

## Academic Achievement Assessment



### **Overview of Instruments**

Achievement assessment is typically included in a full individual evaluation for any student considered for special education services. Careful evaluation of academic strengths and weaknesses can provide helpful information about academic and school success, as well as significant insight into factors (general and subject-specific) that are having an adverse impact on academic achievement, including identification of learning gaps that have not previously been noted.

Following is a list of assessments that may be used for students who have or are suspected of having AU. Included are standardized norm-referenced achievement measures and measures used to determine the level of English language proficiency of students whose native language is one other than English.

### **BILINGUAL VERBAL ABILITY TESTS (BVAT)**

The Bilingual Verbal Ability Tests (BVAT; Muñoz-Sandoval, Cummins, Alvarado, & Ruef, 2005) are based on three tests from the Woodcock-Johnson-Revised Tests of Cognitive Ability (Woodcock & Johnson, 1989). These include Picture Vocabulary in which learners are asked to name familiar and unfamiliar objects, Oral Vocabulary in which learners are asked to name synonyms and antonyms of selected items and Verbal Analogies, which assesses the ability to comprehend and verbally complete a logical word relationship. All three are given first in English. Items answered incorrectly are then repeated in the learner's home language.

The BVAT yields a Bilingual Verbal Ability score, English Proficiency score, and scores for each subtest. The test has been translated into 16 home languages. If scores are also available for the WJ-R, the scoring program may be used to compare the student's aptitude (bilingual verbal ability) with achievement as indicated on the WJ-R. The correlation between the WJ-R and the BVAT is used to determine if the student's level of achievement is higher or lower than expected for students at the same level of bilingual verbal ability. If a student's BVA score is higher than the English language proficiency score and a significant aptitude/achievement discrepancy exists, this discrepancy will be attributed to limited English proficiency. The BVAT may be used to assess individuals 5 years old to adults.

### **DIAGNOSTIC ACHIEVEMENT BATTERY-THIRD EDITION (DAB-3)**

The Diagnostic Achievement Battery-Third Edition (DAB-3; Newcomer, 2001) is a standardized, norm-referenced achievement test used to measure achievement in children from ages 6 to 14. Different subtests can be administered through individual or group assessment. The 14 subtests comprise five composites and a Total Achievement score: Listening (Story Comprehension, Characteristics), Speaking (Synonyms, Grammatical Completion), Reading (Alphabet/Word Knowledge, Reading Comprehension), Writing (Capitalization, Punctuation, Spelling, Contextual Language, Story Construction), and Mathematics (Reasoning, Calculation). Additionally, there is a supplemental Phonemic Analysis subtest. Most of the test items are read aloud to the student.

### **GRAY ORAL READING TEST-FOURTH EDITION (GORT-4)**

The Gray Oral Reading Test-Fourth Edition (GORT-4; Wiederholt & Bryant, 2001) is an individually administered, norm-referenced assessment used to measure Rate, Accuracy, Fluency, and Comprehension of oral reading. It also yields an Overall Reading Ability measure. Additionally, it has a system for performing an analysis of reading errors or miscues in five areas: Meaning Similarity, Function Similarity, Graphic/Phonemic Similarity, Multiple Sources, and Self-Correction. As an aid in the diagnosis of oral reading difficulties, it is intended for children aged 7-0 to 18-11.

The GORT-4 was designed to (a) help identify students significantly below level in oral reading ability and those who may benefit from interventions; (b) aid in identifying a student's strengths and weaknesses; (c) document reading progress as a result of specific reading interventions; and (d) serve as a research tool in measuring the reading abilities of school-aged children.

### **KAUFMAN TEST OF EDUCATIONAL ACHIEVEMENT-SECOND EDITION (KTEA-II)**

The Kaufman Test of Educational Achievement-Second Edition (KTEA-II; Kaufman & Kaufman, 2004) is an individually administered measure of academic achievement for individuals ages 4.5 through 25. The comprehensive form assesses achievement in the areas of reading (word reading and comprehension), math (computation, concepts, and application), written language (writing and spelling), and oral language (oral expression and listening comprehension), yielding both subtest scores and composites scores in each of the four areas. It also contains optional measures of basic reading skills in the areas of phonological awareness, rapid naming, decoding, oral fluency, and reading fluency. Scores are reported as age- or grade-based standard scores, percentiles, and stanines. The KTEA-II is co-normed with the Kaufman Assessment Battery for Children (KABC-II).

