1	7				47
46	18	12 7	25	10	7 4	19	3	1 1	1				46
45	18	11 5	24	9	6 4	17	3	1 1	1				45
44	17	9 4	22	8	5 3	15	3	1 1	1				44
43	15	8 3	20	8	5 2	15	2	1 1	1				43
42	13	8 3	19	7	4 2	13	2	1 0	1				42
41	12	7 2	17	7	4 2	13	1	1 0	1				41
40	11	5 1	15	6	3 2	10							40
39	9	4 1	13	5	2 2	7							39
38	8	3 1	10	5	2 2	7							38
37	8	3 1	10	4	2 1	7							37
36	7	2 1	7	4	2 1	7							36
35	5	1 1	1	3	2 1	7							35
34	4	1 1	1	2	2 0	7							34
33	3	1 1	1	2	1 0	1							33
32	3	1 1	1	2	1 0	1							32
31	2	1 0	1	2	1 0	1							31

TABLE B5

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Listening Comprehension - FORM B: SPRING

Raw Score	Grade 6 PR Range UL	PR LL	NCE	Grade 7 PR Range UL	PR LL	NCE	Grade 8 PR Range UL	PR LL	NCE	Grade 9 PR Range UL	PR LL	NCE	Raw Score
45	100	99	99	100	99	99	100	98	93	100	98	93	45
44	100	97	90	100	96	87	100	92	80	100	92	80	44
43	100	94	83	100	90	77	98	85	72	98	84	71	43
42	99	90	77	99	81	68	92	78	66	92	72	62	42
41	97	83	70	96	73	63	85	70	61	84	58	54	41
40	94	78	66	90	68	60	78	60	55	72	45	47	40
39	90	72	62	81	62	56	70	49	50	58	34	41	39
38	83	64	58	73	56	53	60	41	45	45	27	37	38
37	78	58	54	68	50	50	49	34	41	34	20	32	37
36	72	55	53	62	43	46	41	28	38	27	16	29	36
35	64	51	50	56	36	42	34	24	35	20	14	27	35
34	58	46	46	50	30	39	28	20	32	16	11	24	34
33	55	40	45	43	25	36	24	16	29	14	7	19	33
32	51	34	41	36	22	34	20	13	26	11	5	15	32
31	46	31	40	30	19	32	16	9	22	7	4	13	31
30	40	27	37	25	17	30	13	7	19	5	4	13	30
29	34	22	34	22	14	27	9	5	15	4	3	10	29
28	31	18	31	19	11	24	7	4	13	4	2	7	28
27	27	16	29	17	9	22	5	2	7	3	2	7	27
26	22	15	28	14	8	20	4	2	7	2	1	1	26
25	18	13	26	11	6	17	2	2	7	2	1	1	25
24	16	11	24	9	5	15	2	2	7	1	1	1	24
23	15	9	22	8	5	15	2	2	7	1	1	1	23
22	13	8	20	6	4	13	2	2	7	1	1	0	22
21	11	7	19	5	3	10	2	1	1				21
20	9	5	15	5	2	7	2	1	1				20
19	8	4	13	4	1	1	1	1	1				19
18	7	3	10	3	1	1							18
17	5	2	7	2	1	1							17
16	4	1	1	1	1	1							16
15	3	1	1										15
14	2	1	1										14
13	1	1	1										13
12													12
11													11

TABLE B6

Normal Curve Equivalents (NCE) and Percentile Rank (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Structure & Vocabulary - FORM B SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
60	100	99	95	99	100	99	94	99	100	99	92	99	100	99	91	99	60
59	100	98	93	93	100	98	89	93	100	97	87	90	100	98	85	93	59
58	100	97	91	90	100	96	86	87	100	94	82	83	100	95	80	85	58
57	99	95	89	85	99	94	83	83	99	92	77	80	99	91	78	78	57
56	98	93	86	81	98	89	79	76	97	87	73	74	98	85	74	72	56
55	97	91	83	78	96	86	77	73	94	82	72	69	95	80	72	68	55
54	95	89	78	76	94	83	74	70	92	77	69	66	91	78	69	66	54
53	93	86	75	73	89	79	71	67	87	73	66	63	85	74	64	64	53
52	91	83	74	70	86	77	68	66	82	72	60	62	80	72	58	62	52
51	89	78	73	66	83	74	65	64	77	69	56	60	78	69	53	60	51
50	86	75	72	64	79	71	62	62	73	65	54	58	74	64	48	58	50
49	83	74	70	64	77	68	57	60	72	60	51	55	72	58	43	54	49
48	78	73	67	63	74	65	53	58	69	56	47	53	69	53	36	52	48
47	75	72	65	62	71	62	52	56	65	54	43	52	64	48	31	49	47
46	74	70	63	61	68	57	50	54	60	51	40	50	58	43	27	46	46
45	73	67	61	59	65	53	47	52	56	47	37	48	53	36	23	42	45
44	72	65	59	58	62	52	44	51	54	43	34	46	48	31	21	40	44
43	70	63	57	57	57	50	42	50	51	40	32	45	43	27	18	27	43
42	67	61	54	56	53	47	41	48	47	37	29	43	36	23	15	34	42
41	65	59	52	55	52	44	39	47	43	34	26	41	31	21	13	33	41
40	63	57	50	54	50	42	36	46	40	32	22	40	27	18	11	31	40
39	61	54	47	52	47	41	34	45	37	29	18	38	23	15	9	28	39
38	59	52	45	51	44	39	31	44	34	26	16	26	21	13	8	26	38
37	57	50	42	50	42	36	28	42	32	22	14	34	18	11	8	24	37
36	54	47	40	48	41	34	26	41	29	18	12	31	15	9	6	22	36
35	52	45	38	47	39	31	24	40	26	16	11	29	13	8	5	20	35
34	50	42	36	46	36	28	21	38	22	14	10	27	11	8	4	20	34
33	47	40	34	45	34	26	18	26	18	12	10	25	9	6	3	17	33
32	45	38	31	44	31	24	17	35	16	11	8	24	8	5	3	15	32
31	42	36	29	42	28	21	15	33	14	10	7	23	8	4	2	13	31
30	40	34	26	41	26	18	13	31	12	10	6	23	6	3	2	10	30
29	38	31	23	40	24	17	12	30	11	8	5	20	5	3	2	10	29
28	36	29	21	38	21	15	11	28	10	7	5	19	4	2	2	7	28
27	34	26	18	26	18	13	10	26	10	6	5	17	3	2	2	7	27
26	31	23	16	34	17	12	10	25	8	5	5	15	3	2	1	7	26
25	29	21	14	33	15	11	10	24	7	5	4	15	2	2	1	7	25
24	26	18	13	31	13	10	9	23	6	5	4	15	2	2	1	7	24
23	23	16	11	29	12	10	8	23	5	5	2	15	2	1	1	1	23
22	21	14	9	27	11	10	7	23	5	4	2	13	2	1	1	1	22
21	18	13	8	26	10	9	5	22	5	4	2	13	2	1	1	1	21
20	16	11	7	24	10	8	4	20	5	2	1	7					20
19	14	9	6	22	10	7	3	19	4	2	1	7					19
18	13	8	5	20	9	5	2	15	4	2	1	7					18
17	11	7	4	19	8	4	1	13	2	1	1	1					17
16	9	6	3	17	7	3	1	10	2	1	1	1					16
15	8	5	2	15	5	2	1	7	2	1	1	1					15
14	7	4	2	13	4	1	1	1	1	1	0	1					14
13	6	3	1	10	3	1	0	1									13
12	5	2	1	7	2	1	0	1									12
11	4	2	1	7	1	1	0	1									11
10	3	1	1	1													10
9	2	1	1	1													9
8	2	1	0	1													8

