

TerraNova, The Second Edition

Frequently Asked Questions



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***TerraNova, The Second Edition* Content and Design**

1. What is *TerraNova, The Second Edition* designed to measure?

TerraNova, The Second Edition is designed to measure concepts, processes, and objectives taught throughout the nation. Test content reflects national standards derived from curriculum guides, teacher groups, and state frameworks. *TerraNova, The Second Edition* provides a series of tests that are easy to administer, stimulating to take, and most importantly, extremely accurate in their assessment of student achievement.

2. Why is *TerraNova, The Second Edition* also called *TerraNova CAT*?

TerraNova, The Second Edition is also the sixth edition of the widely used and highly respected California Achievement Tests ® (CAT) test series. The first edition of the CAT series dates back to 1950. This half-century of service to the nation's schools is recognized by the continued use of the CAT name in the new *TerraNova* assessment series.

TerraNova, The Second Edition continues the tradition of technical quality and instructional relevance that has made the CAT series—and the *TerraNova* family of assessments—so popular. Each new edition of these assessments reflects current curricula and achievement levels. The new *TerraNova* series reflects what is currently being taught and how it is being taught in the majority of the nation's public and nonpublic schools. The norms reflect the levels of achievement that are found in those schools. Thus, users of *TerraNova* CAT and the other members of the *TerraNova* family can be assured that the results are valid and reliable indications of how well their students are acquiring the basic skills that are important to their continued educational progress and future success.

3. What components are in *TerraNova, The Second Edition*?

The new *TerraNova, The Second Edition* series includes a full range of testing format options—from traditional selected-response items to the most innovative open-ended tasks—that work together to give your students the best opportunity to demonstrate what they know and can do. The *TerraNova, The Second Edition* family now includes:

CAT Multiple Assessments uses both selected-response and constructed-response items, and measures important basic and applied skills.

CAT Basic Multiple Assessments also uses selected-response and constructed response items, to test Reading/Language Arts and Mathematics only.

CAT Complete Battery uses selected-response items to provide detailed norm-referenced and objectives mastery information with maximum reliability.

CAT Basic Battery uses selected-response items to test Reading/Language Arts and Mathematics only.

CAT Survey, with all selected-response items provides a general measure of achievement in minimum testing time.

CAT Plus tests, are available with each assessment to measure important skills in: Word Analysis, Vocabulary, Language Mechanics, Spelling, Mathematics Computation

A ***TerraNova, The Second Edition Algebra test***, offered for the first time with the *TerraNova* CAT series, is also available with *TerraNova* Comprehensive Tests of Basic Skills (CTBS) and as a stand-alone test.

4. What's the difference between the Complete Battery and the Survey?

The Survey edition is a shortened form of *TerraNova, The Second Edition* that was composed from a subset of the items found in the Complete Battery. Administering the Survey takes about

half the time of the Complete Battery. Both the Survey and the Complete Battery measure the same content areas, but the Survey has fewer questions. Because the Survey is shorter, it does not provide the breadth of coverage for each objective that is found in the Complete Battery. Both editions are on the same normative scale and therefore may be used in pre-test/post-test situations.

5. When should I use the Complete Battery, and when should I use the Survey?

Use the Complete Battery when making high-stakes decisions (such as acceptance into an academic program), when you have three hours to administer a test, when you need detailed objective mastery information, or when test results are likely to be challenged. Use the Survey if testing time is short, if you are screening for program entry/exit, or using a pre-test/post-test model where the Survey would be your post-test. In other words, use the Survey when decisions are low-stakes, broad-brush information is sufficient, and test results are unlikely to be challenged.

6. How were content objectives for *TerraNova, The Second Edition* developed?

Reading/Language Arts

TerraNova, The Second Edition Reading/Language Arts content objectives reflect the goals of curriculum guides from states, districts, and dioceses; standards for English/Language Arts; and the conceptual frameworks of the National Assessment of Educational Progress (NAEP).

The *TerraNova, The Second Edition* Reading/Language Arts test complements model instructional practices. Basic and higher-order thinking skills essential for effective communication—reading comprehension, language expression, vocabulary, and reference skills—are integrated in one test to provide a coherent assessment experience.