### **KEYMATH DIAGNOSTIC ASSESSMENT-THIRD EDITION (KeyMath 3)**

The KeyMath Diagnostic Assessment-Third Edition (KeyMath 3; Connolly, 2007) is an individually administered, norm-referenced inventory designed to assess mathematical skills. Items are divided into three areas: basic concepts, operations, and applications. Each area is further divided into subtests covering kindergarten to ninth-grade math curricula, based on content strands of the national standards set by the National Council of Teachers of Mathematics. Math communication, connections, and reasoning are also assessed. Two written computation subtests (Addition and Subtraction; Multiplication and Division) assess mathematical operations to ensure adequate diagnostic information in this area. Applications subtests measure the individual's ability to apply conceptual knowledge and operations to solve math problems, to identify missing elements, to determine the correct operation needed, and to use problem-solving strategies. Finally, Applied Problem Solving measures the use of standard and nonstandard problem-solving strategies in real-world contexts.

### **ORAL AND WRITTEN LANGUAGE SCALE: WRITTEN EXPRESSION (OWLS-WE)**

The Oral and Written Language Scales: Written Expression (OWLS WE; Carrow-Woolfolk, 1995) is used to assess three aspects of written expression: (a) Conventions (measuring spelling, punctuation, and use of capitalization rules); (b) Linguistics (measuring the use of modifiers, phrases, verb forms, and complex sentences); and (c) Content (measuring appropriate subject matter, word choices, and overall ability to write coherently). It may also be used as part of three scales comprising Oral and Written Language Scales (OWLS), Listening Comprehension, and Oral Expression. Although these three scales were co-normed, they may be used individually, and are appropriate for use with students from 5 through 21 years of age. When all three scales are used together, an overall Language Composite is available.

The author advocates administration of all three scales as part of a comprehensive evaluation of overall language functioning. It is recommended that the Listening Comprehension and Oral Expression scales be used as screeners, indicating whether further in-depth speech/language evaluation should be completed. The OWLS Written Expression was designed to be administered individually, but it may be administered to small groups.

### **PEABODY INDIVIDUAL ACHIEVEMENT TEST-REVISED/NORMATIVE UPDATE (PIAT-R/NU)**

The Peabody Individual Achievement Test-Revised/Normative Update (PIAT-R/NU; Markwardt, 1997) is an individually administered achievement assessment designed to be used with students in kindergarten-grade 12 or ages 5-0 through 18-11. This version updates the standardization data as of 2005, but no changes were made to the content of the as-

assessment. Six areas are assessed, including General Information, Reading Recognition, Reading Comprehension, Mathematics, Spelling, and Written Expression. This assessment is unique in that it provides a multiple-choice format, allowing greater accessibility for students with fine-motor impairments or difficulties with retrieval. The norm sample did not include students who were not proficient in English; therefore, this assessment would not be appropriate for use with students who are not English proficient.

### **TEST OF EARLY MATH ACHIEVEMENT-THIRD EDITION (TEMA-3)**

The Test of Early Math Achievement-Third Edition (TEMA-3; Ginsburg & Baroody, 2003) is designed to measure the informal and formal mathematics abilities of children ages 3 to 8-11. The test allows users to identify children with learning difficulties as well as those who are likely to develop problems in mathematics. It also yields useful information of the child's strengths and weaknesses, suggests instructional practices for children based on a weakness profile, and documents a child's progress. The TEMA-3 provides the user with a measure of children's mathematics attainment, measuring the following domains in two forms of 72 items each: numbering skills, number-comparison facility, numeral literacy, mastery of number facts, calculation skills, and understanding of concepts. The Assessment Probes and Instructional Activities provide an assessment of each individual task, comprehension of the task, underlying thought processes, and suggested instructional activities to address weaknesses found through the assessment.

### **TEST OF EARLY READING ACHIEVEMENT-THIRD EDITION (TERA-3)**

The Test of Early Reading Achievement-Third Edition (TERA-3; Reid, Hresko, & Hammill, 2001) is a norm-referenced, individually administered test that assesses emergent literacy skills in young children ages 3-6 to 8-6. Subtests include Alphabet, Conventions, and Meaning, reported as standard scores and percentiles. A Reading Quotient is also generated using the results of the three subtests. The authors identify five purposes of the TERA-3: (a) to identify children who are below peers in reading development, (b) to identify strengths and weaknesses of individual children, (c) to document progress as a result of early reading intervention, (d) to serve as a measure in reading research, and (e) to serve as one component of a comprehensive assessment.