TABLE B7

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Reading Comprehension - FORM B SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
30	100	100	92	99	100	99	90	99	100	98	90	93	100	97	82	90	30
29	100	99	88	99	100	95	86	85	100	95	85	85	100	90	75	77	29
28	100	96	83	87	99	90	82	77	98	90	79	77	97	82	68	69	28
27	100	92	81	80	95	86	77	73	95	85	71	72	90	75	60	65	27
26	99	88	78	75	90	82	72	69	90	79	63	67	82	68	50	60	26
25	96	83	75	70	86	77	67	66	85	71	55	62	75	60	42	55	25
24	92	81	71	68	82	72	61	62	79	63	47	57	68	50	33	50	24
23	88	78	65	66	77	67	57	59	71	55	40	53	60	42	27	46	23
22	83	75	60	65	72	61	53	56	63	47	37	48	50	33	23	41	22
21	81	71	56	62	67	57	49	54	55	40	33	45	42	27	19	37	21
20	78	65	53	58	61	53	45	52	47	37	28	43	33	23	16	34	20
19	75	60	49	55	57	49	40	50	40	33	24	41	27	19	14	32	19
18	71	56	46	53	53	45	36	47	37	28	20	37	23	16	11	29	18
17	65	53	41	52	49	40	33	45	33	24	16	35	19	14	9	27	17
16	60	49	37	50	45	36	28	42	28	20	13	32	16	11	8	24	16
15	56	46	33	48	40	33	23	41	24	16	10	29	14	9	7	22	15
14	53	41	27	45	36	28	20	37	20	13	8	26	11	8	5	20	14
13	49	37	20	43	33	23	14	34	16	10	6	23	9	7	3	19	13
12	46	33	16	41	28	20	9	32	13	8	5	20	8	5	2	15	12
11	41	27	13	37	23	14	7	27	10	6	4	17	7	3	1	10	11
10	37	20	8	32	20	9	5	22	8	5	3	15	5	2	1	7	10
9	33	16	4	29	14	7	2	19	6	4	2	13	3	1	0	1	9
8	27	13	2	26	9	5	1	15	5	3	2	10					8
7	20	8	1	20	7	2	1	7	4	2	1	7					7
6	16	4	1	13	5	1	1	1	3	2	1	7					6
5	13	2	1	7	2	1	0	1	2	1	0	1					5
4	8	1	0	1	1	1	0	1	2	1	0	1					4

