**Diagnostic Achievement Battery–Third Edition**

The Diagnostic Achievement Battery–Third Edition (Newcomer, 2001) is an individually administered measure of children's skills in listening, speaking, reading, writing, and mathematics. Although the test is called "diagnostic," it is essentially similar to the PIAT-R, WRAT-3, and K-TEA. Test givers use this test not to "diagnose" skill strengths and weaknesses in individual content areas, but to obtain profile scores across areas. The test is designed to meet four purposes: (1) to identify students who are significantly below their peers in spoken language (listening and speaking), written language (reading and writing), and mathematics; (2) to ascertain an individual student's skill-development strengths and weaknesses; (3) to document intervention progress for individual students; and (4) to conduct research. The test is designed to be administered to children between the ages of 6 and 14 years. Updated norms, reliability and validity studies, minor changes among subtests, and an added optional subtest (Phonemic Analysis) represent modifications present in this latest edition of the DAB.

The DAB-3 is based on a specific conceptual model of academic achievement; that model is shown in Figure 21.1. Subtests are divided into five areas: Listening (Story Comprehension, Characteristics, and Phonemic Analysis), Speaking (Synonyms, Grammatic Completion), Reading (Reading Comprehension, Alphabet/Word Knowledge), Writing (Capitalization, Punctuation, Spelling, Writing: Contextual Language, and Writing: Story Construction), and Mathematics (Math Calculation and Math Reasoning). Behaviors sampled by the subtests follow.

*Subtests*
**Story Comprehension**  The student must listen to the examiner read stories and then answer oral questions about the stories.

**Characteristics**  After listening to the examiner read brief statements, the student must indicate whether the statements are true or false.

**Phonemic Analysis**  The optional subtest requires the student to segment words into phonemic units.

**Grammatic Completion**  The student must supply missing words or phrases in sentences read by the examiner.

**Synonyms**  The student must provide synonyms for words read by the examiner.

**Reading Comprehension**  The student must read short stories and then answer questions presented by the examiner.

**Alphabet/Word Knowledge**  The student must identify letters or words.

**Capitalization**  The student must indicate appropriate placement of capital letters in a set of 28 sentences.

**Punctuation**  The student must indicate appropriate punctuation in a set of 28 sentences.

**Spelling**  The student must write and spell correctly 27 dictated words.

**Writing: Contextual Language and Writing: Story Construction**  The student must write a story in response to three pictures that represent a modified version of the classic fable "The Tortoise and the Hare." The story quality is evaluated according to 14 aspects of contextual language and 11 aspects of story construction.

**Math Calculation**  The student must solve 36 written calculation problems.
**Math Reasoning**  The student is presented with mathematical information in the form of pictures (for a young child) or statements presented orally and must use the information to solve math problems.

**Test Administration**

There are no set time limits for the DAB-3. Testing time typically ranges from 90 to 120 minutes. Most subtests are administered individually; however, the Punctuation, Spelling, Writing: Contextual Language, Writing: Story Construction, and Math Calculation subtests may be group administered.

**Scores**

Raw scores, percentile ranks, standard scores, and age/grade-equivalent scores can be calculated for each subtest. Standard scores for corresponding subtests are added, and converted into a quotient (similar to a standard score) and percentile rank for each of the eight composites (Listening, Speaking, Reading, Writing, Mathematics, Spoken Language, Written Language, and Total Achievement) using tables in the back of the examiner's manual. DAB-3 results can be compared to results for other standardized tests using formulas provided in the manual. Information is also provided for conducting discrepancy analyses among the subtests and composites.

**Norms**

The DAB-3 norm sample consists of 1,094 individuals from 16 states (ages 6 years, 0 months to 14 years, 11 months) who were tested between 1997 and 2000. Comparisons between the sample and the school-age population (U.S. Bureau of the Census, 1997) are provided for geographic area, gender, race, residence (urban versus rural), ethnicity, family income, parental education, and disability status. Stratifications are provided by
age for each of these variables, with the exceptions of residence and disability status. No
further cross-tabulations are provided in the manual, which makes it difficult to
determine whether comparisons are appropriate (for example, all of the low-income
students may be from the South, and not representative of low-income students from
across the nation).

Reliability

Coefficient alphas for each subtest and composite according to age are provided by the
author as a measure of internal-consistency reliability. Of the 126 subtest coefficient
alphas, 102 meet or exceed .80. Subtests having several lower coefficient alphas include
Synonyms, Punctuation, and Math Reasoning. Among the composite scores, all have
alpha coefficients that exceed .80, with the Listening, Spoken Language, and Written
Language coefficients exceeding .90. The Total Achievement coefficients range from .98
to .99. Coefficient alphas are also provided for gender and ethnicity groups, as well as for
students with learning disabilities. These reliabilities all meet or exceed .80, except for
Punctuation, Writing: Contextual Language, and Math Reasoning among students with
learning disabilities, as well as Writing: Contextual Language among African American
students. Test–retest was determined using a sample of 65 elementary and middle school
students from Pennsylvania tested twice with an intervening two-week period. Results
indicated adequate test–retest reliability (greater than .80) for all subtests, except for
Writing: Contextual Language and Writing: Story Construction.

Validity

Various measures of DAB-3 validity based on test content and internal structure are
described in the examiner's manual. Rationale is provided for including the specific
subtest content in the DAB-3, and comparisons are made between the content of the DAB-3 and other widely used achievement tests. Relatively few items were identified as being moderately to severely biased for different ethnic groups, and none were identified as being gender biased. Evidence of validity based on relations with other measures Predictive criterion validity is provided by correlating scores for the DAB-3 and the Stanford Achievement Test–Ninth Edition among a limited sample of 70 students from Pennsylvania. Seventy-five percent of the coefficients were in the "high" range (.60 to .80). Corresponding composite correlation coefficients (such as reading with reading, math with math) ranged from .52 to .80. Higher scores were obtained by older students than younger students, and scores for students who were expected to score lower or higher due to having a learning disability or being identified as gifted demonstrated corresponding performance on the DAB-3. Finally, evidence for validity based on internal structure is provided by demonstrating through confirmatory factor analyses an demonstrated appropriate fit to both a one-factor and five-factor model (corresponding to the Total Achievement and five composite scores). However, the Speaking and Listening factors were highly intercorrelated, and therefore were considered to more accurately constitute one factor. No data are presented to demonstrate that DAB-3 scores are useful for identifying children with academic difficulties, or for monitoring intervention effects.

Summary

The DAB-3 is an individually administered test of a variety of academic areas. The test has been slightly modified from the previous edition and has an updated norm sample and adequate reliability information. Limited stratification among the norm sample is evident; however, the manual displays considerable evidence of test validity.