Mathematics

TerraNova, The Second Edition Mathematics content objectives reflect the National Council of Teachers of Mathematics (NCTM) Standards as well as state and local curriculum documents and the conceptual framework of NAEP. The NCTM's vision of having students reason mathematically and solve real life problems is a major focus.

The test retains many specifics from the traditional curriculum, while at the same time, tapping broad mathematical power. Procedures such as estimation and mental computation are interwoven in the test. Computation items are included, many in a realistic setting, providing students with a sense of purpose.

Science

The *TerraNova, The Second Edition* Science test is based on national science standards and frameworks. It covers core concepts in the traditional subject areas—life, physical, and Earth and space science—as well as the application of key science inquiry skills.

Science item writers and editors took into account the National Science Teachers Association Scope, Sequence, and Coordination initiative; Project 2061; and numerous state and local curriculum guides.

Social Studies

The *TerraNova, The Second Edition* Social Studies test emphasizes the interrelationships of history, geography, governments, and economics in its framework, question formats, and graphics. Equity is ensured through representations of varied civilizations, cultures, geographic areas, and perspectives.

Content objectives reflect state and local curriculum frameworks, national education reports, state and national organization standards, the most current social studies literature, and the guidelines of the National Council for the Social Studies.

7. What are the benefits of the integrated Reading/Language Arts test in *TerraNova, The Second Edition*?

Because the integration of Reading and Language Arts was so successful in *TerraNova* CTBS, CTB continued this approach with *TerraNova, The Second Edition*. The integration of these two major communication areas is in accord with all major Language Arts initiatives as well as the standards movement at both national and state levels.

Integration of these content areas serves several purposes. First, it is consistent with current curriculum and instructional integration. Second, it reduces testing time. Finally, it increases relevance because Reading and Language Arts are presented as related activities in the context of an encompassing theme. This design gives students a sense of purpose as they work through the assessment.

In addition, the hundreds of teachers and other educators who participated in our focus groups and pilot studies clearly indicated that an integrated approach was important. While integrated in content and structure, the test provides separate Reading and Language Arts scores.

8. Why does *TerraNova, The Second Edition* use authentic literature in Reading/Language Arts?

Enthusiastic customer response to the first *TerraNova* series has confirmed CTB's belief that authentic literature best reflects current curriculum and instructional practice. The use of authentic text matches the three NAEP Reading Purposes, as well as the IRA/NCTE Standards for the English Language Arts. To this end, the new *TerraNova, The Second Edition* assessments include traditional and contemporary literature as well as passages from newspapers and magazines published for young readers. Use of these sources demonstrates our belief that when students are being tested on their ability to comprehend text, they deserve the best materials available.

Limiting passages to material written specifically for a given test eliminates works written prior to development of the test. This means that works that are a part of our great literary heritage are unavailable for inclusion. CTB uses authentic literature in order to address a central tenet of all major standards documents, that students should be exposed to a variety of works from various times and places.

TerraNova CAT excerpts are carefully selected to be self-contained and to provide a complete reading experience. Sections of longer works are illuminated in ways that would not occur in ordinary reading. Thus, students are exposed to the author's unique style and point of view in context, which also provides links with other texts—another goal of reading standards. Test items accompanying excerpts make no assumptions about familiarity with the larger work, but concentrate on a thoughtful consideration of only the highlighted selection.

TerraNova, The Second Edition includes passages from a diverse group of authors well known to both children and adults. Included are excerpts from classic works by writers such as Jane Austen, Mark Twain, and Jack London, and from contemporary works by authors such as Langston Hughes, Frank McCourt, Yoshiko Uchida, Cynthia Rylant, and Dave Barry.

9. Why does *TerraNova, The Second Edition* make greater use of graphics than traditional achievement tests? Can more graphics distract the student or make the test too easy?

TerraNova, The Second Edition makes greater use of graphics than traditional tests in order to make the test more closely match current curriculum and instructional practice. We wanted a test that looked like the instructional materials being used by students. We also wanted an engaging test that would keep students interested and motivated to do their best.

To meet this goal, we began the development of our new *TerraNova* series by reviewing instructional materials in use throughout the nation, and identifying the common characteristics of content and presentation. Content editors, writers, designers, and research scientists worked together to design initial formats and layouts, all of which were then tested with educators and students.