TABLE B8

Normal Curve Equivalents (NCE) and Percentile Ranks (PR) with Upper Limits (UL) and Lower Limits (LL) of Range.
Total Scores - FORM B SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
135	100	100	98	99	100	100	96	99	100	100	95	99	100	100	95	99	135
134	100	100	97	99	100	100	95	99	100	100	93	99	100	100	93	99	134
133	100	100	97	99	100	99	93	99	100	99	92	99	100	99	91	99	133
132	100	100	96	99	100	99	91	90	100	98	91	93	100	98	89	93	132
131	100	99	95	99	100	98	91	93	100	97	89	80	100	97	86	90	131
130	100	98	94	93	100	96	89	87	100	95	88	85	100	95	83	85	130
129	100	97	92	90	100	95	88	85	100	93	86	81	100	93	78	81	129
128	100	97	91	90	99	93	86	81	99	92	83	80	99	91	75	79	128
127	100	96	91	87	99	91	84	79	98	91	81	79	98	89	74	76	127
126	99	95	91	85	98	91	82	79	97	89	78	76	97	86	73	73	126
125	98	94	89	83	96	89	80	76	95	88	76	75	95	83	72	70	125
124	97	92	87	80	95	88	79	[illegible]	93	86	74	73	93	78	71	66	124
123	97	91	85	79	93	86	77	[illegible]	92	83	72	70	91	75	69	64	123
122	96	91	84	79	91	84	74	71	91	81	70	69	89	74	68	64	122
121	95	91	81	79	91	82	73	69	89	78	68	66	86	73	66	63	121
120	94	89	79	76	89	80	72	68	88	76	65	65	83	72	64	62	120
119	92	87	78	74	88	79	70	67	86	74	63	64	78	71	60	62	119
118	91	85	77	71	86	77	69	66	83	72	62	62	75	69	57	60	118
117	91	84	76	71	84	74	69	64	81	70	60	61	74	68	54	60	117
116	91	81	74	69	82	73	68	63	78	68	58	60	73	66	51	59	116
115	89	79	74	67	80	72	67	62	76	65	55	58	72	64	48	58	115
114	87	78	73	66	79	70	67	61	74	63	54	56	71	60	43	55	114
113	85	77	73	66	77	69	66	60	72	62	53	56	69	57	39	54	113
112	84	76	72	65	74	69	64	60	70	60	50	55	68	54	36	52	112
111	81	74	71	64	73	68	63	60	68	58	48	54	66	51	33	50	111
110	79	74	70	64	72	67	61	59	65	55	45	53	64	48	30	49	110
109	78	73	70	63	70	67	59	59	63	54	43	52	60	43	28	46	109
108	77	73	69	63	69	66	58	59	62	53	42	52	57	39	27	44	108
107	76	72	68	62	69	64	55	58	60	50	40	50	54	36	25	42	107
106	74	71	66	62	68	63	54	57	58	48	39	49	51	33	24	41	106
105	74	70	65	61	67	61	52	56	55	45	38	47	48	30	22	39	105
104	73	70	64	61	67	59	50	55	54	43	36	46	43	28	21	37	104
103	73	69	63	60	66	58	48	54	53	42	35	46	39	27	18	37	103
102	72	68	61	60	64	55	47	53	50	40	34	45	36	25	16	36	102
101	71	66	59	59	63	54	45	52	48	39	33	44	33	24	15	35	101
100	70	65	58	58	61	52	44	51	45	38	31	44	30	22	14	34	100
99	70	64	57	58	59	50	42	50	43	36	30	42	28	21	13	33	99
98	69	63	55	57	58	48	40	49	42	35	29	42	27	18	13	31	98
97	68	61	54	56	55	47	38	48	40	34	28	41	25	16	12	29	97
96	66	59	53	55	54	45	36	47	39	33	26	41	24	15	11	28	96
95	65	58	51	54	52	44	36	47	38	31	23	40	22	14	11	27	95
94	64	57	49	54	50	42	35	46	36	30	21	39	21	13	11	26	94
93	63	55	49	53	48	40	34	45	35	29	20	38	18	13	10	26	93
92	61	54	47	52	47	38	33	44	34	28	19	37	16	12	9	25	92
91	59	53	46	52	45	36	32	42	33	26	18	36	15	11	9	24	91
90	58	51	45	50	44	36	31	42	31	23	17	34	14	11	9	24	90
89	57	49	44	50	42	35	30	42	30	21	15	33	13	11	9	24	89
88	55	49	43	50	40	34	28	41	29	20	14	32	13	10	8	23	88
87	54	47	41	48	38	33	26	41	28	19	13	32	12	9	8	22	87
86	53	46	40	48	36	32	26	40	26	18	13	31	11	9	7	22	86
85	51	45	39	47	36	31	25	40	23	19	12	30	11	9	7	22	85
84	49	44	38	47	35	30	23	39	21	15	11	28	11	9	5	22	84
83	49	43	38	46	34	28	22	27	20	14	10	27	10	8	4	20	83
82	47	41	36	45	33	26	20	36	19	13	9	26	9	8	4	20	82
81	46	40	35	45	32	26	20	36	18	13	9	26	9	7	4	19	81

TABLE B8 (Cont.) NCEs & PRs. Total Score - FORM B SPRING

Raw Score	Grade 6 PR Range UL	PR	LL	NCE	Grade 7 PR Range UL	PR	LL	NCE	Grade 8 PR Range UL	PR	LL	NCE	Grade 9 PR Range UL	PR	LL	NCE	Raw Score
80	45	39	34	44	31	25	19	36	17	12	9	25	9	7	3	19	80
79	44	38	34	44	30	23	18	34	15	11	9	24	9	5	3	15	79
78	43	38	32	44	28	22	18	34	14	10	9	23	8	4	3	13	78
77	41	36	32	42	26	20	17	32	13	9	8	22	8	4	3	13	77
76	40	35	31	42	26	20	16	32	13	9	8	22	7	4	3	13	76
75	39	34	30	41	25	19	16	32	12	9	7	22	7	3	3	10	75
74	38	34	29	41	23	18	16	31	11	9	7	22	5	3	2	10	74
73	38	32	27	40	22	18	15	31	10	9	6	22	4	3	2	10	73
72	36	32	25	40	20	17	13	30	9	8	5	20	4	3	2	10	72
71	35	31	24	40	20	16	12	29	9	8	5	20	4	3	2	10	71
70	34	30	23	39	19	16	11	29	9	7	5	19	3	3	1	10	70
69	34	29	22	38	18	16	11	29	9	7	5	19	3	2	1	7	69
68	32	27	21	37	18	15	10	28	9	6	5	17	3	2	1	7	68
67	32	25	19	36	17	13	9	26	8	5	4	15	3	2	1	7	67
66	31	24	18	35	16	12	9	25	8	5	4	15	3	2	1	7	66
65	30	23	16	34	16	11	9	24	7	5	4	15	3	1	1	1	65
64	29	22	15	34	16	11	8	24	7	5	4	15	2	1	1	1	64
63	27	21	14	33	15	10	8	23	6	5	3	15	2	1	1	1	63
62	25	19	14	32	13	9	8	22	5	4	3	13	2	1	1	1	62
61	24	18	13	31	12	9	7	22	5	4	2	13	2	1	1	1	61
60	23	16	12	29	11	9	7	22	5	4	2	13	1	1	1	1	60
59	22	15	11	28	11	8	7	20	5	4	1	13					59
58	21	14	10	27	10	8	6	20	5	3	1	10					58
57	19	14	9	27	9	8	5	20	4	3	1	10					57
56	18	13	8	26	9	7	4	19	4	2	1	7					56
55	16	12	7	25	9	7	3	19	4	2	1	7					55
54	15	11	7	24	8	7	3	19	4	1	1	1					54
53	14	10	6	23	8	6	2	17	3	1	1	1					53
52	14	9	6	22	8	5	2	15	3	1	1	1					52
51	13	8	5	20	7	4	2	13	2	1	1	1					51
50	12	7	5	19	7	3	1	10	2	1	1	1					50
49	11	7	5	19	7	3	1	10	1	1	1	1					49
48	10	6	4	17	6	2	1	7									48
47	9	6	3	17	5	2	1	7									47
46	8	5	3	15	4	2	1	7									46
45	7	5	3	15	3	1	0	1									45
44	7	5	3	15	3	1	0	1									44
43	6	4	3	13	2	1	0	1									43
42	6	3	3	10	2	1	0	1									42
41	5	3	3	10	2	1	0	1									41
40	5	3	2	10													40
39	5	3	1	10													39
38	4	3	1	10													38
37	3	3	1	10													37
36	3	3	0	10													36
35	3	2	0	7													35
34	3	1	0	1													34
33	3	1	0	1													33
32	3	1	0	1													32
31																	31

Norms Sample

As mentioned in the first section of this manual, to obtain norm equivalence for both forms of the MTEA, half of the students in each classroom were randomly assigned to take either Form A or Form B during the Fall testing period, the last week in September and the first week in October. The students took the same form of the test in the Spring norming period, the last week in April and the first week in May. Thus, the Fall and Spring norms are based on the same random fifty percent sample of students. All students in both public and private schools in the Commonwealth of the Northern Marianas Islands were tested.

