



Guidelines for Test Interpretation

Understanding and Profiting from Achievement Test Results

Thank you for using BJU Press Testing & Evaluation. We are pleased to provide this guide to assist you in better understanding the scores found on your results reports and to give suggestions for applying these results. We trust you will find this guide helpful in gaining maximum benefit from this year's testing experience.

Valid Uses of Your Achievement Test Results

Achievement tests may be used appropriately to

- Test your student's knowledge of facts, basic skills, and concepts common to the grade tested
- Assess year-to-year progress in your student's learning (most accurate over extended periods)
- Evaluate your student's ability to apply thinking skills
- Compare your student's scores with other students' scores
- Determine possible academic strengths/weaknesses
- Clarify the effectiveness of curriculum, methodology, or emphasis (with caution)

Clarification of Terms

Grade Level

The grade number near the top of the results report is the grade level of the norm group (the group with which your student was compared). The grade level was determined by what the student marked on his answer document and by the grade number marked on the *Student Roster*. In the spring and summer months this should correspond to the grade the student is *completing*. In the fall months (August–October) it should correspond to the grade the student is *entering*.

Standard/Scaled Scores (SS)

The Developmental Standard Score (The Iowa Tests®) and Scaled Score (Stanford) describe a student’s location on an achievement continuum, a continuously running scale that ranks the lowest scores to the left and the highest scores to the right. These scores may be used to note your student’s growth from year to year as measured by achievement testing.

The charts below may be used to compare your student’s SS scores with those made by others nationally in the same test areas. Since the two tests use very different ranges in their respective continuums, their SS scores are not interchangeable. Be careful to use only the chart(s) corresponding to the test series used. Apply the chart(s) only to the

test areas indicated because the SS of an individual subtest/total cannot be compared with the SS of another, even within the same test series.

Total/Composite Scores

Core/Basic—This shows an “average” of the fundamental subjects (i.e., reading, language, math). Areas included may vary by grade.

Composite/Complete—This score is the total of all scores from all subtests. It will be reported only when all subtests have been scored. The exception is that the score for the *ITBS®/ITED®* Math Computation subtest (if taken) does not affect the Total Math, Core, or Composite scores.

Thinking Skills

This score measures a student’s ability to reason, deduce, comprehend, generalize, and analyze. Since these questions are embedded throughout the test, this score (when available) is reported only when *all* subtests are administered and scored.

National Percentile Rank (NPR or PR)

Percentile ranks compare a student’s score to those of other students at the same grade level (not age-based). Ranked on a scale of 1–99, the 50th percentile is the median score, with 40–59 as an average range. For example, if John’s score is ranked at the 55th percentile, he scored

THE IOWA TESTS® Core Standard Scores

Grade	K	1	2	3	4	5	6	7	8	9	10	11	12
Median Scores*	130	150	169	186	201	215	228	240	251	259	267	274	279
Continuum Range**	90 → 384												

STANFORD Total Reading Scaled Scores

(reported as the Total Reading Score on results)

Grade	K	1	2	3	4	5	6	7	8	9	10	11	12
Median Scores*	468	554	597	621	630	644	661	669	680	689	702	707	709
Continuum Range**	255 → 868												

STANFORD Total Mathematics Scaled Scores

(reported as the Total Mathematics Score on results)

Grade	K	1	2	3	4	5	6	7	8	9	10	11	12
Median Scores*	492	530	576	606	618	639	655	663	675	685	700	704	706
Continuum Range**	292 → 886												

*This is the median SS made by students on the achievement test for each respective grade in the *spring* of the year. These scores closely equate to the 50th percentile rank for each grade. (See National Percentile Rank.)

**Noting these scores will help you understand where your student’s score lies in the continuum from kindergarten through Grade 12.

higher than 55 percent of the students in his comparison (norm) group but lower than 45 percent of the norm group.