The result of these studies was the selection of an appropriate level of graphics. The next step was to verify that the graphics were useful and did not distract from the accurate assessment of students' skills. This verification process was accomplished through a series of usability studies, with participation of hundreds of students and teachers. The studies included the following research methodologies:

- Focus groups
- Pilot studies and interviews
- Navigational studies
- Cognitive studies
- Systems analysis

TerraNova CAT was designed with the needs of its users in mind. Feedback from teachers and students has been very positive about the effectiveness and friendliness of the test. Users have pointed out that the content and look of the test materials resemble their instructional materials, minimizing the intimidation that students sometimes feel when taking a standardized test.

10. What advantage does *TerraNova, The Second Edition Multiple Assessments* have over tests with selected-response (multiple-choice) items in one-booklet and constructed-response (open-ended) items in another?

There are many advantages to combining item formats in a single test, as has been done with *TerraNova* CAT Multiple Assessments.

For the test coordinator and teachers administering the test, a single book simplifies the entire testing process. There are fewer materials to distribute and collect. Biographical information needs to be entered only once, since students do all their work in a single book. Linking different test books and answer documents is not necessary, nor is collating multiple pieces in some specific order.

From the standpoint of the student, a single test book is easier to handle than two test books, a separate response book for the constructed-response items, and possibly an additional answer sheet for the selected-response items.

Combining item formats in a single book also facilitates relating items through themes that carry over from selected-response to constructed-response items. This approach is especially effective in supporting the integration of reading and language content. Themes that link items and provide a more meaningful context for questions enhance student interest and promote better performance.

Finally, the combination of constructed-response with traditional selected-response information in *TerraNova* CAT Multiple Assessments significantly extends the range of competencies covered and enhances the validity of the assessment. This combination of different item types is based on the principle that different skills can be measured with a variety of item formats that reflect the same underlying ability. There is no need for separate tests with different item types when each item type can be designed to measure the same primary characteristics.

Planning and Administering *TerraNova, The Second Edition*

1. How can I help my students do their best on the test?

The value of test results depends to a large extent on the atmosphere that surrounds the testing activities. This atmosphere is affected by the thoughtfulness and care with which testing is planned and conducted, and the attitude and motivation of the students. When students are interested, feel confident about the test, and understand the procedures, the results are likely to be a more accurate measure of their skills and knowledge. The following suggestions can assist you in creating a “test friendly” environment:

- Explain the purpose of the test to the students. Let them know that the test will be useful in identifying the skills and knowledge that they have already mastered and those that they need to learn.
- Convey a positive attitude about the test and encourage the students to do their best. Let them know that some items on the test may cover material they have not yet studied, and they are not expected to know all of the answers. However, encourage them to try all of the items, to pay careful attention to directions, to use their time efficiently, and to review their answers if time allows.
- Do not use rewards to motivate students. The most effective motivation is self-motivation to do one’s best.
- Review the testing schedule and the directions for administration in advance to ensure that class work can be organized to accommodate the testing sessions and that testing will go smoothly. Allow adequate time for each test section to be completed without interruptions. A relaxed atmosphere during testing will enable the students to do their best work.
- During regular class work, it may be helpful to write some classroom tests that are similar in format to the standardized test that will be taken.
- Practice Activities, designed to familiarize students with the formats and the terminology used in *TerraNova, The Second Edition*, should be administered a day or two before testing.
- There are many opinions about guessing on tests. Typically, you should encourage only *informed* guessing. The purpose of the test is to help students get the instruction they need. Blindly guessing at items will provide misleading information.

2. How can I administer *TerraNova, The Second Edition* to ensure valid and equitable results?

For a standardized achievement-testing program to be of value, it is important that administrators and teachers understand what the test is designed to measure, and use the test appropriately. Ultimately, the goal should be to use the results to help deepen students’ understanding of broad concepts, not simply raise test scores. If the overriding concern is to improve test scores rather than to improve the skills and knowledge that the test measures, then the testing can have a negative rather than a positive impact on the quality of instruction.