As in any school system, some students left school during the year, dropped out or were chronically ill and could not be retested. Thus, the norms sample is not a complete fifty percent random sample of the students but includes in it incomplete results. The numbers and percentages of students who took each form of the test are presented in Table 5. These results indicate that the norms for each Form of the MTEA are based on approximately a forty-five percent sample of all students in each grade.

Table 6 sets out the reasons for students not being included in the norming sample. In grades 6 and 7 the main reason for being excluded was incomplete data, due perhaps to the difficulty of getting out to do retesting in the small elementary schools. In grades 8 and 9 the main cause was students dropping out of school.

From these results we may conclude that the MTEA norms will provide an accurate estimate of student achievement for the following evaluation comparisons: (1) Spring to Spring testing, and (2) Fall to Spring testing where only those students with both Fall and Spring results are included in the evaluation. The Fall norms for grades 8 and 9 should not be used by themselves because large numbers of students have been removed from the norming sample due to dropouts which occurred during the year.

Item Statistics

Item statistics can often provide a useful aid for interpreting test results. Two types of item statistics are provided in Table 7 for each item for Forms A and B for the FALL norming sample. These statistics are item difficulty (Diff.) and the discrimination index (Disc.).

Item difficulty or the proportion of students getting the item correct may be useful to teachers or curriculum specialists who want to find out how their class or group

TABLE 5

Numbers and Percentages of Students who Took the MTEA by Grade and Form

	Grade 6		Grade 7		Grade 8		Grade 9	
	N	%	N	%	N	%	N	%
Form A	202	.46	180	.47	243	.46	204	.45
Form B	195	.45	166	.43	226	.43	192	.43
Incomplete[1]	41	.09	38	.10	59	.11	54	.12
Total	438	1.00	384	1.00	528	1.00	450	1.00

[1]Includes students who were sick and who did not complete one or more subtests of the MTEA, students who transferred to schools elsewhere in Micronesia or the USA and students who left school.

TABLE 6

Reasons for Incomplete Norms Data

Reason	6A	6B	7A	7B	8A	8B	9A	9B
Incomplete	16	12	6	15	1	3	3	3
Absent	1	5	3	2	6	3	5	1
Dropped Out	3	1	4	1	18	24	22	18
School Elsewhere	2	1	5	2	2	2	2	0
Total	22	19	18	20	27	32	32	22

