BILINGUAL SPECIAL EDUCATION EVALUATION OF CULTURALLY AND LINGUISTICALLY DIVERSE INDIVIDUALS USING WOODCOCK TESTS

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Psycho-education evaluation of culturally and linguistically diverse students is a complex and often confusing undertaking that can intimidate even the most experienced evaluation professional. Until recent years a standardized bilingual evaluation was not possible because of a lack of test instruments in languages other than English. Within the last two decades however, more and more test batteries in other languages, especially Spanish, have been developed. These new test instruments have been warmly welcomed by professionals in the field hopeful that the advent of these tests will prove useful in conducting an appropriate and equitable evaluation of culturally and linguistically diverse students. The Woodcock tests include batteries in several languages and currently lead the field in bilingual psycho-educational evaluations. This document provides information examiners may need in order to conduct a bilingual evaluation and to help clarify some assessment issues related to the culturally and linguistically diverse population. Although this document focuses on evaluation issues of students bilingual in English and Spanish, a considerable amount of the information applies to students bilingual in English and other languages. The topics addressed are:

- general function and age range of the various English and Spanish Woodcock tests,
- special features in the English and Spanish cognitive batteries for testing individuals from bilingual backgrounds,
- special feature in the English and Spanish cognitive batteries for testing individuals with language deficiencies or language disabilities,
- interpretation considerations of test results for culturally and linguistically diverse students,
- co-normed and equated test batteries as they relate to culturally and linguistically diverse populations,
- fine points in assessing oral language proficiency and determining language dominance,
- discussion of the four basic steps in a bilingual psycho-educational evaluation, and
- bilingual cross-battery testing using Woodcock tests.

Woodcock Tests

The Woodcock tests provide a variety of assessment measures that can be utilized in bilingual evaluations. For appropriate selection of tests and their efficient use, the evaluation professional should be familiar with the available tests and their general function, language(s) of the test, age range, and assessment features specific for testing individuals from bilingual backgrounds. Table 1 lists the English and Spanish tests and provides some basic information for each test.

Table 1

Woodcock Tests

English Test	Parallel Spanish Test	General Function	Age Range	Assessment Features for Bilingual Testing
Woodcock-Johnson® III Tests of Cognitive Ability (WJ® III COG)	Batería III Woodcock-Muñoz® Pruebas de habilidades cognitivas (Batería® III COG)	Assesses seven cognitive factors, several clinical factors, and general intellectual ability	2 to adulthood, university and college	• Spanish equated to English allows direct comparisons between languages • Includes a measure of Bilingual Verbal Ability • Allows the acceptance of responses in languages other than the language of test • Includes a general intellectual ability-bilingual scale • Includes a general intellectual ability-low verbal scale
Woodcock-Johnson® III Tests of Achievement (WJ® III ACH)	Batería III Woodcock-Muñoz® Pruebas de aprovechamiento (Batería® III APROV)	Assesses oral language reading, math, writing, science, social studies, and academic knowledge Assesses language dominance in English and Spanish when tests of oral language in both languages are administered	2 to adulthood, university and college	• Spanish equated to English allows direct comparisons between languages • Provides a Pre-Academic Skills Cluster useful in academic screening

Woodcock Language Proficiency Battery—Revised® English Form (WLPB-R® English)	Woodcock Language Proficiency Battery—Revised® Spanish Form (WLPB-R® Spanish)	Assesses oral language, reading, and writing Assesses language dominance in English and Spanish when tests of oral language in both languages are administered	2 to adulthood, university and college	• Spanish equated to English allows direct comparisons between languages
Woodcock-Muñoz Language Survey—Revised® English (WMLS-R® English) Form A and Form B	Woodcock-Muñoz Language Survey—Revised® Spanish (WMLS-R® Spanish)	Surveys oral language, reading, and writing Assesses language dominance in English and Spanish when tests of oral language in both languages are administered	2 to adulthood, university and college	• Spanish equated to English allows direct comparisons between languages
Bilingual Verbal Ability Tests® (BVAT®)	** *(See notation below)*	Measures English language proficiency and bilingual verbal ability Provides information regarding the status of the student's language proficiency and dominance	5 to adulthood, university and college	

*** The BVAT is administered in English first, and then failed items are re-administered in the other language of the student. The BVAT, therefore, cannot be said to have a parallel Spanish test. The BVAT is available in English and 17 other languages (Arabic, Chinese, French, German, Haitian Creole, Hindi, Hmong, Italian, Japanese, Korean, Navajo, Polish, Portuguese, Russian, Spanish, Turkish, and Vietnamese).*

WJ III COG and Batería III COG

The WJ III COG (Woodcock, McGrew, & Mather 2001a) and Batería III COG (Muñoz-Sandoval, Woodcock, McGrew, & Mather, 2005a) are batteries of tests that assess cognitive factors, clinical factors, and general intellectual ability. The WJ III COG and Batería III COG each have three test books: Standard Battery test book, Extended Battery test book, and Diagnostic Supplement test book (Woodcock, McGrew, Mather, & Schrank, 2003) (Muñoz-Sandoval, Woodcock, McGrew, &Mather 2005b). All 31 tests in the WJ III COG and Batería III COG are individually administered. They provide the examiner with an extensive collection of tests that can be used to create and produce an individualized bilingual evaluation.

The seven cognitive factors assessed by the WJ III COG and Batería III COG are: comprehension-knowledge, long-term retrieval, visual-spatial thinking, auditory processing, fluid reasoning, processing speed, and short-term memory (Woodcock, McGrew, & Mather 2001b) (Muñoz-Sandoval, Woodcock,

McGrew, Mather, 2005c). Clinical factors evaluated include: phonemic awareness, working memory, broad attention, cognitive fluency, executive processes, delayed recall, and knowledge. Table 2 presents the six major scales in the WJ III COG and Batería III COG that yield an intellectual ability score.