### **TEST OF EARLY WRITING-SECOND EDITION (TEWL-2)**

The Test of Early Writing-Second Edition (TEWL-2; Hresko, Herron, & Peak, 1996) evaluates writing skills in children aged 3-0 to 10-11. The TEWL-2 is comprised of two subtests: the Basic Writing Subtest (used to assess the mechanical aspects of writing) and the Contextual Writing Subtest (used to measure the ability to produce quality writing based on a writing sample). A Global Writing Quotient can be derived when using both subtests,

which allows for a complex understanding of the child's writing abilities. Scores are reported in standard scores, percentiles, age equivalencies, and NCEs. The authors contend that this test of early written language is useful in (a) identifying students who are significantly behind their peers in writing; (b) determining the strengths and/or weaknesses of a student's writing ability; (c) documenting change in a student's writing ability as a result of early interventions; and (d) providing research evidence for the assessment of children's writing abilities. The TEWL-2 is designed to be individually administered; however, the Contextual Writing Subtest can be administered to a group.

### **TEST OF MATHEMATICAL ABILITIES-SECOND EDITION (TOMA-2)**

The Test of Mathematical Abilities-Second Edition (TOMA-2; Brown, Cronin, & McEntire, 1994) is a test of mathematical functioning that measures math performance in students aged 8 to 18-11 in two major skill areas: story problems and computation. The TOMA-2 also examines attitude, vocabulary, and general application of mathematics concepts in real life. The core battery of subtests assesses vocabulary, computation, general information, and story problems. A supplemental subtest gives additional information regarding the student's attitude towards mathematics.

### **TEST OF READING COMPREHENSION-THIRD EDITION (TORC-3)**

The Test of Reading Comprehension-Third Edition (TOWL-3; Brown, Hammill, & Wiederholt, 1995) measures reading comprehension in students between the ages of 7-0 and 17-11. The test comprises eight subtests grouped under the General Reading Comprehension Core, which yields a Reading Comprehension Quotient (RCQ), as well as Diagnostic Supplements. The General Reading Comprehension Core includes the following subtests; General Vocabulary (measures the reader's understanding of sets of vocabulary items that are all related to the same general concept); Syntactic Similarities (measures the reader's understanding of meaningfully similar but syntactically different sentence structures); Paragraph Reading (measures the reader's ability to answer questions related to story-like paragraphs); and Sentence Sequencing (measures the ability to build relationships among sentences, both to each other and to a reader-created whole).

Four Diagnostic Supplement subtests are used to obtain a more comprehensive evaluation of relative strengths and weaknesses among various kinds of comprehension abilities. Three of these subtests are measures of content-area vocabulary in mathematics, social studies, and science. Each subtest measures the reader's understanding of sets of vocabulary items that are all related to the same concept. Another subtest measures the student's understanding of written directions commonly found in schoolwork.

### **TEST OF WORD READING EFFICIENCY (TOWRE)**

The Test of Word Reading Efficiency (TOWRE; Torgesen, Wagner, & Rashotte, 1999) is an individually administered, norm-referenced measure of reading fluency and accuracy for individuals ages 6 to 24-11. The reading subtests in the TOWRE are timed tests. Three measures are obtained through use of the TOWRE: Phonemic Decoding Efficiency (PDE), Sight Word Efficiency (SWE), and Total Word Reading Efficiency. Phonemic Decoding requires the ability to read (decode) nonsense words, reflecting how efficiently the individual is able to read unfamiliar words or combinations of letters in a reading task that is not influenced by other factors such as context clues. Sight Word Efficiency requires reading a list of words to be read as whole units.

Once the examiner is familiar with the pronunciation of the nonsense words and administration procedures, the TOWRE is quick and easy to administer. It is a useful instrument for assessing basic reading skills, especially when students are not progressing as expected in learning to read. Decoding and fluency are both basic components of learning to read and are foundational to the development of effective reading comprehension skills.

### **TEST OF WRITTEN LANGUAGE-THIRD EDITION (TOWL-3)**

The Test of Written Language-Third Edition (TOWL-3; Hammill & Larsen, 1996) is a test of written composition for ages 7-6 to 17-11. It can be individually or group administered. Composite quotients are available for overall writing, contrived writing, and spontaneous writing. The eight subtests of the TOWL-3 measure a student's writing competence through both essay-analysis (spontaneous) formats and traditional test (contrived) formats. The TOWL-3 includes the following subtests: Contextual Conventions (measures capitalization, punctuation, and spelling); Contextual Language (measures vocabulary, syntax, and grammar); Story Construction (measures plot, character development, and general composition); Vocabulary (measures word usage); Spelling (measures ability to form letters into words); Style (measures punctuation and capitalization); Logical Sentences (measures ability to write conceptually sound sentences); and Sentence Combining (measures syntax).