TABLE 7

Item Difficulty and Discrimination Indices.
FALL Norming Samples

Item No.	FORM A Grade 6 Diff.	Disc.	Grade 7 Diff.	Disc.	Grade 8 Diff.	Disc.	Grade 9 Diff.	Disc.	FORM B Grade 6 Diff.	Disc.	Grade 7 Diff.	Disc.	Grade 8 Diff.	Disc.	Grade 9 Diff.	Disc.	Item No.
1	.63	.61	.86	.38	.93	.44	.87	.45	.94	.31	.95	.46	.96	.38	.99	.27	1
2	.85	.41	.93	.40	.95	.31	.98	.30	.88	.35	.93	.28	.89	.43	.95	.35	2
3	.86	.46	.95	.20	.90	.39	.97	.10	.81	.51	.86	.31	.94	.36	.95	.02	3
4	.85	.32	.92	.24	.93	.40	.99	.16	.39	.36	.45	.40	.57	.35	.64	.40	4
5	.53	.52	.64	.52	.70	.56	.83	.34	.73	.33	.88	.28	.91	.20	.94	.09	5
6	.71	.43	.84	.36	.86	.46	.92	.20	.90	.46	.95	.22	.95	.33	.94	.30	6
7	.58	.55	.71	.42	.71	.64	.75	.44	.91	.33	.95	.32	.96	.25	.98	.25	7
8	.84	.38	.87	.22	.88	.15	.90	.28	.78	.27	.84	.33	.85	.20	.89	.18	8
9	.57	.43	.62	.53	.68	.49	.75	.42	.50	.46	.63	.46	.82	.49	.83	.51	9
10	.65	.34	.62	.41	.69	.32	.64	.28	.71	.29	.73	.27	.75	.36	.87	.28	10
11	.49	.50	.68	.43	.69	.55	.71	.43	.83	.42	.96	.49	.94	.32	.95	.34	11
12	.32	.32	.41	.46	.51	.44	.67	.44	.82	.44	.89	.46	.97	.01	.94	.27	12
13	.79	.36	.95	.23	.98	.22	.98	.33	.77	.49	.81	.52	.84	.26	.85	.34	13
14	.67	.50	.67	.42	.66	.44	.73	.38	.67	.32	.68	.22	.69	.33	.71	.26	14
15	.69	.63	.85	.44	.77	.49	.86	.46	.93	.50	.97	.31	.96	.43	.97	.18	15
16	.68	.47	.80	.26	.79	.29	.82	.25	.85	.60	.94	.53	.96	.51	.98	.39	16
17	.84	.41	.92	.40	.93	.27	.91	.45	.72	.63	.72	.51	.82	.60	.86	.43	17
18	.81	.42	.87	.36	.81	.65	.88	.46	.62	.63	.70	.44	.71	.60	.78	.48	18
19	.46	.41	.48	.45	.49	.29	.59	.38	.18	.44	.27	.38	.31	.55	.35	.38	19
20	.94	.21	.95	.32	.96	.25	.97	.11	.43	.03	.52	.26	.51	.19	.47	.19	20
21	.84	.30	.89	.42	.89	.20	.91	.21	.43	.54	.51	.58	.57	.57	.67	.45	21
22	.38	.36	.49	.39	.37	.41	.50	.46	.67	.38	.64	.44	.72	.45	.81	.42	22
23	.74	.38	.73	.39	.75	.38	.76	.43	.66	.33	.76	.15	.76	.55	.79	.44	23
24	.56	.38	.71	.34	.88	.33	.90	.33	.61	.35	.72	.36	.83	.30	.92	.34	24
25	.92	.40	.94	.42	.95	.39	.95	.31	.68	.36	.74	.47	.81	.56	.93	.33	25
26	.50	.56	.59	.50	.67	.44	.72	.50	.46	.32	.56	.48	.64	.42	.72	.29	26
27	.58	.50	.56	.48	.70	.54	.73	.50	.76	.52	.78	.49	.94	.31	.95	.35	27
28	.84	.28	.91	.25	.88	.21	.89	.33	.68	.11	.64	.00	.50	.01	.55	.04	28
29	.91	.29	.94	.22	.97	.30	1.00	.00	.89	.25	.92	.20	.97	.28	.94	.14	29
30	.61	.28	.65	.31	.68	.33	.78	.40	.67	.15	.73	.14	.68	.27	.69	.31	30
31	.75	.48	.82	.41	.79	.41	.86	.34	.79	.47	.86	.70	.96	.23	.97	.09	31
32	.62	.02	.62	.14	.65	.24	.75	.32	.51	.19	.55	.44	.53	.44	.54	.30	32
33	.42	.45	.40	.43	.50	.48	.48	.40	.72	.59	.77	.56	.88	.46	.92	.31	33
34	.58	.29	.77	.39	.86	.34	.93	.34	.87	.51	.93	.25	.99	.09	.98	.16	34
35	.72	.32	.72	.40	.73	.43	.86	.38	.74	.54	.82	.33	.89	.38	.93	.34	35
36	.76	.34	.84	.42	.86	.30	.93	.30	.82	.63	.90	.51	.93	.51	.96	.50	36
37	.62	.22	.69	.28	.67	.26	.73	.24	.63	.40	.80	.33	.84	.33	.88	.28	37
38	.52	.66	.59	.63	.72	.66	.80	.56	.74	.43	.84	.56	.93	.29	.94	.15	38
39	.43	.44	.58	.61	.62	.56	.67	.50	.61	.62	.59	.62	.72	.57	.79	.57	39
40	.56	.44	.73	.35	.80	.52	.86	.54	.35	.43	.51	.52	.66	.54	.69	.47	40
41	.84	.32	.84	.23	.89	.30	.91	.24	.69	.54	.78	.57	.83	.49	.92	.37	41
42	.56	.36	.66	.47	.82	.38	.77	.38	.66	.46	.78	.34	.75	.49	.83	.49	42
43	.83	.28	.78	.31	.85	.31	.86	.20	.60	.68	.80	.58	.92	.40	.91	.62	43
44	.72	.53	.75	.51	.80	.56	.91	.48	.63	.58	.70	.59	.82	.56	.85	.64	44
45	.66	.27	.72	.38	.77	.35	.81	.25	.74	.37	.88	.33	.92	.15	.92	.20	45
46	.90	.22	.92	.26	.92	.15	.93	.19	.90	.39	.91	.41	.93	.35	.96	.32	46
47	.75	.41	.86	.29	.84	.42	.91	.22	.85	.45	.89	.40	.97	.23	.96	.20	47
48	.54	.45	.69	.46	.76	.47	.87	.36	.78	.48	.84	.51	.92	.41	.97	.32	48
49	.44	.57	.49	.62	.58	.62	.59	.59	.55	.58	.57	.49	.65	.58	.68	.51	49
50	.75	.47	.82	.50	.85	.48	.90	.38	.64	.57	.70	.56	.77	.46	.88	.40	50
51	.51	.48	.61	.49	.66	.44	.73	.39	.67	.58	.79	.57	.84	.51	.83	.60	51
52	.21	.44	.24	.24	.29	.38	.35	.39	.60	.38	.64	.26	.74	.32	.80	.30	52
53	.42	.35	.47	.49	.52	.31	.52	.46	.54	.48	.60	.52	.62	.55	.71	.47	53
54	.41	.47	.47	.32	.46	.39	.44	.33	.45	.47	.51	.51	.60	.54	.70	.46	54
55	.76	.41	.82	.34	.82	.34	.84	.35	.59	.52	.64	.55	.75	.40	.79	.46	55
56	.80	.45	.92	.44	.92	.36	.97	.37	.64	.42	.63	.51	.75	.61	.78	.54	56
57	.49	.56	.57	.52	.64	.59	.65	.34	.79	.51	.81	.56	.92	.43	.94	.40	57
58	.71	.51	.82	.53	.82	.49	.89	.30	.51	.51	.54	.49	.62	.56	.76	.49	58
59	.74	.38	.83	.27	.88	.34	.91	.36	.16	.42	.23	.22	.30	.26	.30	.34	59
60	.33	.44	.30	.30	.38	.40	.46	.44	.39	.33	.47	.26	.50	.31	.55	.24	60
61	.62	.51	.73	.40	.77	.51	.86	.38	.37	.45	.40	.38	.54	.45	.55	.40	61
62	.71	.59	.82	.47	.86	.48	.91	.39	.61	.37	.60	.44	.68	.37	.74	.40	62
63	.40	.60	.54	.58	.51	.62	.63	.60	.45	.34	.49	.30	.72	.16	.73	.11	63
64	.67	.56	.76	.59	.79	.60	.88	.53	.79	.29	.89	.22	.89	.30	.94	.16	64
65	.58	.69	.71	.69	.75	.64	.83	.56	.69	.51	.81	.40	.84	.49	.88	.34	65
66	.62	.52	.78	.55	.71	.62	.85	.46	.45	.52	.56	.42	.68	.62	.79	.59	66
67	.64	.74	.77	.63	.79	.66	.86	.66	.51	.38	.57	.27	.68	.28	.69	.30	67
68	.50	.48	.62	.59	.68	.53	.80	.52	.37	.33	.54	.36	.57	.39	.68	.39	68
69	.57	.42	.64	.43	.61	.42	.51	.29	.43	.42	.48	.59	.50	.46	.58	.39	69
70	.32	.00	.38	.01	.34	.06	.42	.14	.70	.39	.75	.56	.83	.45	.84	.46	70

TABLE 7. Item Difficulty and Discrimination (Cont.)

