

The Cognitive Abilities Test (CogAT) measures students' learned reasoning abilities in the three areas most linked to academic success in school: **Verbal, Quantitative and Nonverbal**. Although its primary goal is to assess students' reasoning abilities, CogAT can also provide predicted achievement scores when administered with The Iowa Tests (**ITBS**).

While CogAT is well-suited to help educators make important student placement decisions, such as selecting students for Gifted and Talented programs, exclusive features such as the Ability Profile Score can be used to expand the educational opportunities of all students. Reasoning abilities have substantial correlations with learning and problem solving, both in and out of school. CoGAT's measurement of three different content domains ensures that educators receive a balanced view of the child. Cognitive processing measure of ability that is fair to minority children, effective for differential diagnosis, and related to intervention

What is the purpose of the CogAT?

1. To measure and learn about students' general and specific reasoning abilities:
2. To assess students' abilities in reasoning and problem solving using verbal, quantitative, and nonverbal (spatial) symbols. The general reasoning abilities reflect the overall efficiency of cognitive processes and strategies that enable individuals to learn new tasks and solve problems, especially in the absence of direct instruction."(pg. 1, CogAT Form 6, A Short Guide for Teachers, Riverside Publishing)
3. The Cognitive Abilities Test measures developed abilities, not innate abilities. The development of these abilities begins at birth and continues through early adulthood. It is influenced by both in-school and out-of-school experiences."

What is tested on the CogAT?

The assessment consists of three batteries which measure three reasoning abilities: sequential reasoning, inductive reasoning, and quantitative reasoning. "*CogAT* measures students' abilities to reason with words, quantitative concepts, and nonverbal (spatial) pictures." Riverside Publishing.

The subtests of the CogAT are:

Verbal Reasoning

- verbal classification
- sentence completion
- verbal analogies

Figural Reasoning

- figure classification
- figure analogies
- figure analysis

Quantitative Reasoning

- quantitative relationships
- number series
- equation building

How is the CogAT used?

- To provide instructors with the information they need to adapt instruction to the individual needs of the student.
- To provide a measure of cognitive development not represented by grades or other measures of school achievement.
- To identify students whose academic achievement is either lower or higher than would be expected based on their CogAT scores.

Many parents and teachers understand the purpose of the CogAT as an entrance assessment or one of the criteria for gifted identification, used to determine whether a child gains access to gifted, high achieving, or high ability programming at school.

ITBS - Iowa Test of Basic Skills

The **Iowa Tests of Basic Skills** are standardized tests that provide a comprehensive assessment of student progress in major content areas. This means that all students who took the same level test answered the same questions, received the same directions, and were given the same amount of time to finish the test.

Standardized tests are one way for you, your child, and your child's teacher to know how your child is doing in school. Testing can high-light your child's strengths and weaknesses. Test scores are used in instructional planning by your child's teacher and principal.

Although scores are a good indicator of how well your child has learned the skills tested, they can be affected by a number of things, such as, how much of the material was covered in class before testing, how your child was feeling on the day of testing, and the conditions under which testing occurred. Test scores are expressed in several different ways. The definitions given in the next column will help you interpret your child's test scores.

Percentile Ranks (PR) give the percentage of students in the nation that your child scored as high as or higher than. Percentiles range from 1 to 99; the national average, in percentiles, is 50.

Frequently Asked Questions about the Iowa Test of Basic Skills (ITBS)

What type of test is the ITBS?

The Iowa Test of Basic Skills (ITBS) is a nationally standardized, norm-referenced test (NRT).

What is does "nationally standardized" mean?

A nationally standardized test is a test that each test-taker is administered in the same way across a specified reference population (e.g., age groups, grade groups, etc.). Therefore, the score interpretations are based on a comparison of the test taker's performance to the performance of other students in the nation.

What is a norm-referenced test (NRT)?

It is a NRT because it compares students' abilities rather than to a criteria. Thus, the ITBS allows educators to get a look at the performance of their students in relation to the rest of the nation. A NRT is designed to highlight achievement differences between and among students.

How valid and reliable is the ITBS?

The ITBS was developed at the University of Iowa, and is based on over seventy years of on-going research.

What does the ITBS measure?

The ITBS measures the skills and achievement of students from kindergarten through grade six in Muscogee County Schools and provides an in-depth measure of important educational objectives. It also yields reliable and comprehensive information both about the development of students' skills and about their ability to think critically. It measures students against their peers. Test subjects in the ITBS are in reading, language arts, mathematics, social studies, and science. It is administered in October of the school year to students enrolled in grades third and sixth. The Gifted Education Department disaggregates the data from the **Reading and Math** portion looking for 90% and above.

What types of results does the ITBS give on the student report?

The ITBS produces developmental standard scores (SS) (i.e., scaled scores), and percentile ranks.

What does the developmental standard score (SS) mean?

The developmental standard score (SS) is a number that describes a student's location on a scale.

What is a national percentile rank (NPR) score?