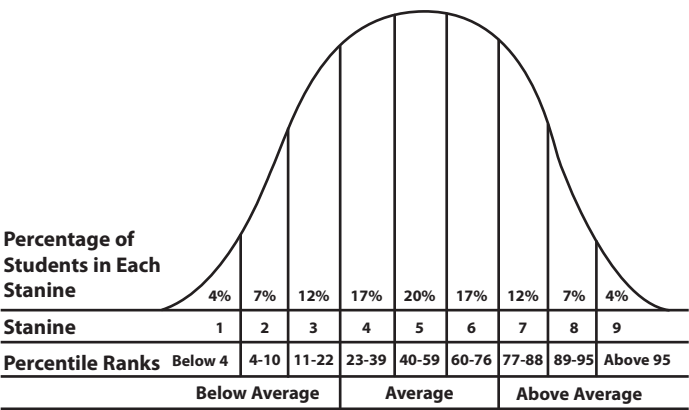
Percentile rankings should not be confused with percentages. For example, a percentage of 55 on a chapter test would be a failing grade, but a percentile rank of 55 on an achievement test is an average/acceptable score.

Because they are rankings rather than percentages, percentiles should be viewed as approximate rather than specific values. A five- to eight-point variance from year to year is likely immaterial. For this reason, percentiles are often graphed as confidence bands or ranges to indicate where a student's score would likely fall if tested again.

Please note: Percentiles on individual subtests **cannot** be added or averaged to arrive at Core/Basic or Composite/Complete Battery percentiles.

Stanine (NS or ST9)

Stanine scores also show a comparison of student scores; they range from a low of 1 to a high of 9. They may be thought of as groupings of percentile ranks, as seen in the following diagram.



Grade Equivalent (GE)

The GE can be helpful in measuring academic growth from year to year. The number in front of the decimal represents the grade year, and the number after the decimal represents the grade month.

For example, if Sally, a second grader, scored a GE of 4.7, it means that she earned a score equivalent to what a typical student in the seventh month of fourth grade would make.

Be cautioned! GEs are *not* indicators of grade placement. They are only estimates of a student's standing in a continuum of learning. In our example, Sally's GE of 4.7 does not mean she is ready for fourth-grade material because she was not tested on fourth-grade material. It means only

that she has a thorough mastery of the material covered on the second-grade test.

Norm/Criterion-Referenced Scores (Objectives/Skills)

Norm-referenced scores (NPR/NS/GE) compare the student's scores to those of a group of students (norm) at a similar point in the same grade. Criterion-referenced scores (Objectives/Skills) compare the student's scores to the content (criteria) of the test itself.

The Objectives/Strands section (Stanford) lists the number of items related to each subtest/strand and gives the number of correct responses out of the number possible (Number Correct). The student's correctness is indicated by the Student Percent Correct. The performance categories for each subtest/strand compare the student's percent correct to the national average (Below Avg., Avg., Above Avg.). Usually this corresponds directly to the student's Stanine range (refer to bell curve diagram).

The Tests and Skills section (The Iowa Tests®) lists the number of items related to each test/skill (Total Items), gives the number the student attempted (No. Att.). How well the student did on those questions is shown by the %C Stu. (% Correct Student) as compared to the %C Nat. (% Correct Nation). It is also shown as a bar graph which ranks these comparisons as Low, Middle or High.

Common Core Report

The Iowa Tests® Form C offers an extra report comparing the student's performance to the Common Core Standards that many states have adopted. This page shows "criterion-referenced" scores—it shows how well the student did with a fixed standard. (This differs from the Performance Profile and Profile Narrative reports that compare a student to a national group by rankings/percentiles.)

Reading Profile Total (only ITBS Levels 5–9)

The Primary Reading Profile score indicates the student's overall reading level based on the scores obtained on *all* reading-related subtests. If any of the associated subtests are not attempted, this score will not be calculated.

Lexile Framework® for Reading

Lexiles® are reading measurements that match readers to text. Lexile reader measures are available beginning with first grade. For more information refer to www.bjupress.com/go/lexiles.

Ensuring Well-Grounded Interpretations

Grade placement and curriculum choices should never be based solely on test scores. These decisions should always involve the entire picture of your student's ability/progress.