### **TEST OF WRITTEN SPELLING-FOURTH EDITION (TWS-4)**

The Test of Written Spelling-Fourth Edition (TWS-4; Larsen, Hammill, & Moats, 1999) is a norm-referenced test of spelling for students in grades 1-12. The test is administered using a dictated-word format. The words tested are taken from 10 basal spelling programs and popular graded word lists. The results of the TWS-4 can be used for three specific purposes: to identify students whose scores are significantly below those of their peers and who might need interventions designed to improve spelling proficiency; to document overall

progress in spelling as a consequence of intervention programs; and to serve as a measure for research efforts designed to investigate spelling.

### **WECHSLER INDIVIDUAL ACHIEVEMENT TEST-SECOND EDITION (WIAT-II)**

The Wechsler Individual Achievement Test-Second Edition (WIAT-II; Wechsler, 2001) is a nationally standardized, comprehensive, individually administered test for assessing the achievement of children, adolescents, college students, and adults aged 4 through 85 years. While the WIAT-II retains the basic content domains of reading, writing, mathematics, and oral language, the depth of each subtest has increased to include new items, and the content has been updated to reflect current curriculum standards. The WIAT-II can be used to comprehensively assess a broad range of academic skills or to test only in the area of need; it was co-normed with the Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV). Scores are provided as age- or grade-based standard scores, percentiles, grade and age equivalencies and stanines.

### **WOODCOCK-JOHNSON TESTS OF ACHIEVEMENT-THIRD EDITION/NORMATIVE UPDATE (WJ-III ACH/NU)**

The Woodcock-Johnson III Tests of Achievement (WJ-III/NU; Woodcock, McGrew, & Mather, 2001) is a comprehensive set of individually administered, co-normed tests for the measurement of achievement. The tests may be used with individuals from age 2 through adult. The battery assesses the curricular areas of Reading (Letter-Word Identification, Word Attack, Reading Fluency, Passage Comprehension, Reading Vocabulary, Reading Comprehension, Sound Awareness, Phoneme/Grapheme Knowledge, Sound Blending), Oral Language (Story Recall, Understanding Directions, Oral Comprehension, Oral Expression), Mathematics (Calculations, Applied Problems, Math Fluency, Quantitative Concepts) and Written Language (Spelling, Written Expression, Writing Samples, Handwriting Legibility, Editing, Punctuation & Capitalization, Writing Fluency). Fourteen Cluster scores and four Cross-Academic Cluster scores provide broad estimates of achievement. Scores are reported in age equivalents, grade equivalents, percentile ranks, and standard scores. The standard scores are based on a distribution with a mean of 100 and a standard deviation of 15.

### **WOODCOCK-MUÑOZ LANGUAGE SURVEY-REVISED (WMLS-R)**

The Woodcock-Muñoz Language Survey-Revised (WMLS-R; Woodcock, Muñoz-Sandoval, Rief, & Alvarado, 2005) is an individually administered assessment designed to measure proficiency in oral language, language comprehension, reading, and writing. Two forms (A & B) are available for English and one form for Spanish; they can be used to assess individuals from 2 through 90 years old. The seven subtests of the WMLS-R English and Spanish

forms include Picture Vocabulary/Vocabulario Sobre Dibujos, Verbal Analogies/Analogias Verbales, Letter Word Identification/Identificación de Letras y Palabras, Dictation/Dictado, Understanding Directions/Comprensión de Indicaciones, Story Recall/Recordación de Cuentos, and Passage Comprehension/Comprensión de Textos. These seven subtests are combined in different ways to yield the following 11 cluster scores: Oral Language, Reading-Writing, Broad English Ability, Listening, Oral Expression, Reading, Writing, Language Comprehension, Applied Language Proficiency, Oral Language-Total, and Broad English Ability-Total.

The test manual outlines the following nine purposes for which the test can be used: (a) determining English and/or Spanish language proficiency; (b) determining oral language dominance of bilingual (English and Spanish) subjects; (c) monitoring growth or change in English and/or Spanish language ability; (d) determining eligibility for bilingual education/ESL services; (e) assessing readiness of English language learners for English-only instruction; (f) determining eligibility for accelerated or gifted and talented programs; (g) assisting in educational planning; (h) evaluating program effectiveness; and (i) describing subjects' language characteristics in research studies (Comprehensive Manual, pp. 5-7). In addition to age and grade equivalent scores, standard scores, and percentile ranks, the WMLS-R also provides a relative proficiency index (RPI) score and a cognitive academic language proficiency (CALP) score. The CALP score can be used to determine if the student is fluent enough for testing administered in English to be valid.