Table 2

WJ III COG and Batería III COG Scales

Brief Intellectual Ability (BIA)	Tests 1, 5, and 6
Habilidad intelectual breve (BIA)	Pruebas 1, 5, y 6
General Intellectual Ability—Standard (GIA-Std)	Tests 1-7
Habilidad intelectual general—Estándar (GIA-Std)	Pruebas 1-7
General Intellectual Ability—Extended (GIA-Ext)	Tests 1-7 and Tests 11-17
Habilidad intelectual general—Extendida (GIA-Ext)	Pruebas 1-7 y Pruebas 11-17
General Intellectual Ability—Bilingual (GIA-Bil)	Tests 1, 3, 5, 6, 7, 21, 23, and 31 or Tests 3, 5, 6, 7, 21, and 23 plus BVAT
Habilidad intelectual general—Bilingüe (GIA-Bil)	Pruebas 1, 3, 5, 6, 7, 21, 23, y 31
General Intellectual Ability—Early Development (GIA-EDev)	Tests 1, 6, 8, 21, 22, and 27
Habilidad intelectual general-Desarrollo temprano (GIA-EDev)	Pruebas 1, 6, 8, 21, 22, y 27
Broad Cognitive Ability—Low Verbal (BCA-LV)	Tests 3, 5, 6, 7, 21, and 23
Habilidad cognitiva amplia—Verbal reducida (BCA-LV)	Pruebas 3, 5, 6, 7, 21, y 23

Assessment Features of the Cognitive Tests Specific for Individuals from Bilingual Backgrounds

Not only are the Woodcock tests available in several languages, the WJ III COG and Batería III COG (as well as other Woodcock tests) incorporate several special features that allow for a more appropriate and equitable assessment of students from bilingual and multilingual backgrounds. One such

feature is the statistical equating of the Spanish forms of the tests to the English forms allowing for direct comparison of abilities and skills between the two languages. Another feature is the novel provision for testing bilingual verbal comprehension, not simply verbal comprehension in one language. Yet another feature offers the ability to accept responses in a language other than the language of the test. Lastly, the GIA-Bil Scale (Alvarado, 1999) incorporates all these features for testing students from bilingual backgrounds.

Equated Test Batteries. A critical feature in test batteries that have two language forms and are designed for use in testing students from bilingual backgrounds is the capability of the test batteries to allow comparison of abilities and skills between those two languages. To be able to compare parallel language forms of test batteries require that the two test batteries be statistically equated. In the Woodcock tests, the Batería III COG is statistically equated to the WJ III COG. Likewise the Batería III APROV is statistically equated to the WJ III ACH.

Bilingual Verbal Comprehension. Administering Test 1: Verbal Comprehension/*Comprensión verbal*, in conjunction with Test 31: Bilingual Verbal Comprehension/*Comprensión verbal bilingüe* yields a Bilingual Verbal Comprehension score. Bilingual Verbal Comprehension measures several different aspects of language development (picture vocabulary, synonyms, antonyms, and verbal analogies) in the combination of two languages and credits knowledge regardless of language specificity. For a student who understands and speaks two languages, Bilingual Verbal Comprehension provides a more accurate representation of the individual's total verbal skills.

In the WJ III COG, Bilingual Verbal Comprehension is measured first by administering the four subtests of Test 1 in English, then failed items are administered in Spanish using Test 31. In the Batería III COG, Comprensión verbal bilingüe is measured first in Spanish by administering test 1, then failed items are administered in English using test 31. Administration procedures for Bilingual Verbal Comprehension in the WJ III COG and Comprensión verbal bilingüe in the Batería III COG require that the testing is first conducted in the dominant language of the student. Next, failed items are re-

administered in the "other" language of the student. This language sequence of testing (dominant language first then the other language of the student) is considered the most accurate method.

The BVAT (Cummins, Muñoz, Alvarado & Ruef, 1998a) is a completely separate test instrument that also measures bilingual verbal comprehension. The BVAT differs in several ways from the Test 1/31 combination in the WJ III COG and Batería III COG. Although the BVAT has the same four tests as Tests 1 and 31, the BVAT tests are more comprehensive, so testing time is extended. Additionally, all the BVAT tests are limited to always administering the English tests first, regardless of language dominance; then failed items are re-administered in the other language of the student. The Test 1/31 combination, on the other hand, requires that the subtests in Test 1/Prueba 1 be administered in the dominant language then failed items are administered in the other language using Test 31. Lastly, the BVAT allows testing in more than just two languages, useful for testing the verbal skills of multilingual individuals, while the Test 1/31 combination is restricted to the two languages of English and Spanish. More information on the BVAT is provided later in this assessment service bulletin.

Acceptance of Responses in Other Languages. Another feature for testing individuals from bilingual backgrounds is the authorized practice of permitting and accepting responses in a language other than the language of the test. Five tests in the WJ III COG and the parallel five tests in the Batería III COG allow the acceptance of responses in other languages. The tests are:

Test 1: Verbal Comprehension	Prueba 1: Comprensión verbal
Test 11: General Information	Prueba 11: Información general
Test 12: Retrieval Fluency	Prueba 12: Fluidez de recuperación
Test 18: Rapid Picture Naming	Prueba 18: Rapidez en la identificación de dibujos
Test 22: Visual Closure	Prueba 22: Integración visual.

The correct key in the English test books provides one example of a Spanish correct response. The correct key in the Spanish test books provides one example of an English correct response. Correct

responses in languages other than English or Spanish are also given credit; however, no examples are presented in the test books.

Tests that require responses of letters or numbers can be in any language. For example, in Test 3: Spatial Relations of the WJ III COG, a student correctly identifies the pieces of the puzzles, but names them using the Spanish letter names. The student receives credit.

GIA-Bil Scale of the WJ III COG and Batería III COG. The GIA-Bil Scale incorporates all the assessment features specific to the cognitive tests to provide a complete holistic assessment for individuals from bilingual backgrounds. The GIA-Bil Scale is especially dedicated for use with bilingual and multilingual students. The GIA-Bil Scale assembles a group of tests measuring the seven cognitive factors to yield a general intellectual ability score. These tests utilize both a bilingual and language-reduced format for testing the seven cognitive factors. The cognitive factor comprehension-knowledge is tested bilingually yielding a Bilingual Verbal Comprehension score. The other six cognitive factors (long-term retrieval, short-term memory, processing speed, auditory processing, visual processing, and fluid reasoning) are tested utilizing a low verbal or low-language format. This combination of bilingual testing of verbal ability and language-reduced testing of the other cognitive factors allows the evaluation professional more opportunity to explore the capabilities of bilingual and multilingual individuals without some of the limitations inherent in current testing practices. Table 3 lists the individual tests in the two GIA-Bil Scales of the WJ III COG and the one GIA-Bil Scale of the Batería III COG.