To ensure valid and equitable test results, it is essential to adhere to the following guidelines:

- To serve its purpose—that is to make a significant contribution to the quality of instruction—testing must be conducted using standardized procedures that have been defined by the test developers. If the test is not administered with the same procedures as those used when it was standardized, valid conclusions cannot be drawn from the test results.
- Instruction should never be targeted at specific test content. To do so would distort the meaning of the test results, narrow the curriculum, and lose meaningful contexts for learning. The test results would not be valid for diagnosing needs and planning instruction.
- If students have prior knowledge of specific test content, the result of testing can give a deceptive picture. The test results will not reflect what students actually know, and will not provide valid information for diagnostic purposes and curriculum planning. For this reason, only the Practice Activities that were part of the standardization procedures should be used before administering the test in the classroom. Although test scores may seem to improve if instructional materials that closely resemble the test are used before testing, they are usually “inflated” scores that do not reflect real or lasting educational gains or achievement.
- Misuse of standardized tests can distort the meaning of the results and have serious ramifications. If a program’s effectiveness is evaluated by inflated test results, inaccurate conclusions about the program may be drawn ultimately and incorrectly influencing the direction of the curriculum. If overall school or district performance is not accurately reflected in test results, the gradual long-term effect may be to lower educational standards.

3. How easy is *TerraNova, The Second Edition* for teachers to administer?

TerraNova, The Second Edition was designed to closely resemble the instructional materials found in classrooms all over the country, therefore making it easy for teachers to administer and less intimidating for students. The teachers’ manuals, *Test Directions for Teachers*, were designed with input from educators and include thorough instructions for teachers before, during, and after test administration. These easy to follow instructions help teachers prepare students for the testing experience, plan the testing schedule, and organize their classroom. During the test, step-by-step instructions and helpful suggestions assist teachers in administering the test which ensures that standardized testing procedures are followed.

In addition, the Teacher’s Guide contains sample problems, Item Classification Tables, Thinking Skills Classifications, Hints for Test Administration, and a Glossary of Measurement Terms.

4. Can students use calculators with *TerraNova, The Second Edition*? Does *TerraNova, The Second Edition* have calculator norms?

Provided that using calculators in the testing situation is consistent with their use in the classroom, CTB encourages the use of calculators with *TerraNova, The Second Edition*. For students who are not accustomed to using a calculator in the classroom or who have never used one in a testing situation, the calculator may be more of a distraction than an aid in taking the test. Calculators should not be used with tests involving computation or estimation.

Whether calculators are used or not, sufficient time is provided to give all students the opportunity to complete the test. Students using calculators, therefore, have no particular advantage over those not using calculators. Use of calculators is an option for Levels 13 through 21/22 for all *TerraNova, The Second Edition* assessments.

The *TerraNova, The Second Edition* Mathematics test is a multisection test that provides a comprehensive measure of mathematics competency. It always begins with a section that

samples computation and estimation. Using a calculator to solve these problems would not be appropriate. Therefore, use of calculators should not be allowed with this first section of the test. The remainder of the Mathematics test can be administered with calculators if that option has been chosen. The *Test Directions for Teachers* manual signals when students may be given access to calculators during the test.

TerraNova CAT Plus tests also include an optional Mathematics Computation test. As noted above, calculators should not be used with this test.

The same scoring tables and norms are used to report results regardless of the use or nonuse of calculators. CTB conducted extensive research regarding the effect of calculator use on the scores obtained on the CAT/5 and *TerraNova* CTBS Mathematics tests. Results of these studies showed that calculator use had negligible systematic effects on performance for most items. A few items did appear to be easier or harder, but the raw score statistics showed that the mean, standard deviation, and reliability statistics were nearly identical regardless of the use or nonuse of calculators. Thus, no separate calculator-scoring tables or norms were required. This considerably simplifies how scoring services are ordered and allows maximum flexibility in deciding whether or not to use calculators during administration of the *TerraNova* CAT Mathematics tests.

It should be noted that similar studies were conducted during administration of the 1992 NAEP mathematics assessment. No systematic differences were found in these studies.

5. Do students have time to complete the tests in the allotted time? Is “speediness” an issue with *TerraNova, The Second Edition*?