### **WOODCOCK READING MASTERY TESTS-REVISED NORMATIVE UPDATE (WRMT-R/NU)**

The Woodcock Reading Mastery Tests-Revised Normative Update Edition (WRMT-R/NU; Woodcock, 1998) differs from the 1987 edition only in updated norms. It is an individually administered assessment designed to identify child-specific strengths and weaknesses in reading skills. This information can be used to determine appropriate reading strategies and plan targeted remediation to improve reading skills. Two forms are available: G and H. Both forms include Word Identification, Word Attack, Word Comprehension (Antonyms, Synonyms and Analogies), and Passage Comprehension. Form G also includes Visual-Auditory Learning and Letter Identification. The WRMT-R/NU is appropriate for use in assessing individuals from 5 through 75 years old.





## Summary of Academic Achievement Instruments

Name of Tool/ Author (Year)	Age Range (in years except where noted)	Method of Administration/ Format	Approximate Time to Administer	Subscales	Availability
Diagnostic Achievement Battery-Third Edition (DAB-3) Newcomer (2001)	6-15	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of school achievement; 14 subtests used to form eight composite scores. Yields age and grade norms for standard scores, percentile ranks, age/grade equivalents</li> </ul>	90 to 120 min.	Total Achievement, Speaking, Writing, Spoken Language, Listening, Reading, Mathematics, Written Language [has option for probing student responses to identify thinking processes and problem-solving strategies]	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Gray Oral Reading Test, Fourth Edition (GORT-4) Wiederholt & Bryant (2001)	6-19	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of reading rate, accuracy, fluency, comprehension, and overall reading ability, miscue analysis</li> <li>Yields words correct per minute, standard scores, percentiles</li> </ul>	30 min.	Rate, Accuracy, Fluency Comprehension, Overall Reading Ability	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Kaufman Test of Educational Achievement- Second Edition (KTEA-II) Kaufman & Kaufman (2004)	4.5-25	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of academic achievement</li> <li>Yields age- or grade-based standard scores, percentiles, age or grade equivalencies, NCEs, stanines; scoring includes extensive error analysis</li> </ul>	30 min. (PK,K) to 80 min. (3 <sup>rd</sup> grade and up)	Composites: Reading (Letter & Word Recognition (Comprehension); Math (Math Concepts and Applications, Math Comprehension); Written Language (Written Expression, Spelling); Other (Phonological Awareness, Nonsense Word Decoding, Word Recognition, Fluency, Decoding Fluency, Associational Fluency, Rapid Naming)	Pearson <a href="http://www.pearsonassessments.com">www.pearsonassessments.com</a>
KeyMath Diagnostic Assessment-Third Edition (KeyMath 3) Connolly (2007)	4.5-23	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced comprehensive assessment of math skills, based on the NCTM standards; two forms</li> <li>Yields scaled scores, standard scores, percentiles, grade/age equivalents</li> </ul>	30-90 min.	Basic concepts (Numeration, Algebra, Geometry, Measurement, Data Analysis and Probability); Operations (Mental Computation and Estimation, Written Computation, Addition + Subtraction; Multiplication + Division); Applications (Applied Problem Solving, Foundations of Problem Solving)	AGS/Pearson <a href="http://www.pearsonassessments.com">www.pearsonassessments.com</a>
Oral and Written Language Scale-Written Expression (OWLS-WE) Carrow-Woolfolk (1995)	5-22	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced achievement measure of written expression; may be small group administered; co-normed with the OWLS-List, Comp, Oral Expression Scales (OWLS-LC, OWLS-OE)</li> <li>Yields standard scores, percentiles, age/grade equivalencies, stanines, NCEs</li> </ul>	25-30 min.	Written Expression Scale, Conventions (handwriting, spelling, punctuation); Syntactic Forms (modifiers, phrases, sentence structures), Communication (relevance, cohesiveness, organization)	AGS/Pearson <a href="http://www.pearsonassessments.com">www.pearsonassessments.com</a>