Because the GIA-Bil Scale is available in both the WJ III COG and Batería III COG, the cognitive evaluation of bilingual, English/Spanish speaking, students can be individualized to their language needs utilizing a two-step process. First, the core language of the cognitive battery is determined on the basis of the student's dominant language, and second, the appropriate scale is selected on the basis of the student's language status in his/her dominant language. For instance, for a bilingual English and Spanish speaking student who is Spanish dominant, but is in an English only instructional setting; the Batería III COG was administered based on the student's language dominance. Due to the significant amount of exposure the

student has had to the English language, the evaluation professional further individualized the cognitive evaluation by administering the GIA-Bil Scale of the Batería III COG. For students who are bilingual in English and Spanish, but demonstrate dominance in English, the GIA-Bil Scale of the WJ III COG is administered.

Table 3

GIA-Bil and BCA-LV Scales of the WJ III COG and Batería III COG

WJ III COG			**Batería III COG**	
GIA-Bil Scale for English/Spanish	GIA-Bil Scale for English/BVAT Language (BVAT Option)	Low Verbal Scale in English	GIA-Bil Scale for Spanish/English	Low Verbal Scale in Spanish
1: Verbal Comprehension 31: Bilingual Verbal Comprehension	BVAT	-------	1: Comprensión verbal 31: Comprensión verbal bilingüe	------
21: Memory for Names	21: Memory for Names	21: Memory for Names	21: Memoria para nombres	21: Memoria para nombres
3: Spatial Relations	3. Spatial Relations	3: Spatial Relations	3: Relaciones espaciales	3: Relaciones espaciales
23: Sound Patterns—Voice	23: Sound Patterns—Voice	23: Sound Patterns—Voice	23: Configuración de sonidos—Vocalizada	23: Configuración de sonidos—Vocalizada
5: Concept Formation	5: Concept Formation	5: Concept Formation	5: Formación de conceptos	5: Formación de conceptos
6: Visual Matching	6: Visual Matching	6: Visual Matching	6: Pareo visual	6: Pareo visual
7: Numbers Reversed	7: Numbers Reversed	7: Numbers Reversed	7: Inversión de números	7: Inversión de números

For bilingual students who are English dominant and speak one of the BVAT languages (Arabic, Chinese, French, German, Haitian Creole, Hindi, Hmong, Italian, Japanese, Korean, Navajo, Polish, Portuguese, Russian, Spanish, Turkish, and Vietnamese), the GIA-Bil Scale BVAT Option, is provided.

In the GIA-Bil Scale BVAT Option, comprehension-knowledge is measured using the BVAT instead of the Test 1/31 combination. The other six cognitive factors are tested using low-language demand measures from the WJ III COG.

Individuals who are bilingual in a language not represented in the BVAT or who are not English or Spanish dominant will need alternative kinds of testing, such as non-verbal cognitive testing, informal assessments, etc.

The BCA-LV Scale of the WJ III COG and Batería III COG. The BCA-LV Scale is composed of six tests that have a low language demand. These six tests assess the cognitive factors of long-term retrieval, visual-spatial thinking, auditory processing, fluid reasoning, processing speed, and short-term memory. Table 2 lists the individual tests in the BCA-LV Scale for the WJ III COG and Batería III COG. The BCA-LV Scale may be the more appropriate scale for individuals with significant language delays or language disabilities. Although this scale requires more language than typical non-verbal IQ tests, it provides more information than a non-verbal IQ test.

Comprehension-knowledge is not tested in the BCA-LV. It is important for the examiner to understand the impact of excluding a measure of comprehension-knowledge. Comprehension-knowledge is strongly impacted by opportunity and has a strong cultural influence (citation: McGrew & Flanagan?). It is also important to know that comprehension-knowledge is a critical part of the theoretical foundation of the WJ III COG and Batería III COG. It is for this reason that the scale is denoted as "Broad Cognitive Ability" instead of "General Intellectual Ability". Excluding comprehension-knowledge changes the structure of the scale. The BCA-LV scale should be used judiciously.

WJ III ACH and Batería III APROV

The WJ III ACH (Woodcock, McGrew, & Mather, 2001c) and the Batería III APROV (Muñoz-Sandoval, Woodcock, McGrew, & Mather, 2005d) are individually administered measures of academic achievement with five tests of reading, four tests of oral language, four tests of mathematics, four tests of

written language, and five tests of academic knowledge. The WJ III ACH has two parallel forms, Form A and Form B, while the Batería III APROV has one.

The English and Spanish forms are parallel and statistically equated, allowing direct comparisons between the two languages. This feature of the English and Spanish test batteries is particularly relevant when determining oral language dominance for students who are bilingual in these two languages. Because English and Spanish oral language scores are directly compared, it is important to ensure that tests used in two languages are measuring the same aspects of language and that the two language forms are statistically equated.

The WJ III ACH and Batería III APROV have a two-test Oral Language—Standard and a four-test Oral Language—Extended cluster (Woodcock, McGrew, & Mather, 2001d)(Muñoz-Sandoval, Woodcock, McGrew, & Mather, 2005e) . See Table 4. In most cases, the Oral Language—Extended cluster is recommended for determining dominance, since it provides the more comprehensive assessment of oral language skills. However, the Oral Language—Standard cluster may suffice in situations where other information indicates clear dominance in a language and in-depth assessment in the two languages is excessive.