TerraNova, The Second Edition, like all CTB tests, is designed to be a power test, in which almost all students complete each test. The percentage of students reaching the last item of each subtest varies by grade and format. However, the statistics from the standardization indicate that approximately 94-99% of students complete the tests in the time allotted, enabling educators to see what students truly know and can do.

Scoring, Interpreting, and Reporting

1. How is *TerraNova, The Second Edition* scored?

To score *TerraNova, The Second Edition*, either the pattern (IRT) method, or the number-correct (traditional) method may be used.

The pattern method calculates scale scores by applying computational procedures directly to the item responses. The resulting scale scores are based on the overall *pattern* of correct responses, rather than simply on the number of correct responses. Pattern scoring accounts for which questions, what types of questions, and how many questions the student answers correctly—and how these relate to a student’s total test performance. Thus, because the pattern scoring method used for *TerraNova, The Second Edition* takes into account the *types* of questions answered, it is possible for students with the same number of correct responses to receive different scores.

With the number-correct method, on the other hand, the number of correct responses is converted to a scale score by means of a conversion table. The pattern method provides a somewhat more accurate estimate of a student’s true performance level than the number-

correct method; the latter, however is sometimes preferred because of its familiarity and conceptual simplicity.

2. What advantages does Item Response Theory (IRT) item-pattern scoring offer, particularly for individual student results, over number-correct or Rasch model scoring?

Since 1982, CTB has offered two types of scoring: number-correct and item-pattern. Customers can choose either method. We recommend item-pattern scoring because studies involving many thousands of students have shown that item-pattern scoring produces more accurate scores for individual students.

Item Response Theory (IRT) is a statistical procedure that takes into account the fact that not all test items are alike and all items need not be given equal weight in determining how much students really know and can do. Teachers have typically given differing values (weights) to questions on tests they devise, depending on how much they think each question contributes to a real understanding of the subject being tested. IRT uses actual student data to determine empirically how much information is provided by each item.

The IRT item-pattern scoring model offered by CTB allows us to consider not only how many questions a student answered correctly, but also which questions and what types of questions they were. In addition, the model considers how the questions relate to each other and to the student's total performance on the test.

3. How was *TerraNova, The Second Edition* normed? Does the norm sample reflect my diverse school population?

TerraNova, The Second Edition was standardized on a nationally representative, stratified random sample based on geographic region, school size, socioeconomic status, race/ethnicity, within public, parochial, and private schools. The sampling techniques used ensure that any group of students represents the same proportion of the norm sample as is represented in the national student population as a whole. Users of the new *TerraNova, The Second Edition* assessments can be sure that their students' norm scores are accurate descriptions of achievement in relation to current national achievement levels.

TerraNova CAT was standardized in October 1999, January 2000, and April 2000 on samples of more than 300,000 students. No test on the market has more current or more accurate norms than *TerraNova, The Second Edition*.

The 1999–2000 norms for *TerraNova* CAT reflect a major redesign of CTB norming procedures. The purpose of this redesign is to ensure that we gather national norming information that is both more precise and more inclusive. Greater precision has been achieved by sampling individual schools rather than districts, and by stratifying the nation's schools according to more detailed demographic information. For example, under the previous norming design we could only assure that we selected an appropriate number of students from districts classified as urban, suburban, or rural. We are now able to select an appropriate number of students from schools located in the urban fringe of large central cities and at six other urban levels.

Greater inclusiveness has been built into the sampling design to ensure that our norms reflect the realities of today's testing programs. We have defined a standard school administration as one that involves all students according to their individual education plans (IEPs), including participation with testing accommodations as indicated. This definition—which complements the familiar definition of a standard student administration—has allowed CTB to collect meaningful, inclusive norming data in the *TerraNova* CAT standardization studies. More precise

and inclusive norms will better meet your needs for valid interpretations of the results of your own inclusive administrations of *TerraNova* CAT.

4. How does CTB score constructed-response, or open-ended, items?

Open-ended responses are scored in accordance with a scoring guide that is developed when the item is being written. The final scoring materials include the specific scoring criteria as well as exemplary responses for each item. They also include samples of other acceptable responses where appropriate.

Scoring is done by a select group of evaluators in CTB custom evaluation centers. The evaluators must meet specific hiring criteria and, as a result, almost all have a background in education, and all have a college degree.