## Summary of Academic Achievement Instruments (cont.)

Name of Tool/ Author (Year)	Age Range (in years except where noted)	Method of Administration/ Format	Approximate Time to Administer	Subscales	Availability
Peabody Individual Achievement Test-Revised/Normative Update (PIAT-R/NU) Markwardt (1997)	5-23	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of academic achievement</li> <li>Yields age- and grade-based standard scores, percentiles, stanines, NCEs, age/grade equivalencies</li> </ul>	60 min.	General Information, Reading Recognition, Reading Comprehension, Written Expression, Math, Spelling, Written Language Composite, Total Reading	Pearson <a href="http://www.pearsonassessments.com">www.pearsonassessments.com</a>
Test of Early Math Achievement- Third Edition (TEMA-3) Ginsburg & Baroody (2003)	3-9	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of mathematics for young children; may also be used as a diagnostic instrument for older children to determine strengths and weaknesses; measures informal and formal concepts and skills; two forms with 72 items each</li> <li>Yields standard scores, age/grade equivalents, percentiles</li> </ul>	40 min.	Numbering Skills, Number Comparison Facility, Numeral Literacy, Mastery of Number Facts, Calculation Skills, Understanding of Concepts	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Test of Early Reading Achievement-Third Edition (TERA-3) Reid, Hresko, & Hammill (2001)	3.5-8.5	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of early reading development for young children; three subtests</li> <li>Yields standard scores, percentiles, age/grade equivalents</li> </ul>	30-45 min.	Reading Quotient, Alphabet, Conventions, Meaning	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Test of Early Writing-Second Edition (TEWL-2) Hresko, Herron, & Peak (1996)	3-11	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of writing skills in young children; two forms; each has Basic Writing and Contextual Writing subtests. Yields standard scores, NCEs, percentiles, age equivalents</li> </ul>	30-45 min.	Global Writing Quotient, Basic Writing Quotient, Contextual Writing Quotient	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Test of Mathematical Abilities- Second Edition (TOMA-2) Brown, Cronin, & McEntire (1994)	Gr. 3-12; 8-19	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of math performance in areas of computation and story problems. Yields standard scores, percentiles, age/grade equivalents</li> </ul>	60-90 min.	Math Quotient, Core subtests – Vocabulary, Computation, General Information, Story Problems; Supplemental Score – Attitude Toward Math	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Test of Reading Comprehension- (TORC-3) Brown, Hammill, & Wiederholt (1995)	7-18	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of holistic, cognitive and linguistic aspects of reading comprehension</li> <li>Yields standard scores, percentiles and age/grade equivalents</li> </ul>	30 min.	General Reading Comprehension Quotient, General Vocabulary, Syntactic Similarities, Paragraph Reading, Sentence Sequencing	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>



## Summary of Academic Achievement Instruments (cont.)

Name of Tool/ Author (Year)	Age Range (in years except where noted)	Method of Administration/ Format	Approximate Time to Administer	Subscales	Availability
Test of Word Reading Efficiency (TOWRE) Torgesen, Wagner, & Rashotte (1999)	6-25	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of word reading accuracy and fluency</li> <li>Yields standard scores, percentiles, and age/grade equivalents</li> </ul>	5-10 min.	Sight Word Efficiency (SWE) and Phonetic Decoding Efficiency (PDE), Total Word Reading Efficiency	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Test of Written Language-Third Edition (TOWL-3) Hammill & Larsen (1996)	7-18	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of written expressive skills</li> <li>Yields standard scores, percentiles, and age/grade equivalents</li> </ul>	90 min.	Composite Scores – Contextual Conventions, Contextual Language, Story Construction, Vocabulary, Spelling, Style, Logical Sentences, Sentence Combining	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Test of Written Spelling-Fourth Edition (TWS-4) Larsen, Hammill, & Moats (1999)	Gr. 1-12	<ul style="list-style-type: none"> <li>Individually administered norm-referenced measure of strengths and weaknesses in written spelling; may be group-administered</li> <li>Yields standard scores, percentiles, and age/grade equivalents</li> </ul>	20 min.	Spelling score (SS) and spelling age	Pro-Ed <a href="http://www.proedinc.com">www.proedinc.com</a>
Wechsler Individual Achievement Test-Second Edition (WIAT-II) Wechsler (2001)	4-86	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of academic achievement; 7 Composite Scores, 9 subtests; co-normed with the WISC-IV. Subtests may be given individually. Includes error analysis with scoring</li> <li>Yields standard scores, percentiles, age/grade equivalents, stanines, NCEs</li> </ul>	45-120 min.	Composite Scores: Basic Reading (Word Reading, Pseudowords, Decoding), Reading Comprehension, Math Calculation (Numerical Operations), Mathematics Reasoning, Written Expression (Written Expression, Spelling), Oral Expression, Listening Comprehension	Psychological Corporation (Pearson) <a href="http://www.pearson-assessments.com">www.pearson-assessments.com</a>
Woodcock Reading Mastery Test-Revised/Normative Update (WRMT-R/NU) Woodcock (1998) [WRMT-III is in development]	5-75+	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced comprehensive measure of reading ability</li> <li>Yields age and grade-based standard scores, percentiles, NCEs, and age/grade equivalents</li> </ul>	45 min.	Form G – Visual-Auditory Learning, Letter Identification, Word Identification, Word Attack, Word Comprehension, Passage Comprehension; Form H – Word Identification, Word Attack, Word Comprehension, Passage Comprehension; Cluster Scores – Readiness, Basic Skills, Reading Comprehension; Total Reading Composite	American Guidance Service, Inc. (Pearson) <a href="http://www.pearsonassessments.com">www.pearsonassessments.com</a>