Item No.	FORM A Grade 6 Diff.	FORM A Grade 6 Disc.	FORM A Grade 7 Diff.	FORM A Grade 7 Disc.	FORM A Grade 8 Diff.	FORM A Grade 8 Disc.	FORM A Grade 9 Diff.	FORM A Grade 9 Disc.	FORM B Grade 6 Diff.	FORM B Grade 6 Disc.	FORM B Grade 7 Diff.	FORM B Grade 7 Disc.	FORM B Grade 8 Diff.	FORM B Grade 8 Disc.	FORM B Grade 9 Diff.	FORM B Grade 9 Disc.	Item No.
71	.63	.48	.73	.47	.76	.45	.82	.34	.47	.35	.42	.31	.51	.30	.42	.23	71
72	.79	.51	.88	.37	.91	.44	.95	.36	.52	.53	.67	.45	.70	.56	.80	.23	72
73	.48	.26	.47	.23	.53	.09	.60	.09	.73	.52	.80	.46	.86	.44	.94	.43	73
74	.51	.70	.64	.70	.70	.68	.79	.62	.74	.38	.84	.33	.90	.45	.94	.26	74
75	.51	.53	.61	.56	.63	.51	.71	.49	.49	.37	.52	.52	.54	.39	.60	.50	75
76	.43	.36	.47	.38	.51	.40	.51	.42	.45	.39	.55	.54	.64	.50	.73	.42	76
77	.55	.57	.66	.50	.73	.60	.84	.39	.43	.48	.48	.56	.61	.57	.56	.44	77
78	.36	.63	.48	.57	.59	.61	.58	.47	.32	.51	.53	.50	.57	.64	.62	.64	78
79	.60	.53	.77	.52	.79	.40	.88	.27	.77	.47	.80	.38	.89	.40	.91	.23	79
80	.50	.61	.62	.66	.63	.61	.75	.63	.65	.36	.67	.38	.77	.35	.81	.30	80
81	.53	.60	.56	.71	.63	.67	.63	.65	.79	.47	.91	.48	.91	.42	.97	.28	81
82	.58	.44	.58	.52	.69	.46	.77	.55	.53	.54	.62	.62	.75	.66	.80	.44	82
83	.54	.55	.62	.63	.65	.62	.73	.59	.43	.48	.49	.58	.55	.53	.58	.56	83
84	.70	.56	.83	.54	.83	.54	.90	.48	.48	.54	.63	.55	.73	.53	.83	.48	84
85	.53	.59	.66	.45	.71	.63	.95	.62	.60	.53	.66	.46	.78	.40	.82	.39	85
86	.73	.59	.86	.54	.87	.46	.94	.36	.34	.50	.44	.48	.52	.52	.56	.30	86
87	.44	.13	.51	.13	.50	.13	.49	.26	.51	.59	.62	.59	.70	.54	.74	.52	87
88	.36	.25	.33	.23	.39	.33	.39	.35	.69	.55	.78	.60	.84	.48	.89	.49	88
89	.58	.60	.71	.54	.77	.52	.86	.41	.55	.52	.77	.62	.81	.60	.92	.34	89
90	.41	.58	.56	.46	.57	.42	.77	.47	.32	.48	.43	.59	.50	.49	.56	.44	90
91	.70	.62	.84	.51	.82	.58	.95	.39	.55	.61	.65	.62	.77	.54	.83	.56	91
92	.50	.64	.64	.64	.67	.69	.83	.58	.64	.51	.77	.42	.77	.58	.90	.43	92
93	.43	.46	.52	.49	.60	.59	.63	.51	.55	.60	.62	.60	.76	.67	.78	.52	93
94	.38	.37	.47	.40	.50	.41	.57	.38	.69	.52	.78	.51	.86	.42	.92	.41	94
95	.47	.58	.58	.58	.63	.54	.68	.46	.48	.59	.56	.59	.72	.65	.70	.47	95
96	.36	.32	.48	.40	.56	.44	.61	.42	.59	.57	.60	.53	.68	.58	.76	.45	96
97	.29	.34	.27	.17	.26	.37	.25	.37	.47	.61	.59	.54	.65	.58	.79	.50	97
98	.71	.56	.84	.57	.89	.51	.96	.37	.65	.51	.72	.56	.84	.57	.91	.42	98
99	.58	.58	.60	.54	.62	.60	.62	.56	.64	.48	.72	.55	.74	.41	.77	.34	99
100	.27	.38	.40	.26	.33	.35	.39	.31	.44	.34	.51	.40	.61	.35	.48	.44	100
101	.82	.50	.87	.48	.93	.44	.98	.29	.41	.60	.45	.69	.59	.48	.62	.45	101
102	.35	.39	.32	.47	.37	.50	.42	.52	.14	.22	.17	.36	.15	.24	.14	.23	102
103	.65	.43	.68	.54	.74	.49	.82	.41	.44	.62	.58	.58	.69	.52	.78	.42	103
104	.43	.50	.54	.68	.60	.71	.75	.66	.39	.24	.34	.50	.35	.44	.42	.47	104
105	.40	.55	.45	.40	.49	.51	.55	.48	.31	.44	.43	.38	.50	.42	.52	.47	105
106	.63	.58	.73	.64	.81	.54	.89	.58	.66	.44	.78	.40	.83	.38	.88	.36	106
107	.79	.53	.92	.38	.91	.51	.96	.50	.57	.56	.74	.43	.84	.38	.83	.50	107
108	.53	.64	.69	.60	.70	.64	.80	.63	.48	.52	.55	.47	.66	.43	.71	.51	108
109	.69	.52	.78	.50	.82	.47	.88	.46	.41	.69	.52	.55	.66	.65	.74	.59	109
110	.59	.54	.69	.61	.70	.56	.80	.59	.78	.49	.84	.44	.94	.34	.97	.34	110
111	.52	.55	.56	.68	.60	.61	.72	.56	.41	.32	.42	.24	.54	.41	.63	.48	111
112	.46	.37	.48	.33	.54	.37	.61	.51	.52	.49	.57	.48	.61	.41	.74	.37	112
113	.76	.52	.85	.47	.86	.49	.96	.26	.58	.58	.70	.50	.71	.59	.88	.54	113
114	.21	.23	.22	.30	.19	.34	.25	.42	.72	.55	.76	.66	.91	.41	.93	.38	114
115	.47	.31	.63	.36	.66	.26	.65	.18	.45	.56	.49	.44	.59	.53	.71	.51	115
116	.58	.59	.58	.64	.66	.67	.75	.60	.51	.43	.56	.44	.62	.58	.77	.45	116
117	.56	.57	.62	.60	.71	.64	.84	.57	.47	.45	.54	.44	.62	.46	.71	.41	117
118	.43	.44	.42	.47	.50	.45	.52	.40	.39	.45	.39	.52	.55	.53	.67	.44	118
119	.59	.66	.73	.55	.82	.54	.90	.48	.39	.57	.45	.23	.70	.39	.72	.50	119
120	.61	.51	.60	.64	.69	.66	.81	.55	.38	.58	.54	.53	.61	.52	.77	.32	120
121	.50	.41	.50	.66	.61	.61	.73	.55	.54	.49	.49	.62	.72	.52	.82	.45	121
122	.43	.31	.44	.36	.48	.28	.49	.42	.49	.50	.44	.53	.58	.60	.65	.54	122
123	.50	.44	.63	.50	.68	.55	.82	.38	.41	.39	.47	.38	.54	.35	.64	.31	123
124	.55	.59	.64	.56	.71	.44	.80	.43	.39	.39	.53	.55	.60	.50	.72	.40	124
125	.62	.58	.78	.37	.82	.62	.90	.36	.41	.39	.44	.36	.63	.47	.56	.53	125
126	.49	.52	.62	.50	.68	.47	.74	.49	.35	.43	.32	.15	.54	.20	.53	.38	126
127	.58	.58	.71	.53	.72	.60	.86	.38	.43	.35	.45	.48	.54	.52	.65	.41	127
128	.35	.29	.49	.35	.53	.29	.59	.27	.46	.38	.51	.55	.60	.50	.72	.39	128
129	.47	.49	.56	.51	.57	.63	.67	.54	.51	.46	.52	.50	.73	.45	.79	.46	129
130	.34	.49	.43	.50	.50	.46	.58	.46	.38	.29	.40	.38	.53	.42	.65	.31	130
131	.49	.36	.62	.46	.60	.36	.74	.43	.26	.27	.28	.35	.41	.34	.48	.45	131
132	.28	.41	.39	.28	.42	.41	.51	.54	.52	.58	.55	.67	.75	.61	.88	.51	132
133	.43	.35	.61	.30	.51	.43	.73	.22	.49	.42	.52	.41	.67	.47	.78	.46	133
134	.57	.45	.72	.47	.70	.47	.82	.39	.42	.54	.48	.54	.62	.59	.84	.59	134
135	.44	.49	.53	.56	.67	.55	.74	.50	.35	.37	.47	.41	.62	.31	.78	.42	135