Remember that a student's God-given ability affects what should be expected for achievement test scores. For one student a 40th percentile may be an excellent accomplishment while for another it would not meet expectations.

Share results with your student in general terms rather than specific numbers. For example: "Your score in Math Computation is above average when compared with other students in your grade across the country" or "Spelling is an area we especially want to work on together."

Do not assume that an achievement test has measured all of the important skills and objectives you are trying to teach. Viewed together with the student's daily work, the test scores should confirm your own observations of the student's progress.

Applying the Results

Results provide an opportunity to check the effectiveness of some aspects of your academic program. Always add your own observations to any evaluation. The suggestions listed below may help remedy some weaker skill areas.

If **Reading Comprehension** scores are low, check

- Whether your teaching and curriculum use only literal recall questions rather than interpretation, thought, inference, and other higher levels of thinking

If **Language** scores are low, check

- Whether your teaching provides instruction in and opportunities for writing ("proofing" of writing assignments can prepare for tests; our Writing Evaluation program may also help)

If **Spelling** scores are low, check

- Whether your student knows that spelling is important (comes from writing and an emphasis on correct spelling in all subject areas)

- Whether your methodology teaches the student how to spell in addition to memorizing word lists
- Whether your curriculum employs a variety of ways to use each lesson's words over the whole week of study

If **Math Problem Solving** scores are low, check

- The quantitative thinking skills of your student, using a mental abilities test to discover what to expect
- Whether your teaching and curriculum emphasize visualization, meaning, and understanding, rather than mere telling followed by drilling
- Whether your curriculum provides adequate practice in solving story problems

If **Math Computation/Procedures** scores are low, check

- Your student's command of the basic facts and understanding of procedures
- Whether there is carelessness while working
- The number of questions left unanswered (indicates speed)

If **Sources of Information** scores are low, check

- Whether you are taking time to require the reading (interpreting) of maps, graphs, and tables in texts and other sources
- Whether library, reference, and dictionary skills are taught in your curriculum

If *any* **Objectives** or **Skills** are unsatisfactory, apply

- Another means of verifying or disproving the revealed weakness
- A reteaching plan to remedy the weakness

Understanding the Cognitive (CogAT®) and School Abilities (OLSAT®) Tests

An Overview

The Cognitive and School Abilities Tests assess the student's aptitude in reasoning and problem solving, using verbal (word), quantitative (number), and nonverbal (picture-figure-spatial relationship) symbols. These abilities are important to learning and are, in part, developed skills, though innate ability does play a role. The developers of school abilities tests base their testing "on the premise that to learn new things, students must be able to perceive accurately, to recognize and recall what has been perceived, to think logically, to understand relationships, to abstract from a set of particulars, and to apply generalizations to new and different contexts" (Pearson Education, Inc.). Learning abilities tests attempt to assess these abilities.

Test performance is influenced by several factors: inherited characteristics, learning experiences, motivation, special skills, attention, persistence, and emotional stability.

Information to help understand the scores reported on the Cognitive/School Abilities Tests is included under the Clarification and Application of Terms section below. Always interpret scores by checking them against teacher observations, student achievement, and other indicators of ability. Keep in mind that abilities may change with age and experience.

Valid Application of Learning Abilities and Combination Test Results

Meaningful observations that can be made from learning abilities test results include:

- Possible insights into how students learn best and the type of curriculum best suited to their learning abilities
- Measurement of each student's verbal, numerical, and nonverbal thinking, reasoning, and learning skills compared with other students of the same age and grade
- Comparison of each student's actual performance (indicated by the achievement test results) with his

expected performance (indicated by the abilities test results)

- Insight into each student's relative strengths and weaknesses in performing a variety of reasoning tasks—a help in determining the academic expectations for each student.

Clarification and Application of Terms

Cognitive Abilities Test™ (CogAT)®

Verbal Score

The verbal score reveals the student's ability to perceive the meaning of and the relationship between words and word combinations. Since the evaluation of verbal reasoning depends on effective reading, the reasoning ability of poor readers may not be fully revealed. Students are tested in this area by performing sentence completions, solving verbal analogies, and deciphering the relationships between the meanings of words.