**Summary of Academic Achievement Instruments (cont.)**

<b>Name of Tool/ Author (Year)</b>	<b>Age Range (in years except where noted)</b>	<b>Method of Administration/ Format</b>	<b>Approximate Time to Administer</b>	<b>Subscales</b>	<b>Availability</b>
Woodcock-Johnson Tests of Achievement-Third Edition (WJ-III) Woodcock, McGrew, & Mather (2001) Normative Update (WJ-III ACH/NU) (2005)	2-90	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced comprehensive measure of reading ability; 12 standard subtests, 10 extended for diagnostic use; includes measures of phonological awareness; co-normed with the WJ-III Tests of Cognitive Abilities</li> <li>Yields age- and grade-based standard scores, percentiles, stanines, NCEs, and age/grade equivalents</li> </ul>	30-120 min.	Cluster scores with corresponding subtests – Oral Expression (2), Listening Comprehension (4), Written Expression (6), Basic Reading Skills (5), Reading Comprehension (2), Reading Fluency (3), Math Calculation Skills (2), Math Reasoning (2)	Riverside Publishing www.riverpub.com

**Language Proficiency Measures**

<b>Name of Tool/ Author (Year)</b>	<b>Age Range (in years except where noted)</b>	<b>Method of Administration/Format</b>	<b>Approximate Time to Administer</b>	<b>Subscales</b>	<b>Availability</b>
Bilingual Verbal Ability Tests (BVAT) Muñoz-Sandoval, Cummins, Alvarado, & Ruel (2005)	5-adult	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of overall verbal ability for bilingual learners (18 languages); to be used in conjunction with WJ-III to consider impact of another language on academic learning in English</li> <li>Yields standard scores, percentiles, T-scores, CALP score</li> </ul>	30 min.	Picture Vocabulary, Oral Vocabulary, Verbal Analogies, Cognitive Academic Language Proficiency (CALP) scores	Riverside Publishing www.riverpub.com
Woodcock-Muñoz Language Survey, Revised (WMLS-R) Woodcock, Muñoz-Sandoval, Ruef, & Alvarado (2005)	2-90+	<ul style="list-style-type: none"> <li>Individually administered, norm-referenced measure of language proficiency in English or Spanish. Yields standard scores, T-scores, z-scores, percentiles, age/grade equivalents, CALP score to determine if student is proficient in English for valid assessment to occur in English</li> </ul>	25 min. for screening	Oral Language, Listening, Oral Expression, Oral Language-Total; Cognitive Academic Language Proficiency (CALP) level – negligible, very limited, limited, fluent, advanced.	Riverside Publishing www.riverpub.com



## Research on Academic Achievement Instruments

Currently there is little research to support the use of various achievement assessments with individuals with AU. The one published article using the WIAT-II found that students with HFA demonstrate significant deficits in written language (Mayes & Calhoun, 2008). Typical patterns of performance indicate strengths in rote skills such as knowledge of math facts and ability to word call, but deficits in skills involving problem solving, such as reading comprehension and math reasoning. Practitioners are encouraged to use formal and informal assessments based on the individual's needs (Hagiwara, 2001-2002; Meyer, 2001-2002).

# of Studies	Age Range (in years)	Sample Size	Purpose of Study	Outcome
1	6-14	54	<ul style="list-style-type: none"> <li>To determine if specific neuropsychological and learning profiles emerge</li> <li>To compare findings with previous research on the WISC-III and WIAT-II</li> </ul>	<ul style="list-style-type: none"> <li>Strengths in PRI and VCI (verbal and visual reasoning); Matrix Reasoning highest PRI subtest</li> <li>Weaknesses in PSI and WMI (attention, grapho-motor, processing speed); Comprehension lowest VCI subtest (language comprehension and social reasoning); Block Design lowest PRI subtest</li> <li>Weaknesses in written comprehension</li> <li>Findings correlate to previous studies using WISC-III and WIAT-II</li> </ul>