compares to the norming sample with reference to a particular grammatical structure. Item difficulties may also be examined across the four grades to see where structures or vocabulary are normally learned. If used properly, item difficulties may provide some general diagnostic information useful in program development at the beginning of the year. However, care must be taken to avoid teaching responses to specific items as this will invalidate the test results.

Item difficulties for the MTEA should range between about .30 and .90 with ideal difficulties being about .74 for the Structure and Vocabulary and Reading Comprehension sections and about .77 for the Listening and Comprehension section of the MTEA (Thorndike, 1969, p.49).

The discrimination index is the correlation between how students' score on an item and how they score on the total test. The discrimination indices in Table 7 refer to discriminations for the individual subtests. Generally, an item is said to discriminate adequately if the discrimination index is .30 or better. Item discriminations are probably of most interest to test developers, but they also provide an indication of which students (i.e. poorer students, all students) are having problems with an item.

It should be noted that direct comparisons between the items on Form A and Form B are not appropriate.

Reliability

Reliability may be defined as the degree of consistency between two measures of the same thing. For any particular test, consistency is influenced by situational factors (how well was the test administered and scored), personal factors (students' attitudes toward testing, physical health, etc.) and test related factors (item clarity, item difficulty, test length, etc.). The effect of these factors for the MTEA norming sample have been estimated using an internal consistency method, the Kuder-Richardson formula 21 (Table 8). In Table 8, Kuder-Richardson formula 20 reliability estimates are provided based on item analysis data for the Fall testing period. Correlations between Fall and Spring data (test-retest reliability) are also given.

The three reliability estimates provided are consistent with one another and in general indicate that the MTEA is at least as reliable as most standardized measures of language arts proficiency. Other things to consider when looking at the reliability estimates include:

(1) test reliability increases with test length. It is not surprising therefore that Total results (n=135)

TABLE 8

Means, Standard Deviations, Reliability Estimates and Standard Errors of Measurement by Testing Date, Grade, Test Form and Subtest