The training program for all evaluators includes a detailed review of the Scoring Guide, followed by the scoring of several training booklets for which scores have already been established. The discrepancies are addressed and resolved by the trainer or group leader (sometimes called the Table Leader). Training culminates in the scoring of one or more “consensus booklets.” Each evaluator must achieve consensus with the pre-established scores before he or she can proceed to the scoring of “live” student responses. Table Leaders continue to monitor the accuracy of evaluators’ scores during any given scoring session by administering additional consensus booklets and by “reading behind” each evaluator on a regular basis.

For a complete explanation of these procedures, please consult the Technical Bulletins that are published in conjunction with *TerraNova, The Second Edition*.

5. Can score reports be customized to reflect content standards unique to our schools?

CTB offers Customized Reporting from a Standardized Test (CRST/2) to help you make sound educational decisions by providing in-depth analyses that reflect your local priorities. The flexibility of CRST/2 allows you to align *TerraNova, The Second Edition* test items to your own unique objective structure and generate customized reports that include content areas and content unique to your schools.

CRST/2 gives you many of the benefits of a customized test without the time and costs of developing one. CRST/2 offers electronic entry for item to objective matches; accepts both selected-response and open-ended (constructed-response) items; allows customers to receive reports that contain locally developed items along with *TerraNova, The Second Edition* data; and provides norm-referenced, criterion-referenced, and standards-based reports. The unique combination of CRST/2 features saves you time and provides a full range of reporting options for tests that are customized to meet local needs.

Technical Information

1. How does CTB derive the scores that are available in reports for *TerraNova, The Second Edition*? How should I interpret the Scale Score? Grade Equivalent? National Percentile? National Stanine? Normal Curve Equivalent? And the Objectives Performance Index (OPI)

Scale Scores (SS)

The Scale Score is the basic score for *TerraNova, The Second Edition* and other CTB assessments.

It is used to derive all the other scores that describe test performance. Scale Scores can be obtained by one of two scoring methods. The first is Item Response Theory (IRT) item-pattern scoring, a procedure offered only by CTB among the major K-12 test publishers. With item-pattern scoring, Scale Scores are derived numerically using all the information contained in a student's pattern of item responses. The second method is number correct scoring. This method converts the number of correct responses (or points earned for constructed-response items) to a Scale Score. For groups of 25 or more students, the item-pattern and number-correct Scale Scores produce equivalent results. Customers can choose to use either scoring method. CTB recommends item-pattern scoring because it provides more accurate results for individual students. Scale Scores are equal-interval scores that can be averaged and used in other statistical analyses.

National Percentiles (NP)

The NP represents the percentage of students in the national norm group whose scores fall below a given student's score. For example, a student whose NP is 65 scored higher than 65 percent of the students in the norm group. NPs are scores that are useful for comparing local student achievement to students' achievement nationally. However, two misconceptions may occur. First, NPs are sometimes mistakenly thought to be the percentage of items answered correctly. Second, NPs are sometimes averaged, which is not appropriate because NPs are not equal interval scores.

National Stanine (NS)

The NS is a scale that divides the scores of the norming sample into nine groups ranging from a high of 9 to a low of 1. Stanines are normalized scores that have a constant relationship to Percentiles. That is, a given Percentile always falls into the same Stanine. Stanine 5, for example, always includes Percentiles 41-59. Stanines are single digit scores and are not likely to be confused with percentage of items answered correctly, and they can be averaged because they are equal interval scores. However, because they categorize test performance into only nine broad units, Stanines provide less detail about student performance than other derived scores.

Grade Equivalent (GE)

The GE indicates the year and month of school for which a student's score is typical. A GE of 6.2, for example, means that the student has scored at a level that is typical of students who have completed the second month of Grade 6 at the time the test was standardized. Grade equivalents should always be interpreted cautiously. For example, if a second grade student obtained a GE of 5.8 on a mathematics test, it does not mean that the student has mastered all the mathematics content taught through the first eight months of Grade 5. It means only that the student's performance on the test is statistically equivalent to the typical performance of students in the norm group who had completed eight months of Grade 5. Grade equivalents should not be used to place students in grades corresponding to the obtained GE. Generally, CTB recommends that reports containing GE information not be used with audiences that do not have a thorough understanding of this statistic and would be likely to misinterpret its meaning.