## Misconceptions

Myth	Reality
Formal IQ is more valid than informal data from the classroom.	Informal classroom data provide information about how the student functions on a daily basis. Analyzing formal and informal data to determine patterns of skills and learning is a key component of assessment (Hagiwara, 2001-2002). Informal data from the classroom may be more valuable than information gathered in a contrived one-on-one setting when determining programming for a student with AU.
If students have high abilities in word calling and/or reading fluency, they have good general reading skills.	Many students with AU have good rote skills, but may still have great difficulty with inferencing, sequencing, and comprehension skills. Their lack of understanding of social situations may make gaining meaning from reading very difficult. Formal assessment data and informal data should be analyzed for patterns of deficits in reading.
If a student has a high IQ or high achievement, he/she should be successful in the general education classroom.	Because students with AU have difficulty with language, communication, and social skills, they may continue to struggle in the general education classroom in activities that involve these skills.
If a student has good expressive and receptive language skills, there is no need to refer the student for a comprehensive speech and language evaluation.	Autism spectrum disorders by definition are communication disorders. It is common for students who have or are suspected of having AU to perform well on rote language tasks. It is still necessary to conduct a comprehensive speech and language evaluation to determine functioning in pragmatic language, social interaction skills, and understanding of nonverbal language.



## References

- Brown, V., Cronin, M., & McEntire, E. (1994). *Test of Mathematical Abilities, Second Edition*. Austin, TX: Pro-Ed.
- Brown, V., Hammill, P., & Wiederholt, J. L. (1995). *Test of Reading Comprehension, Third Edition*. Austin, TX: Pro-Ed
- Carrow-Woolfolk, E. (1995). *Oral and Written Language Scale-Written Expression*. Saddle River, NJ: Pearson Assessments.
- Connolly, A. J. (2007). *KeyMath Diagnostic Assessment, Third Edition*. Minneapolis: Pearson Assessments.
- Ginsburg, H. P., & Baroody, A. J. (2003). *Test of Early Math Achievement, Third Edition*. Austin, TX: Pro-Ed.
- Hammill, D., & Larsen, S. (1996). *Test of Written Language, Third Edition*. Austin, TX: Pro-Ed.
- Hresko, W. P., Herron, S., & Peak, P. (1996). *Test of Early Writing, Second Edition*. Austin, TX: Pro-Ed.
- Kaufman, A. S., & Kaufman, N. L. (2004). *Kaufman Test of Educational Achievement, Second Edition*. Minneapolis: Pearson Assessments.
- Larsen, S., Hammill, D., & Moats, L. (1999). *Test of Written Spelling, Fourth Edition*. Austin, TX: Pro-Ed.
- Markwardt, F. C. (1997). *Peabody Individual Achievement Test-Revised/Normative Update*. Minneapolis: Pearson Assessments.
- Muñoz-Sandoval, A. F., Cummins, J., Alvarado, C. G., & Ruef, M. L. (2005). *Bilingual-Verbal Ability Tests*. Itasca, IL: Riverside Publishers.
- Newcomer, P. (2001). *Diagnostic Achievement Battery, Third Edition*. Austin, TX: Pro-Ed.
- Reid, D. K., Hresko, W., P., & Hammill, D. D. (2001). *Test of Early Reading Achievement, Third Edition*. Austin, TX: Pro-Ed.
- Torgesen, J. K., Wagner, R. K., & Rashotte, C. A. (1999). *Test of Word Reading Efficiency*. Austin, TX: Pro-Ed.
- Wechsler, D. (2001). *Wechsler Individual Achievement Test, Second Edition*. San Antonio, TX: The Psychological Corporation.
- Wiederholt, J. L., & Bryant, B. R. (2001). *Gray Oral Reading Test, Fourth Edition*. Austin, TX: Pro-Ed.
- Woodcock, R. W. (1998). *Woodcock Reading Mastery Test-Revised/ Normative Update*. Minneapolis: Pearson Assessments.
- Woodcock, R. W., & Johnson, M. B. (1989). *Woodcock-Johnson-Revised Tests of Cognitive Ability*. Itasca, IL: Riverside Publishing.
- Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson Tests of Achievement, Third Edition/Normative Update*. Itasca, IL: Riverside Publishers.
- Woodcock, R. W., Muñoz-Sandoval, A. F., Ruef, M., & Alvarado, C. G. (2005). *Woodcock-Muñoz Language Survey, Revised*. Itasca, IL: Riverside Publishers.



## **Resources and Materials**

- Hagiwara, T. (2001-2002). Academic assessment of children and youth with Asperger Syndrome, pervasive developmental disorders-not otherwise specified, and high-functioning autism. *Assessment for Effective Intervention*, 27(1&2), 89-100.
- Mayes, S. D., & Calhoun, S. L. (2008). WISC-IV and WIAT-II Profiles in children with high functioning autism. *Journal of Autism and Developmental Disorders*, 38, 428-439.
- ) Meyer, J. (2001-2002) Cognitive patterns in autism spectrum disorders. *Assessment for Effective Intervention*, 27(1&2), 27-35.