Quantitative Score

The quantitative score reveals the student's ability to comprehend and employ numbers that permit him to understand relationships, computational rules, and problem-solving techniques. This ability is tested through asking the student to build and solve equations, recognize number series, and demonstrate an understanding of the relationship between numbers and their values.

Nonverbal Score

The nonverbal score indicates the student's ability to spatially manipulate and reason with geometric patterns and figures. Since a school setting involves mostly verbal communication, this score is not always an accurate indicator of academic success, but it does give a good indication of reasoning ability in poor readers. Students who score well in this area learn best through visuals, pictures, objects, models, simulations, and hands-on activities. A student's nonverbal score is determined by his ability to solve figure analogies, classify designs, and exercise skill in recognizing figures in dimension.

Standard Age Score (SAS) and Grade Score

The SAS has largely replaced the IQ score on mental ability tests. The average (mean) SAS is 100, with 90-110 representing a broad-average band. Approximately 68 percent of students' Standard Age Scores fall between 84 and 116.

The *CogAT* report also provides data to help teachers compare the scores reported with the scores of other students over the nation who are in the same grade (Grade Score) **and/or** of the same age (Standard Age Score).

Also in the Age Score area are the AS (Age Stanine) scores and APR (Age Percentile Rank) scores.

Combined *ITBS®/ITED®* and *Cognitive Abilities Test™*

(These terms appear only on the combined test results.)

Predicted Scores (PNPR)

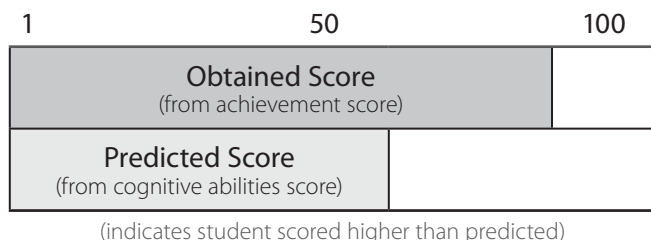
Based on students' performance scores on the *Cognitive Abilities Test*, these are the achievement test scores predicted for each student.

Obtained Scores (NPR)

These are the students' actual scores on the achievement test portion of the combined test. They are reported separately and then compared with the predicted scores defined above.

Percentile Ranks: The Comparisons

The graphs in this area permit a comparison of predicted and obtained scores.



Combined SAT and Otis-Lennon School Ability Test®

(These terms relate only to the OLSAT portion.)

AAC Range (only on Stanford Achievement results if taken in combination with Otis-Lennon School Ability Test)

In the AAC Range column on the Stanford report, an Achievement/Ability Comparison (AAC) is listed. These ranges—High, Middle, and Low—compare a student's performance on the Stanford Achievement Test with that of other students *showing the same measured ability* on the School Ability Test. This score helps determine whether a student is performing up to, above, or below his test ability.

Verbal Score

The verbal score indicates the student's ability to comprehend, reason, and make inferences from words, sentences, and verbal analogies. See also *Verbal Score* under *CogAT* terms.

Nonverbal Score

For an introduction to what the nonverbal score represents, refer to *Nonverbal Score* under *CogAT*. In addition, this OLSAT score includes an assessment of numerical reasoning, including the ability to see relationships between numbers and to use them to establish rules for computation.

School Ability Index (SAI)

Based on OLSAT ability scores, scores in the SAI column estimate a student's probable success in academic pursuits. The average (mean) SAI score is 100, with 90-110 representing a broad-average band. Approximately 68 percent of students' SAI scores fall between 84 and 116. The AgePR and GrdPR columns allow a percentile and stanine comparison of the SAI score with the national results of students the same age and/or in the same grade.



Testing & Evaluation

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Thank you for the opportunity to assist you with your testing and interpretation needs. If we may answer any further questions for you, please feel free to contact us.