Table 4

Oral Language—Standard and Oral Language—Extended Clusters

WJ III ACH		**Batería III APROV**	
Oral Language—Standard	**Oral Language—Extended**	**Lenguaje oral—Estándar**	**Lenguaje oral—Extendida**
Test 3: Story Recall	Test 3: Story Recall	Prueba 3: Rememoración de cuentos	Prueba 3: Rememoración de cuentos
Test 4: Understanding Directions	Test 4: Understanding Directions	Prueba 4: Comprensión de indicaciones	Prueba 4: Comprensión de indicaciones
--------	Test 14: Picture Vocabulary	--------	Prueba 14: Vocabulario sobre dibujos

--------	Test 15: Oral Comprehension	--------	Prueba 15: Comprensión oral

To determine the language dominance of a bilingual English/Spanish speaking student, the scores for the oral language clusters in the two languages are compared. If the scores in one language are significantly stronger than the other language, then a dominant language is indicated. However, if after comparing the oral language cluster scores in English and Spanish, dominance is still uncertain; the four individual oral language tests in the two languages can be compared and interpreted on the basis of their task complexity as shown in Figure 1. When interpreting the component tests, rank them by their level of task complexity and compare them to determine if stronger skills in one language are demonstrated in the more complex aspects of language. This task analysis can help in the determination of language dominance when the overall oral language scores do not indicate clear dominance. Refer to Figure 4 for an example of determining dominance through task analyses.

MORE COMPLEX

Oral Language Tests	**Task**	**Language Requirements**
Oral Comprehension	Step 1: Understanding a connected passage Step 2: Completing the passage with a single word	Receptive Expressive
Understanding Directions	Step 1: Listening to a series of oral commands Step 2: Pointing to specific objects in picture	Receptive
Story Recall	Step 1: Understanding a connected passage Step 2: Recalling elements of the passage immediately	Receptive Expressive
Picture Vocabulary	Identifying and naming pictured objects	Expressive

LESS COMPLEX

Figure 1. Task complexities of the WJ III ACH and Batería III APROV oral language tests.

The WJ III ACH and Batería III APROV provide in-depth diagnostic academic achievement information and are interpreted in light of the student's academic exposure in that language. If the student

has received academic instruction in both English and Spanish, academic testing is usually recommended in both languages. Reading, math, and written language skills in two languages, however, are typically not compared language to language because there is no reason for this comparison. For example, English reading abilities are not compared to Spanish reading abilities, instead English reading abilities are interpreted in light of the student's amount and quality of reading instruction in English, as well as other pertinent factors that contribute to academic achievement, such as the student's general intellectual ability, oral language skills in English, affective attributes that influence learning, etc. Spanish reading abilities are interpreted in light of the student's amount and quality of reading instruction in Spanish, as well as any other pertinent factors that contribute to academic achievement.

Table 5

The Pre-Academic Skills—Standard and Pre-Academic Knowledge and Skills—Extended Clusters

	WJ III ACH		**Batería III APROV**	
	Pre-Academic Skills—Standard Cluster	Pre-Academic Knowledge and Skills—Extended Cluster	Destrezas preacadémicos—Estándar	Conocimientos y destrezas preacadémicos—Extendida
Reading	Test 1: Letter Word Identification	Test 1: Letter Word Identification	Prueba 1: Identificación de letras y palabras	Prueba 1: Identificación de letras y palabras
Writing	Test 7: Spelling	Test 7: Spelling	Prueba 7: Ortografía	Prueba 7: Ortografía
Math	Test 10: Applied Problems	Test 10: Applied Problems	Prueba 10: Problemas aplicados	Prueba 10: Problemas aplicados
Vocabulary		Test 14: Picture Vocabulary		Prueba 14: Vocabulario sobre dibujos
Science and Humanities		Test 19: Academic Knowledge		Prueba 19: Conocimientos académicos

The Pre-Academic Skills—Standard and the Pre-Academic Knowledge and Skills—Extended Clusters, found in Table 5, offer an assessment solution for bilingual academic evaluations that require only a quick survey of academic skills. For example, a high school student bilingual in English and Spanish has been in an English-only instructional setting for the last seven years. Information gathered

indicates the student received Spanish language instruction in a bilingual education program when the student was in Kindergarten, first, and second grades. The evaluation professional selects to administer the pre-academic standard cluster in Spanish, Destrezas preacadémicos—Estándar, and does a complete academic assessment in English.

WLPB-R English and Spanish Forms

The WLPB-R English (Woodcock, 1991) and Spanish forms (Woodcock & Muñoz 1995) are parallel and equated test batteries containing five tests of oral language, four of reading, and four of written language. The five-test oral language clusters in English and Spanish measure oral language proficiency and can be directly compared to determine language dominance.

When interpreting the oral language tests, consider the relative complexity of language skills in each test. Figure 2 is an interpretive model of the skills measured in the five oral language tests from the more complex to the less complex aspects of language. This model of task complexity can be useful in interpreting test results and determining oral language dominance. More information on language proficiency and dominance testing is provided later.

MORE COMPLEX

Oral Language Tests	Task	Language Requirements
Verbal Analogies	Step 1: Apprehending a pair of words and conceptualizing their relationship Step 2: Retrieving a word to fit that relationship with another word	Receptive Receptive & Expressive
Listening Comprehension	Step 1: Understanding a connected passage Step 2: Completing the passage with a single word	Receptive Expressive
Oral Vocabulary	Retrieving a synonymous word association and retrieving an opposite word association	Receptive & Expressive
Memory for Sentences	Step 1: Apprehending a sequence of language Step 2: Repeating that sequence of language	Receptive Expressive
Picture Vocabulary	Identifying and naming pictured objects	Expressive

LESS COMPLEX

Figure 2. Task complexities of the WLPB-R English and Spanish oral language tests.

Figure 3 provides an example of a 4th grade student whose native language was Spanish and whose scores on the Oral Language cluster in English and Spanish now appear very similar. The evaluation professional breaks down the cluster into its component tests and ranks the tests by task complexity. This student's profile analysis demonstrates stronger oral language skills in Spanish in the more complex aspects of language.

English Oral Language Tests	**Standard Score**	**Age Equiv.**	**Spanish Oral Language Tests**	**Standard Score**	**Age Equiv.**
ORAL LANGUAGE	90	8-2	LENGUAJE ORAL	93	8-7
Verbal Analogies	91	7-11	Analogías verbales	107	10-7
Listening Comprehension	82	6-7	Comprensión de oraciones	100	9-6
Oral Vocabulary	88	8-2	Vocabulario oral	91	8-4
Memory for Sentences	97	8-10	Memoria para frases	88	7-0
Picture Vocabulary	100	9-7	Vocabulario sobre dibujos	88	7-10

Figure 3. Example of determining dominance through task analyses.