A national percentile rank score compares the achievement of a student or a group of students to the achievement of a national sample of students who are in the same grade and who were tested at the same time of the year (fall, midyear, or spring). For example, if a student earned a percentile rank of 72 on the science test, it means she scored higher than 72 percent of the students in the group with which she is being compared.

What is the "Core Total" score?

A Core Total score is reported for both The Iowa Tests of Basic Skills and The Iowa Tests of Educational Development. The Core Total score is the average of the Reading, Language and Mathematics test scores. The tests cover the following areas:

- Reading: Vocabulary + Reading Comprehension
- Language: Spelling + Capitalization + Punctuation + Usage/Expression
- Mathematics: Concepts/Estimation + Problem Solving/Data Interpretation + Computation.

What is the "Total Composite" score?

A Total Composite score is reported for both The Iowa Tests of Basic Skills and The Iowa Tests of Educational Development. The Total Composite score is the average of the Reading, Language, Mathematics, Social Studies and Science test scores.

- Total Composite: Reading + Language + Math + Social Studies + Science

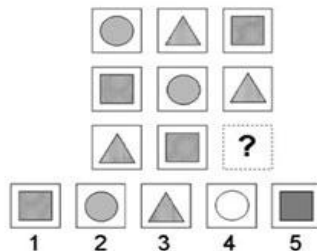
Wechsler Intelligence Scale for Children (WISC)

This assessment is given through the MCSD Psychological Services Department. If a parent does not agree with the assessments supervised through the Gifted Education Department then we refer the student to Psych Services where other tests will be given for identification.

David Wechsler, who developed the Wechsler Intelligence Scale for Children (WISC), defined general ability as “the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment.” The psychologist Rudolph Pintner explained, “We did not start with a clear definition of general intelligence . . . [but] borrowed from everyday life a vague term implying all-round ability and knowledge, and . . . we [are] still attempting to define it more sharply and endow it with a stricter scientific connotation.” So there is little reason to assume that those who invented tests of general ability conceptualized verbal and nonverbal types of intelligence. General-intelligence tests with verbal and nonverbal content measure the same construct of general ability as tests that are all nonverbal; therefore they are more useful across cultures. The verbal-nonverbal distinction is a practical rather than a theoretical one, coming into play especially when diverse populations are tested. For persons whose first language is not English, the use of verbal tests in America creates an obstacle because, quite simply, such persons sometimes don’t know enough English. Logic and empirical research support the conclusion that they do poorly on English measures of general intelligence that contain verbal tests because of their limited English-language skills, not because of low intelligence.

What Does a Nonverbal Test Look Like?

A typical nonverbal test item from the Naglieri Nonverbal Ability Test (NNAT) is shown in the figure. A student must see the patterns formed by the shapes organized into groups, then choose an answer that completes the pattern. Actual test items use blue, white, and yellow because these colors are most easily perceived by those with color-impaired vision. In this example, the child has to understand that the three shapes form a pattern throughout the three-by-three matrix. The circle forms a diagonal line from the bottom right to the top left. The triangles and the squares form their own alternating pattern; once the child understands it, he or she can choose the correct option number 2.



Many academic tasks, regardless of content, call for the same basic intellectual activity required to solve this problem. For example, understanding a written paragraph requires a child to “see” how various pieces of information are interrelated. Learning to spell often involves seeing patterns in a sequence of letters. Many aspects of math involve recognizing the patterns and relationships among concepts and numbers. Because a nonverbal test measures a basic and essential way of thinking, it helps us understand how smart a child is and how likely that child is to do well in school. Because the test items do not require knowledge of words, they permit a fair evaluation of children from different cultural and linguistic groups.

Who Is a Good Candidate for a Nonverbal Test?

Although nonverbal tests are especially useful for children with limited English-language skills, their value is not limited to that group. For example, children whose economic or social circumstances have limited their acquisition of knowledge and verbal skills may best be able to display their knowledge through such a test. They should and will earn good scores on tests of general ability. Taking nonverbal tests of ability will afford them the same opportunity to succeed as other children. Nonverbal tests are also useful for evaluating those with impaired hearing.

Nonverbal tests provide a valid way to measure general ability for all children. Researchers have found that they identify similar proportions of black, white, and Hispanic children as gifted. This suggests that the problem of underrepresentation of minority children in classes for the gifted may be addressed by using such tests. Using nonverbal tests of general ability gives all children an equal opportunity to succeed.

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Description: The Wechsler Intelligence Scale for Children-Revised (WISC-R) is a general test of intelligence, which Wechsler defined as, "... the global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment." In keeping with this definition of intelligence as an aggregate of mental aptitudes or abilities, the WISC consists of 13 subtests divided into two parts, verbal and performance.

Scoring: The WISC-R is a collection of 13 distinct subtest divided into two scales - a Verbal Scale and a Performance Scale. The six Verbal Scale tests use language-based items, whereas the seven Performance Scales use visual-motor items that are less dependent on language. Five of the subtests in each scale produce scale-specific IQs, and the 10 subtest scores produce a Full Scale IQ.

