

Addressing 'difference vs.
disorder' with the Ortiz
Picture Vocabulary
Acquisition Test.

California Association of School
Psychologists

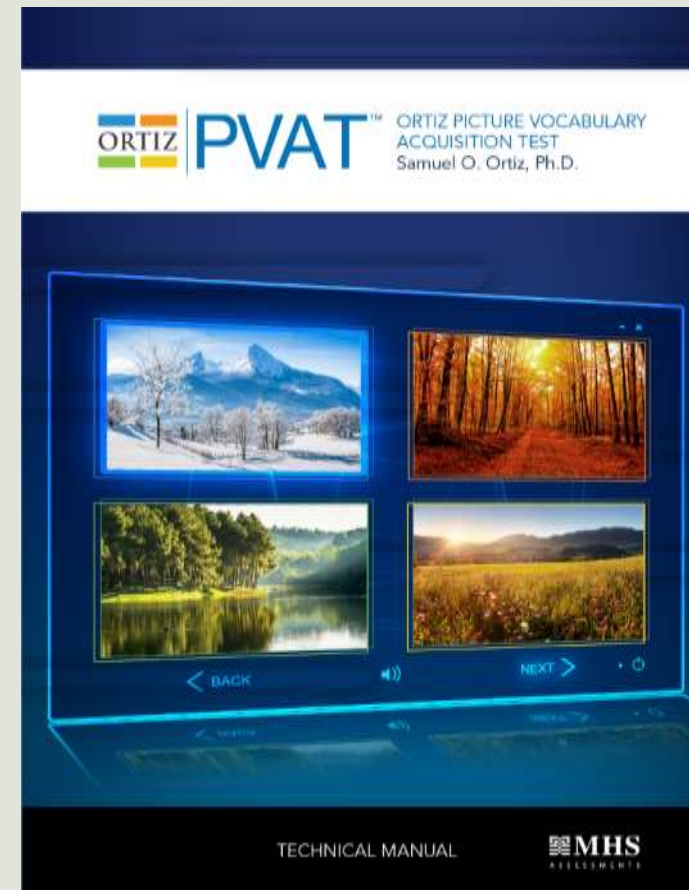
Costa Mesa, CA

October 11, 2023

Samuel O. Ortiz, Ph.D.

St. John's University

Advances in Fairness and Testing with English Learners



How Hard Can it Really Be to Learn to Read, Write, and Speak in Another Language?

Lektura:

Przeczytaj zdanie – “Pies sąsiada głośno szczekał”.

Słownictwo:

Co oznacza “sąsiad”? Co oznacza “szczekał”? Co oznacza “głośno”?

Piśmiennictwo:

Napisz coś na temat dlaczego pies szczekał.

How Hard Can it Really Be to Learn to Read, Write, and Speak in Another Language?

Lectura:

Lee esta frase – “El perro de los vecinos ladró ruidosamente.”

Hablando:

¿Que significa la palabra, “vecino”? ¿La palabra, “ladró”? ¿La palabra, “ruidosamente”?

Escritura:

Escribe algo acerca de la razón que el perro estaba ladrando.

The Fundamental Nature of Vocabulary Acquisition

Vocabulary is a fundamental aspect of general language acquisition:

*“...while without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (p. 111-112)
- Wilkins, 1972*

*“lexis is the core or heart of language” (p. 89)
- Lewis, 1993*

Everything is Easier When it's in a Language you Already Speak and Comprehend!

Reading:

Read this sentence – “The neighbor’s dog barked loudly.”

Speaking:

What does “neighbor” mean? What does “bark” mean? What does “loudly” mean?

Writing:

Write something about why the dog was barking.

The Standards, Fairness, and Multilingual Learners

“Fairness is a fundamental validity issue and requires attention throughout all stages of test development and use.

In previous versions of the *Standards*, fairness and the assessment of individuals from specific subgroups of test takers, such as individuals with disabilities and individuals with diverse linguistic and cultural backgrounds, were presented in separate chapters.

In the current version of the *Standards*, these issues are presented in a single chapter to emphasize that fairness to all individuals in the intended population of test takers is an overriding, foundational concern, and that common principles apply in ***responding to test-taker characteristics that could interfere with the validity of test score interpretation.***” (p. 49)

AERA, APA & NCME (2015)

Language difference is perhaps the most important among all characteristics!