The reading and written language tests in the WMLS-R provide in-depth diagnostic information that is interpreted in light of the student's academic exposure in that language. If the student has received academic instruction in both English and Spanish, then academic testing is usually recommended in both languages.

WLMS-R English and Spanish Forms

The WMLS-R (Woodcock, Muñoz-Sandoval, Ruef & Alvarado 2005a, 2005b, 2005c) English and Spanish forms are parallel and equated measures composed of four oral language tests, two reading tests, and one writing test. A two-test oral language cluster and a four test oral language cluster in English and

Spanish measure language proficiency in each of the languages and can be directly compared to determine language proficiency and dominance. Figure 4 demonstrates task complexities of the four oral language tests (Alvarado, Ruef, & Schrank, 2005). The WMLS-R, additionally, provides a survey of basic reading skills, reading comprehension, and basic writing skills.

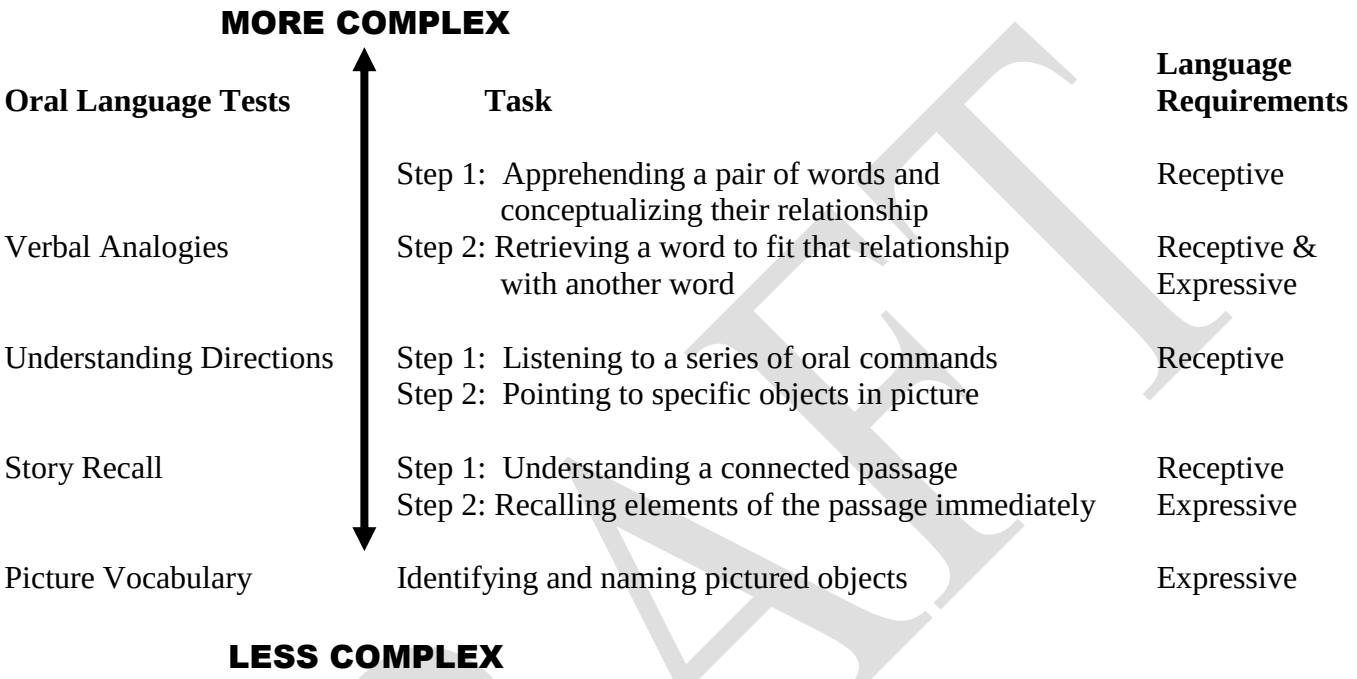

Figure 4. Task complexities of the WMLS-R oral language tests.

The WMLS-R is a succinct test that can be utilized for various, diverse assessment functions. A major use of the WMLS-R is identifying students who qualify as English Language Learners and monitoring their yearly progress in the language arts areas. Listening, Speaking, Reading, Writing, and Comprehension Clusters are provided for this purpose. The WMLS-R also serves effectively and validly in oral language proficiency and dominance testing. Still another valuable role for the WMLS-R is in pre-referral testing.

BVAT

The BVAT (Muñoz-Sandoval, Cummins, Alvarado, & Ruef, 1998b) is comprised of verbal ability tests sampling vocabulary, word meaning, antonyms, and verbal analogies. The BVAT utilizes a unique assessment procedure. The English test items are administered in English first and then failed items are re-administered in the other language of the student. The BVAT yields a score for English Language Proficiency (ELP) that is indicative of the student's performance in English alone and a score for Bilingual Verbal Ability (BVA) that is indicative of the student's total performance regardless of language specificity. The BVAT is available in Arabic, Chinese, English, French, German, Haitian-Creole, Hindu, Hmong, Italian, Japanese, Korean, Navajo, Polish, Portuguese, Russian, Spanish, Turkish, and Vietnamese.

Comparisons of the ELP and BVA scores can yield valuable information. A discrepancy between the ELP and BVA scores suggests that the student is in the second language acquisition process and requires more time and effective instruction to achieve full English language skills. No discrepancy between the ELP and BVA scores with both scores average or above average suggests that the student is not or is no longer in the second language acquisition process. No discrepancy between the ELP and BVA scores with both scores low also suggests that the student is not or is no longer in the second language acquisition process. In this third scenario, the evaluation professional will want to investigate the reason(s) scores are low, such as: socioeconomic factors, lack of educational opportunity, low general intellectual ability, language learning disability, motivation, etc.

The BVAT is another measure that can serve a variety of different purposes. The BVAT can serve to help identify students needing bilingual education or second language programs. In conjunction with other tests such as a nonverbal intelligence test, the BVAT serves as a measure of cognitive ability. In a bilingual special education evaluation, the BVA score of the BVAT can be utilized in the GIA-Bil Scale BVAT Option to more accurately assess the abilities and skills of culturally and linguistically diverse students. Table 2 summarizes the tests in the GIA-Bil BVAT Option Scale. The BVAT is also very useful

in speech and language testing. Other uses for the BVAT include gifted and talented testing, as well as language proficiency and dominance testing.