Reliability: Each of the three IQ scales has an internal consistency reliability coefficient of .89 or above in the standardization group over the entire age range covered by the scale. Average internal consistency reliability coefficients, based on the 11 age groups, are .96 for the Full Scale IQ, .94 for the Verbal Scale IQ, and .90 for the Performance Scale IQ. The average subtest reliability coefficients range from a low of .70 for Object Assembly to a high of .86 for Vocabulary. The average reliability coefficients range from .77 to .86 (Mdn = .80) for the Verbal Scale subtests and from .70 to .85 (Mdn = .72) for the Performance Scale subtests. Test-retest stability coefficients were .95 for the Full Scale IQ, .93 for the Verbal Scale IQ, and .90 for the Performance Scale IQ.

Validity: Because the WISC-R overlaps with the WPPSI in the age range of 6-0-0 to 6-7-15, either of the two tests can be used to evaluate children in this age range. The correlations were .80 for the Verbal Scales, .80 for the Performance Scales, and .82 for the Full Scales. In a study in which 5 to 6-year-old middle-class children were

administered both tests, with a one-year test-retest interval, the WISC-R yielded IQS that were 5 points lower on the average than those of the WPPSI. Correlations between the two tests were .81 for the Verbal Scales, .80 for the Performance Scales, and .94 for the Full Scales. Four studies comparing the WISC-R and the Stanford-Binet: Fourth Edition are reported in the Technical Manual of the Fourth Edition. Correlations ranged from .66 to .83 between the WISC-R Full Scale IQ and the Fourth Edition composite.

Norms: The WISC-R was standardized on a sample of 2,200 American children selected as representative of the population on the basis of the 1970 U.S. Census.

Naglieri Nonverbal Ability Test (second edition)—NNAT2

This test is given in October of the school year to kindergartners to determine mental ability. It uses progressive matrices to allow for a culturally neutral evaluation of students' nonverbal reasoning and general problem-solving ability, regardless of the individual student's primary language, education, culture or socioeconomic background.

Based on seven levels, K through 12, the NNAT2 fosters a normative understanding of general ability without reliance on shared concepts, language, culture, and institutionalized curriculum.

Redesigned to engage and better assess the general student population.

Use NNAT2 to evaluate:

- General ability in the entire student population
- Students of limited English skills from diverse cultural backgrounds
- Gifted and talented students
- Non-English speakers, intermediate English speakers, and students learning the English language for the first time
- Students with limited motor skills, hearing impairment, and minimal color-vision impairment
- Students whose economic or social circumstances have limited their acquisition of knowledge and verbal skills

NNAT2 Items are:

- Utilize culturally neutral shapes and designs
- Isolates and evaluates fundamental reasoning, mathematics and problem-solving ability
- Unbiased for a culturally diverse student population
- Unbiased for hearing-impaired students
- Unbiased for students with minimal color-vision impairment
- Designed to require minimal motor skills
- Designed to require no receptive and/or expressive language
- Provide a graduating range of difficulty for identifying and recognizing gifted and talented and advanced students

Motivational Characteristics Rating Scale (K-2)

Students who are in grades K-2 will orally complete a series of questions that will gauge their academic abilities, attitudes towards learning, curiosity, inventiveness and problem solving skills. Qualified members of the Gifted Education Department will supervise this segment of assessment. This will be scored objectively as it pertains to each student's personalities. In order to qualify in this area a student must score in the 90th percentile.

Figural TTCT®: *Thinking Creatively with Pictures*

The highly reliable **Torrance® Tests of Creative Thinking** are the most widely used tests of this kind since testing only requires the examinee to reflect upon their life experiences. These tests invite students to draw and give a title to their drawings (pictures) or to write questions, reasons, consequences and different uses for objects (words). These instruments have been used for identification of the creatively gifted and as a part of gifted matrices in states and districts in the USA, especially in multicultural settings, and for special populations around the world.

The **Figural TTCT: Thinking Creatively with Pictures** is appropriate at all levels, kindergarten through adult. It uses three picture-based exercises to assess five mental characteristics:

- fluency
- elaboration
- originality
- resistance to premature closure
- abstractness of titles

The **Figural TTCT** can be scored locally or by STS. Both methods employ the streamlined scoring procedure. Streamlined scoring provides standardized scores for the mental characteristics listed above as well as for the following creative strengths:

- emotional expressiveness
- storytelling articulateness
- movement or action
- expressiveness of titles
- synthesis of incomplete figures
- synthesis of lines or circles
- unusual visualization
- internal visualization
- extending or breaking boundaries
- humor
- richness of imagery
- colorfulness of imagery
- fantasy

With **Figural TTCT Streamlined Scoring** two different norm types are available: grade-related norms and age-related norms. Grade-related norms for the **Figural TTCT** use one set of norms for each of the grades for which the test is appropriate, including the adult level. Age-related norms are based on the typical age for each of the grades in which the **Figural TTCT** may be used. They range from five to eighteen years and beyond.

The qualifying score for the TTCT is 90% and above. The test is given individually K-2 and in a group setting 3-12. Assessment is supervised by qualified and trained Gifted Education Department members.