Normal Curve Equivalent (NCE)

The NCE was designed to be used in the evaluation of compensatory education and other special programs. NCEs range from 1 to 99 and coincide with the NP scale at 1, 50, and 99. NCEs are normalized equal interval scores and are not recommended for use in reporting individual student scores since the NCE is easily confused with the NP.

Objectives Performance Index (OPI)

The OPI is a "criterion-referenced" score that is reported for each of the objectives measured by *TerraNova, The Second Edition*. It appears on a number of reports along with norm-referenced

scores. The OPI is a weighted average of: 1) the student's percent-correct raw score on the objective and 2) an estimate of the student's performance on the objective, based on that student's overall test performance. The OPI is an estimate of the number of items a student would be expected to answer correctly if there had been 100 similar items for that objective. For example, an OPI of 65 on a given objective means that if the student were given 100 similar items, the student would be expected to answer 65 of them correctly.

Additional information about the derivation, interpretation, and application of the scores reported for *TerraNova, The Second Edition* may be found in the Teacher's Guide to *TerraNova, The Second Edition*, the Norms Books, and the *TerraNova, The Second Edition* technical bulletins.

2. Why are Objectives Performance Index (OPI) scores better indicators than percent-correct raw scores of my students' achievement at the content objectives level?

The Objectives Performance Index (OPI) is a unique score developed by CTB to provide more accurate objectives-level data for use in instructional planning and improvement. The OPI increases the instructional value of test results by breaking down the information provided by the subtests into smaller, more manageable units. The OPI is, in essence, an estimate of the percentage of any set of items that could be used to measure an objective the student could be expected to answer correctly. No other test publisher offers such an accurate and meaningful score. Most publishers report only the number of items from a given set that the student answers correctly. No allowance is made for differences in item difficulty. Responding correctly to three out of four very easy items certainly does not have the same meaning as does responding correctly to three out of four very difficult items, yet that is the assumption one is asked to make when no allowance is made for differences in item difficulty.

Because objectives for *TerraNova, The Second Edition* are measured by relatively small numbers of items—but never fewer than four—CTB's scoring system looks not only at how many of those items the student answered correctly, but at additional information as well. In technical terms, the procedure CTB uses to calculate the OPI is based on a combination of Item Response Theory (IRT) and Bayesian methodology. (This procedure is described in detail in the Prepublication Technical Report for *TerraNova, The Second Edition*.) In non-technical terms, the procedure looks at the number of items related to the objective that the student answered correctly, as well as the student's performance on the rest of the subtest in which the objective is found. This information is then placed on a common mastery scale. The scale runs from 0, indicating complete lack of mastery of the objective, to 100, indicating the highest level of mastery.

This additional information from a norm-referenced test such as *TerraNova, The Second Edition* greatly increases the instructional value of the test results. For example, a student who scores well below the national average in norm-referenced terms on the Mathematics Computation subtest could use assistance in mathematics computation. Norm-referenced information does not, however, give any idea of what specific type of problem the student may have—the kind of information the OPI provides. To know that the student has attained an acceptable level of mastery in addition and subtraction of whole numbers but has a low level of mastery in multiplication and division of whole numbers gives the teacher a good indication of just what type of assistance might be of greatest value. Instruction focused on the identified needs of students has the best chance of helping those students increase their skills in the areas measured by the test. For this reason, *TerraNova, The Second Edition* provides mastery scores in terms of the OPI.

Communicating Test Results

1. How do I introduce the test and explain test results to students?

Students are unlikely to be responsive to a teacher's efforts to use test results to help them learn if they have little understanding of the purpose of the test and fear how the results may affect them. Careful preparation before the test that includes an explanation of how the test results will be used for planning and improving education, as well as an explanation about how the scores will and will not be used can help alleviate student apprehension.

Once the test results have been returned, it is helpful to again remind students about the purpose of the test they have taken. Explain that the test results are meant to help identify skills and knowledge that they have already attained and those they still have to attain.