Co-normed and Equated Test Batteries

An additional point that may help evaluation professionals in their selection of the most appropriate test battery is the consideration of co-norming and statistical equating of tests. In co-normed tests, the normative data is based on a single sample of subjects that were administered both test batteries at a single point in time. Co-norming provides a more accurate and valid psycho-educational diagnostic system (McGrew & Woodcock, 2001). Co-norming of tests can only be achieved in the same language, although it can be in two different domain-specific skill areas, such as cognitive and achievement tests. Co-norming allows direct comparisons between test batteries with a higher degree of accuracy not possible with separately normed test batteries. In the Woodcock tests, the WJ III COG and WJ III ACH are co-normed. Equating is effected in the Woodcock assessments in the same domain-specific area, but can be in two different languages. The Batería III COG is statistically equated to the WJ III COG. Likewise, the Batería III APROV is statistically equated to the WJ III ACH.

Four Basic Steps of a Bilingual Special Education Evaluation

A bilingual psycho-educational evaluation generally has four basic steps: (1) gathering of student information, (2) oral language proficiency and dominance testing, (3) achievement testing, and (4) cognitive testing. Some or all of these steps may be conducted in the two or more languages of the student. The language or languages of each step is dictated by the individual student's language exposure, language dominance, and academic background and by the objective of the assessment. A simple, uninvolved case study of a student named Karina is presented below to illustrate the four basic assessment steps in a bilingual psycho-educational evaluation.

Step 1: Gathering of Student Information

In order to appropriately and equitably refer, assess, and serve culturally and linguistically diverse students, a complete understanding of the student's socio-cultural and educational background is required. Information gathered on students from culturally and linguistically diverse backgrounds should include all the usual referral information and the following:

- information from the Home Language Survey, a required document for all students entering school for the first time;
- history of language exposure and use of each of the languages of the student;
- results of previous language proficiency testing;
- complete school history, both foreign and domestic, including information on educational placement, educational interventions, and language of instruction;
- family background, including moves and long stays in a foreign country;
- language(s) used by family members and others living in the home; and
- pertinent cultural and lifestyle information.

Karina, a nine year old 3rd grade student bilingual in English and Spanish, was born in Mexico and attended and successfully completed kindergarten, first, and second grade in her native country. No indication of academic difficulty was reported while in the Mexican school system. Her family moved to the United States one and a half years ago and Karina was immediately enrolled in school. The Home Language Survey completed by the parents reported that Spanish was the first language learned by Karina and that their daughter spoke Spanish at home. In the United States, Karina was placed in the second grade although she had been promoted to 3rd grade in Mexico. In second grade, she received English-only academic instruction throughout that school year with English as a second language (ESL) support 45 minutes daily. This school year, Karina is in an all English general education 3rd grade classroom receiving 45 minutes daily of ESL support. She was referred for special education testing for poor academic progress in reading and writing. Family information indicates Karina lives with both her mother

and father, both who speak almost exclusively Spanish at home. An older brother and an aunt also live in the home. They speak primarily Spanish.

Step 2: Oral Language Proficiency and Dominance Testing

Oral language proficiency and dominance testing is two-pronged. The evaluation professional must not only assess the oral proficiency or fluency level in the student's two languages, but also compare the two proficiency levels to determine dominance. This process can best be accomplished using parallel oral language tests because comparing tests that are not parallel can easily result in comparing tests that measure different aspects of oral language. Unparallel oral language tests may be acceptable for assessing proficiency levels, but are a significant obstacle in determining language dominance. In the following case study, the evaluation professional administered parallel oral language tests in the student's two languages.

Karina was administered the 4-test Extended Oral Language Cluster from the WJ III ACH and Batería III APROV. Her performance on the oral language clusters suggested an age equivalent of 9-6 and standard score of 102 in Spanish and an age equivalent of 6-3 and standard score of 59 in English. Her assessed proficiency level was indicated to be average in Spanish and very limited in English. Spanish dominance was demonstrated.

For bilingual students with a very definite stronger language, parallelism in the tests of oral language may not be a critical issue although proficiency in both languages should still be investigated. The evaluation professional may deem it appropriate to administer the Oral Language--Extended Cluster in a subject's obviously stronger language, while only doing informal testing or information-gathering on the status of the other language. At all instances, however, the evaluation professional interprets the results of the oral language testing in light of the student's years of exposure to each of the languages and the type, quality, and appropriateness of the educational programming, especially language programming. Additionally, socio-economic and cultural issues and their impact will need to be factored into the interpretation of the test results.

For individuals who speak English and a language other than Spanish, parallel tests in the individual's two languages may not be available. If tests are unavailable in the subject's other language,

informal assessment measures (i.e. language sample, oral story telling/retelling, evaluation of receptive vocabulary, etc.) will be necessary to aid in the assessment of language proficiency and determination of language dominance. The BVAT may be a good assessment choice because it is available in various different languages.

Step 3: Academic Testing

Academic testing in areas such as reading, math, and writing does not necessarily require parallelism because direct comparisons will not be made, although parallelism does make the test interpretation more straightforward. Appropriate interpretation of academic test results of bilingual students require taking into account such factors as:

- student's years of academic instruction in that language,
- opportunities provided to learn,
- types of special language programs,
- age of initial exposure to that language,
- general intellectual ability,
- cognitive abilities, oral language skills,
- affective attributes that impact language learning, and
- any other factors that impact learning.

For instance, English test results are interpreted in light of exposure and quality of English language instruction plus relevant cognitive, affective, and socio-cultural characteristics. Spanish test results are interpreted in light of exposure and quality of Spanish language instruction, as well as relevant cognitive, affective, and socio-cultural characteristics.