Grade	Form	Date	N	$\bar{X}$	S.D.	Reliability KR_{21}*	Reliability KR_{20}	Fall-Spring	SE_{MEAS}**
Listening Comprehension									
6	A	Fall	202	30.20	7.98	.86	.88	.86	3.0
6	A	Apr.	202	33.64	7.56	.87	-		2.7
6	B	Fall	195	30.89	8.02	.87	.89	.87	2.9
6	B	Spr.	195	33.96	7.06	.85	-		2.7
7	A	Fall	180	33.47	7.10	.85	.87	.86	2.8
7	A	Spr.	180	36.05	6.74	.86	-		2.5
7	B	Fall	166	34.11	6.92	.85	.87	.83	2.7
7	B	Spr.	166	36.09	6.20	.83	-		2.6
8	A	Fall	243	34.78	7.07	.86	.88	.85	2.6
8	A	Spr.	243	37.31	5.58	.81	-		2.4
8	B	Fall	226	36.27	6.11	.83	.86	.87	2.5
8	B	Spr.	226	38.03	4.95	.78	-		2.3
9	A	Fall	202	36.95	5.81	.82	.84	.89	2.4
9	A	Spr.	204	38.84	5.23	.82	-		2.2
9	B	Fall	192	37.86	4.76	.75	.80	.87	2.4
9	B	Spr.	192	39.51	4.07	.72	-		2.2
Structure and Vocabulary									
6	A	Fall	202	32.50	13.83	.94	.94	.92	3.4
6	A	Spr.	202	37.68	13.49	.94	-		3.3
6	B	Fall	195	32.65	13.35	.93	.94	.92	3.5
6	B	Spr.	195	37.14	13.28	.94	-		3.2
7	A	Fall	180	37.63	12.60	.93	.94	.92	3.3
7	A	Spr.	180	41.59	11.40	.92	-		3.2
7	B	Fall	166	36.98	13.30	.94	.94	.92	3.2
7	B	Spr.	166	41.28	12.16	.93	-		3.3
8	A	Fall	243	39.57	12.62	.93	.94	.90	3.3
8	A	Spr.	243	42.82	11.39	.92	-		3.2
8	B	Fall	226	41.47	12.00	.93	.94	.91	3.2
8	B	Spr.	226	44.62	10.31	.91	-		3.1
9	A	Fall	204	43.16	10.35	.90	.92	.93	3.3
9	A	Spr.	204	45.57	9.45	.89	-		3.1
9	B	Fall	192	44.35	9.70	.89	.91	.92	3.2
9	B	Spr.	192	46.83	8.26	.86	-		3.1
Reading Comprehension									
6	A	Fall	202	15.45	6.96	.87	.88	.86	2.5
6	A	Spr.	202	18.30	6.87	.88	-		2.4
6	B	Fall	195	14.12	6.81	.87	.88	.85	2.4
6	B	Spr.	195	16.58	6.93	.87	-		2.5
7	A	Fall	180	18.17	6.88	.88	.89	.83	2.4
7	A	Spr.	180	20.85	6.30	.87	-		2.3
7	B	Fall	166	15.70	6.61	.86	.87	.79	2.4
7	B	Spr.	166	18.97	6.63	.87	-		2.4
8	A	Fall	243	19.35	6.74	.88	.89	.83	2.4
8	A	Spr.	243	21.21	6.24	.87	-		2.2
8	B	Fall	226	19.45	6.42	.86	.87	.76	2.4
8	B	Spr.	226	21.15	5.80	.84	-		2.3
9	A	Fall	204	22.04	5.56	.84	.86	.86	2.2
9	A	Spr.	204	23.37	5.12	.83	-		2.1
9	B	Fall	192	22.14	5.62	.84	.86	.82	2.2
9	B	Spr.	192	23.08	5.12	.82	-		2.2
Total Test Scores									
6	A	Fall	202	78.14	27.19	.96	.97	.94	5.4
6	A	Spr.	202	89.63	26.59	.96	-		5.3
6	B	Fall	195	77.67	26.25	.96	.96	.95	5.2
6	B	Spr.	195	87.70	25.77	.96	-		5.2

TABLE 8. Reliability Estimates (Cont.)

Grade	Form	Date	N	$\bar{X}$	S.D.	Reliability KR_{21}*	KR_{20}	Fall-Spring	SE_{MEAS}**
7	A	Fall	180	89.27	25.01	.96	.96	.94	5.0
7	A	Spr.	180	98.51	22.96	.96	-		4.6
7	B	Fall	166	86.80	24.86	.96	.96	.94	5.0
7	B	Spr.	166	96.56	23.40	.96	-		4.7
8	A	Fall	243	93.70	24.92	.96	.97	.92	5.0
8	A	Spr.	243	101.34	21.66	.95	-		4.8
8	B	Fall	226	97.19	23.04	.96	.96	.92	4.6
8	B	Spr.	226	103.80	19.61	.94	-		4.8
9	A	Fall	204	102.16	20.26	.95	.96	.96	4.5
9	A	Spr.	204	107.73	18.46	.94	-		4.5
9	B	Fall	192	104.35	18.64	.94	.95	.94	4.5
9	B	Spr.	192	109.42	15.89	.92	-		4.5

*Kuder-Richardson formula 21: $r_{xx} = \frac{k}{k-1}\left[1 - \frac{\bar{x}(k-\bar{x})}{kS_x^2}\right]$

**Where SE_{MEAS} is defined as $SE_{MEAS} = SD\sqrt{1-r_{xx}}$, where r_{xx} is the KR_{21}. Rounded to one decimal place.

are more reliable than Structure and Vocabulary (n=60) than Listening Comprehension (n=45) than Reading Comprehension (n=30).

(2) grade 9 results are somewhat less reliable than results for grades 6, 7, and 8. This is due to the fact that the MTEA has an inadequate top to measure the full range of achievement found in better students in the 9th grade.

Validity

Validity is probably the single most important aspect of a test. Validity can be defined as the degree to which a test measures what it sets out to measure. The three types of validity which are important for the MTEA are predictive validity and content validity.

In evaluation situations, it is important that a test have predictive validity or that there is a high correlation between pre- and posttest scores. From Table 8, we can see that correlations between Fall and Spring subtest and total test results for the norming sample range from .76 to .96 with a median value of .895. However, Fall-Spring correlations for total test scores are all .92 or better. These correlations indicate that the MTEA has high predictive validity at least over the period of an instructional year.

In general, the best indicator of the validity of general achievement tests such as the MTEA is obtained by a careful examination of the content of the tests. As was described earlier, the MTEA subtests were developed directly from structures found in the Tate Oral English Syllabus which serves as a basis for the students instructional program in the Northern Marianas Islands. This close relationship between content in test and syllabus is a good indicator of the MTEA's content validity.

Another way to check content validity with second language tests is to have native speakers take the test. Twenty-three native English speakers were identified in the norming sample. Children were considered native speakers of English if at least one parent was a native English speaker, or if the child's only language was English even though neither parent was a native English speaker. Each child's results had to be converted to percentiles for comparison purposes as children were in different grades and took different forms of the test. As Table 9 indicates, native speakers of English did very well on all sections of the MTEA with the upper quartile doing as well or better than 97 percent of all students who took the test. These results indicate the questions on the MTEA were generally comprehensible to native speakers of English thereby providing evidence for their content validity for second language learners.

TABLE 9

Quartiles for Native Speakers of English
by Subtest and Testing Date

Test	N	Quartiles Q_1	Median	Q_3
Fall Norms				
Listening Comprehension	20	89	94	98
Structure and Vocabulary	19	91	98	99
Reading Comprehension	19	79	93	97
Total	19	93	96	99
Spring Norms				
Listening Comprehension	23	89	95	97
Structure and Vocabulary	23	89	95	99
Reading Comprehension	23	73	92	97
Total	23	87	97	99

Finally, in most test manuals a range of concurrent validity studies are presented. Collecting such data presents a serious problem for English as a second language tests because few valid measures of second language achievement are available. For this reason, it was felt it was not appropriate to discuss concurrent validity in this manual.

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