Set aside a time to talk individually with each student about her or his test results. Depending on the age and maturity of the student, you may use the actual score report in the discussion or you may choose to discuss only portions of the test information. It is not necessary to discuss test scores such as grade equivalent or Scale Scores unless the student *is* particularly interested. Discussion of performance in terms of familiar content and skills is more readily understandable and will probably have greater meaning.

To begin a discussion about test results in a positive way, point out specific examples of skills and concepts that the student did well on. Then discuss content knowledge and skills that the student did not demonstrate. Throughout the discussion, give the student a chance to express his or her feelings, opinions, and perceptions about the test. The end result of this discussion should be an agreement with the student on some instructional goals.

2. How do I explain test results to parents?

Well-planned communication between school and home about *TerraNova, The Second Edition* can contribute to an effective working partnership of teachers and parents. To reap the greatest benefit from the testing process, it is important that teachers communicate with parents prior to the test being given and then again once test results are available.

Parent/Teacher Conferences. The individual parent/teacher conference can form the basis of initiating or continuing communication with parents/guardians about testing. The content of the parent/teacher conference will depend on the specific needs and concerns of the student involved. In any discussion of testing and test results, you may want to address three basic concerns: interpretation of the student's test scores, decisions about the student made on the basis of these scores, and the extent of parental participation in the student's learning.

Confidentiality of Test Results. Before talking with parents/guardians, become thoroughly familiar with the student's test performance. Your discussion can often begin by showing the actual test report to the parents/guardians. The Individual Profile Report or the Home Report may be appropriate for this purpose. If you are using a class or group report, you should cover up all names and scores except those of the student in question. Test scores must be kept confidential.

Putting Test Results in Perspective. Emphasize to parents/guardians that test scores represent achievement in particular areas at only one particular time and must be reviewed together with the student's actual classroom work and other factors. The parents/guardian should also understand that the test measures the basic content and skills that are most common to curricula throughout the country. It cannot possibly measure, nor should it attempt

to measure the full curriculum of a particular classroom, school, or district. As you review the test results with parents, explain how the results will be used. Emphasize the positive function of test results in helping students learn.

Test Scores. Explain test scores in general terms. Explain how a student's performance compares to others in the norm group, using performance levels, stanines, and percentile ranks as references. You might find it helpful to illustrate how the test content relates to classroom curriculum and to review objectives that the student has not mastered. Then you can outline specific plans for further diagnosis and for individual or group instruction.

When parents understand and have confidence in their children's test information; they will be able to use it to help with their children's learning progress.

Prices and Ordering

1. How many tests and score sheets come in a package?

It varies. Most *TerraNova, The Second Edition* test books and answer sheets come in packages of 30 or 50. Smaller institutions can order certain products in packages of 10. See the printed CTB/McGraw-Hill Assessment Products and Services Catalog for more details.

2. If I buy large quantities of the same or mix-and-match test booklets and scoring sheets, will I get a discount?

CTB does offer quantity discounts for large orders. Consult your [CTB Evaluation Consultant](#) for details. For up-to-date contact information on the consultant for your area, call Customer Service at (800) 538-9547.

Customer Service

1. How can I obtain additional printed information about *TerraNova, The Second Edition* to share with my colleagues?

If you need additional information, contact our Customer Service Department and request a *TerraNova, The Second Edition* brochure or a CTB/McGraw-Hill Assessment Products and Services Catalog. For specific CTB representatives in your area, call Customer Service at (800) 538-9547.

2. I'd like to talk to someone about *TerraNova, The Second Edition* before I place an order. Who can I call?

You may contact the [CTB Evaluation Consultant](#) or the CTB Regional Office for your area or call our Customer Service Department in Monterey, California at (800) 538-9547.

3. What kind of assistance can we expect from CTB/McGraw Hill?

Every state, and every district, and diocese has different needs when it comes to assessment. Whether developing a custom assessment or a new edition of one of our highly respected assessment series, our staff works closely with teachers, administrators, students, and parents.

CTB/McGraw Hill has always been noted for its excellent National Accounts and Customer Service Departments from our Monterey, California home office, as well as prompt attention from our Evaluation Consultants. Each CTB Evaluation Consultant and National Accounts Manager works closely with state, and district or diocese staff to plan the most effective test program possible. We work hard to ensure that every product sold reflects the direct needs of its users.