On the Spanish Batería III APROV tests, Karina demonstrated a grade equivalent of 3.0 in the Basic Reading Skills Cluster, 2.9 in the Reading Comprehension Cluster, 3.4 in the Math Calculation Cluster, 2.9 in the Math Reasoning Cluster, 2.8 in the Basic Writing Skills Cluster, and 3.2 in the Written Expression Cluster. When test results are interpreted in light of her formal academic instruction in Spanish that ended in the 2nd grade when her family moved to the United State, academic functioning is considered to be generally commensurate with her educational exposure to that language...

On the English WJ III ACH, Karina demonstrated a grade equivalent of 1.6 in the Basic Reading Cluster, 1.2 in the Reading Comprehension Cluster, 3.0 in the Math Calculation Cluster, 2.1 in the Math Reasoning Cluster, K.9 in the Basic Writing Skills Cluster, and 1.6 in the Written Expression Cluster. Given Karina began her formal academic instruction in English one and a half years ago at the age of eight in the second grade, her current academic functioning in English is considered to be generally commensurate with her educational exposure to English.

Step 4: Cognitive Testing

Cognitive/intelligence testing of bilingual individuals is different than oral language and academic testing because cognitive testing is most often conducted in only one language, the subject's strongest language. As a general rule of thumb, cognitive/intelligence testing is conducted in the student's (A) dominant language if dominance can be determined, (B) native language if dominance cannot be determined, or (C) both languages if deemed necessary by the evaluation professional. For bilingual individuals who are stronger in a language that is not English or Spanish, cognitive/intelligence measures are currently not readily available in the United States. Nonverbal intelligence tests, such as the Universal Test of Nonverbal Intelligence (UNIT) (Bracken, McCallum, 1998) may need to be administered.

It is important to realize that although a dominant language may be established for a student, cognitive testing can not automatically revert to monolingual testing in the dominant language. A common problematic assessment practice of bilingual students is that once a dominant language is

determined, testing proceeds monolingually in that dominant language. The bilingual student, however, has had exposure to two languages and monolingual testing, even in the dominant language, can yield misleading results and thus inappropriate placement. A student's bilingual abilities still require consideration because the development of the dominant language is often impacted by the other language of the student. Therefore, a typical English only cognitive assessment may not be the most appropriate assessment for a bilingual, English dominant student. For example, a 5th grade boy had significant exposure to both English and Russian, but is now clearly English dominant. The evaluation professional appropriately selected to administer an English cognitive assessment, but also took into account the boy's bilingual background and chose to administer the bilingual scale in that English cognitive assessment battery.

The WJ III COG is recommended for students who are a) English monolingual; b) bilingual, English dominant; or c) bilingual, unclear dominance, with English as their native language. The Batería III COG is recommended for students who are a) Spanish monolingual; b) bilingual, Spanish dominant; or c) bilingual, unclear dominance, with Spanish as their native language. As described earlier, the following broad scales are available in the WJ III COG and Batería III COG: BIA, GIA-Std, GIA-Ext, GIA-Bil., GIA-EDev, and BCA-LV scales.

The results of the language proficiency and dominance testing and background information indicated that Karina is bilingual in English and Spanish, dominant in Spanish. Karina, therefore, was administered the General Intellectual Ability—Bilingual Scale of the Batería III COG. She demonstrated average cognitive functioning with an age equivalent of 9-9 and a standard score of 105.Intra-cognitive profile analysis indicated no significant strengths or weaknesses.

Bilingual Cross Battery Psycho-Educational Testing

Table 6 provides evaluation professionals with some test combinations. The following combinations of tests are not meant to dictate or limit evaluation professionals, but to provide a helpful guideline.

Table 6

Bilingual Cross-Battery Psycho-Educational Testing Using Woodcock Tests

Language Status of Student	**Language Proficiency and Dominance Testing**	**Academic Achievement Testing**	**Cognitive/Intelligence Testing**
English Monolingual	Oral Language—Standard or Extended Cluster of the English tests: WJ III ACH, WLPB-R, or WMLS-R	WJ III ACH	GIA-Std, GIA-Ext, GIA-EDev, or BCA-LV Scale of the WJ III COG
English native speaker, Negligible Spanish skills	Oral Language—Standard or Extended Cluster of the Eng. tests: WJ III ACH, WLPB-R, or WMLS-R *& Span. tests: Batería III APROV, WLPB-R, or WMLS-R	WJ III ACH & **Batería III APROV	GIA-Std, GIA-Ext, GIA-Bil, GIA-EDev or BCA-LV Scale of the WJ III COG
Bilingual in English and Spanish, English dominance	Oral Language—Extended Cluster of the WJ III ACH & Batería III APROV or Oral Language Cluster of the WMLS-R Eng. & Span. or Oral Language Cluster of the WLPB-R Eng. & Span.	WJ III ACH & **Batería III APROV	GIA-Bil Scale of the WJ III COG GIA-EDev or BCA-LV Scale of the WJ III COG may be deemed appropriate in certain situations
Bilingual in English and Spanish, Unclear dominance	***Oral Language--Extended Cluster of the WJ III ACH & Batería III APROV or ***Oral Language--Total Cluster of the WMLS-R Eng. & Span. or Oral Language Cluster of the WLPB-R Eng. & Span.	WJ III ACH & **Batería III APROV	GIA-Bil Scale in native lang. (WJ III COG or Batería III COG) or test in both languages GIA-EDev or BCA-LV Scale in native lang. (WJ III COG or Batería III COG) or cognitive tests in both languages may be deemed appropriate in certain situations
Bilingual in English and Spanish, Spanish dominance	Oral Language--Extended Cluster of the WJ III ACH & Batería III APROV or Oral Language Cluster of the WMLS-R Eng. & Span. Or Oral Language Cluster of the WLPB-R Eng. & Span.	WJ III ACH & Batería III APROV	GIA-Bil Scale of the Batería III COG GIA-EDev or BCA-LV Scale of the Batería III COG may be deemed appropriate in certain situations

Spanish native speaker, Negligible English skills	Oral Language—Standard or Extended Cluster of the Spanish tests: Batería III APROV, WLPB-R, or WMLS-R *English tests: WJ III ACH, WLPB-R, or WMLS-R	Batería III APROV & **WJ III ACH	GIA-Std, GIA-Ext, GIA-Bil, GIA-EDev or BCA-LV Scale of Batería III COG
Span. monolingual	Oral Language—Standard or Extended Cluster of the Spanish tests: Batería III APROV, WLPB-R, or WMLS-R	Batería III APROV & **WJ III ACH	GIA-Std, GIA-Ext, GIA-EDev or BCA-LV Scale of Batería III COG
Bilingual in Eng. and a BVAT language, English dominance	BVAT and a language sample in English and other language	WJ III ACH and informal academic assessment in other language	Bilingual Scale using BVAT Option of the WJ III COG
Bilingual in English and a BVAT language, Not dominant in English	BVAT Language sample in English Language sample in other language	WJ III ACH and informal academic assessment in other language	Nonverbal intelligence test such as UNIT

*A comprehensive oral language evaluation in this language may not be necessary; however some testing may be appropriate for documentation and baseline information.

**Administer if the student's educational background indicates academic instruction in that language or baseline information is desired for that language. An academic screener (Refer to Table 5) or informal academic testing may suffice in some testing situations.

***The most comprehensive oral language evaluation is recommended for individuals where dominance is difficult to determine. It is for this reason that the 2-test oral language clusters are not recommended.

There are a myriad of individual circumstances that suggest different combinations of tests or additional testing than are represented in Table 4. For students who speak other languages, testing may require more creative combinations. For example, a student who is dominant in English, but also speaks Navajo and has had academic instruction in Navajo may be administered:

- English/Navajo BVAT to assist in determining language proficiency and dominance,

- parallel informal language sample in English and Navajo to assist in determining language proficiency and dominance,
- Bilingual Scale of the WJ III COG to investigate general intellectual ability,
- English academics from the WJ III ACH to assess academic skills in English, and
- informal academic assessment in Navajo to assess academic skills in Navajo.

Another student who speaks English and Chinese (a BVAT language) and is dominant in Chinese may be administered:

- English/Chinese BVAT,
- parallel informal language samples in English and Chinese,
- nonverbal intelligence measure such as the Universal Nonverbal Intelligence Test (UNIT),
- English academics from the WJ III ACH, and
- informal academic assessment in Chinese.

Summary

The complexities of a subject's bilingualism no longer limit testing, as it did in the past. More and more tests are becoming available and evaluation professionals have a better and increased understanding of bilingualism. The evaluation professional can now tailor a battery of tests to more accurately and equitably assess a student from a bilingual background.

References

Alvarado, C. G. (1999). *A Broad Cognitive Ability—Bilingual Scale for the WJ-R Tests of Cognitive Ability and the Batería Woodcock-Muñoz: Pruebas de habilidad cognitiva—Revisada (*Research Report Number 2). Itasca, IL: Riverside Publishing.

Alvarado, C. G., Ruef, M. F., & Schrank, F. *Woodcock-Muñoz Language Survey—Revised Comprehensive Manual*. Itasca, IL: Riverside Publishing.

Bracken, B. A. & McCallum, R. S. (1998). *Universal Nonverbal Intelligence Test*. Itasca, IL: Riverside Publishing.

McGrew, K. S., & Woodcock, R. W. (2001). Technical Manual. *Woodcock-Johnson III*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A. F., Cummins, J., Alvarado, C. G., & Ruef, M. L. (1998a). *Bilingual Verbal Ability Tests*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A. F., Cummins, J., Alvarado, C. G., & Ruef, M. L. (1998b). *Bilingual Verbal Ability Tests, Comprehensive Manual*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A.F., Woodcock, R. W., McGrew, K. S., & Mather, N. (2005a). *Batería Woodcock Muñoz III: Pruebas de habilidades cognitivas*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A.F., Woodcock, R. W., McGrew, K. S., & Mather, N. (2005b). *Suplemento diagnóstico para las pruebas de habilidades cognitivas*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A.F., Woodcock, R. W., McGrew, K. S., & Mather, N. (2005c). *Examiner's Manual. Batería Woodcock-Muñoz III: Pruebas de habilidades cognitivas*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A.F., Woodcock, R. W., McGrew, K. S., & Mather, N. (2005d). *Batería Woodcock Muñoz III: Pruebas de aprovechamiento*. Itasca, IL: Riverside Publishing.

Muñoz-Sandoval, A.F., Woodcock, R. W., McGrew, K. S., & Mather, N. (2005e). *Examiner's Manual. Batería Woodcock-Muñoz III: Pruebas de habilidades cognitivas*. Itasca, IL: Riverside Publishing.

Woodcock, R. W. (1991). *Woodcock Language Proficiency Battery—Revised, English Form*. Itasca, IL:

Riverside Publishing.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001a). *Woodcock-Johnson III Tests of Cognitive Abilities*. Itasca, IL: Riverside Publishing.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001a). *Examiner's Manual. Woodcock-Johnson III Tests of Cognitive Abilities*. Itasca, IL: Riverside Publishing.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001c). *Woodcock-Johnson III Tests of Achievement*. Itasca, IL: Riverside Publishing.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001c). *Examiner's Manual. Woodcock-Johnson III. Tests of Achievement*. Itasca, IL: Riverside Publishing.

Woodcock, R. W., McGrew, K. S., Mather, N., Schrank, F. A. (2003). *Woodcock-Johnson III Diagnostic Supplement to the Tests of Cognitive Abilities.* Itasca, IL: Riverside Publishing.

Woodcock, R. W., & Muñoz-Sandoval, A. F. (1995). *Woodcock Language Proficiency Battery—Revised, Spanish Form*. Itasca, IL: Riverside Publishing.

Woodcock, R. W., Muñoz-Sandoval, A. F., Ruef, M. L., & Alvarado, C. G. (2005a). *Woodcock-Muñoz Language Survey—Revised English Form A.* Itasca, IL: Riverside Publishing.

Woodcock, R.W., Muñoz-Sandoval, A.F., Ruef, M. L., & Alvarado, C. G. (2005b). *Woodcock-Muñoz Language Survey— Revised English Form B.* Itasca, IL: Riverside Publishing.

Woodcock, R. W., Muñoz-Sandoval, A. F., Ruef, M. L., & Alvarado, C. G (2005c). *Woodcock-Muñoz Language Survey—Revised Spanish Form*. Itasca, IL: Riverside Publishing.