Advances in Test Development for MLs has Been Slow

- 1906
1. Testing in English only (ignore the heritage language)
 2. Nonverbal testing only (ignore all languages)
 3. Testing via translation (accommodate one language)
 4. Testing with a native/heritage language test (typically Spanish)
 5. Testing in the “dominant” language (English or typically Spanish)
 6. Testing in both languages (English and typically Spanish)
 7. Combining performance in testing in both languages (typically English/Spanish)
 8. Sampling bilinguals (typically English/Spanish)
-
- 2018
9. Sampling bilinguals - categorical levels of proficiency (typically English/Spanish)
 10. Sampling bilinguals - continuous control of proficiency (in English only)

Fairness is an Issue of Measurement Validity

Traditional approaches fail to adequately address validity issues regarding language differences in multilingual learners

Use of translators -

- *Non-standardized procedure, third party observer effects, lack of norms, content may not translate properly, undermines psychometric test properties including reliability and validity*

Modified or altered testing (e.g., testing of the limits) -

- *Violates standardization protocol, undermines psychometric test properties including reliability and validity, lack of norms for altered administration*

Nonverbal (i.e., language reduced testing) -

- *Cannot be completed without some form of communication, does not eliminate cultural content, avoids the importance of language, limits the range of abilities that can be measured*

Dominance evaluation as a guide for language of assessment -

- *Dominance does not establish developmental comparability in that language or ensure validity*

Native language testing -

- *Often assumes the examinee is a monolingual speaker, doesn't control for variation in native language exposure, type and amount of formal education, or differences in proficiency*

The Assumption of Comparability in Measurement

Every schoolchild has a particular set of background experiences in educational, social, and cultural environments. When we test students using a standardized device and compare them to a set of norms to gain an index of their relative standing, we assume that the students we test are similar to those on whom the test was standardized; that is, we assume their acculturation is comparable, but not necessarily identical, to that of the students who made up the normative sample for the test.

When a child's general background experiences differ from those of the children on whom a test was standardized, then the use of the norms of that test as an index for evaluating that child's current performance or for predicting future performances may be inappropriate. Incorrect educational decisions may well be made. It must be pointed out that acculturation is a matter of experiential background rather than of skin color, race, or ethnic background. When we say that a child's acculturation differs from that of the group used as a norm, we are saying that the experiential background differs, not simply that the child is of different ethnic origin, for example, from the children on whom the test was standardized" (p. 18).

Salvia & Ysseldyke, 1991

Race/Ethnicity Does Not Establish Comparability

Development varies by circumstance and experience, not necessarily by race or ethnicity

“The key consideration in distinguishing between a difference and a disorder is whether the child’s performance differs significantly from peers with similar experiences.” (p. 105)

- Wolfram, Adger & Christian, 1999

For native English speakers, growth and acquisition of language, cognitive abilities, and acculturative knowledge are tied closely to age and with assumptions regarding normal educational experiences. Thus, when there is only one language and only one type of instructional program (as in the case of native English speakers) age-based norms effectively control for variation in development and provide an appropriate basis for comparison. However, the same cannot be said for English learners who are developing in two or more languages, are educated in a variety of different programs with vastly different outcomes and are not being raised in the “mainstream” culture of the test.

Age Alone Does Not Establish Comparability

Development varies by exposure, not simply by age

“It is unlikely that a second-grade English learner at the early intermediate phase of language development is going to have the same achievement profile as the native English-speaking classmate sitting next to her. The norms established to measure fluency, for instance, are not able to account for the language development differences between the two girls. A second analysis of the student’s progress compared to linguistically similar students is warranted.” (p. 40)

- Fisher & Fry, 2012

For native English speakers, growth of language-related abilities are tied closely to age because the process of learning a language begins at birth and is fostered by formal schooling. Thus, age-based norms effectively control for variation in development and provide an appropriate basis for comparison. However, this is not true for multilingual learners who may begin learning English at various points after birth and who may receive vastly different types of formal education from each other.

For MLs, Validity is Not Established by Age Alone

Approximation between Age, Grade, and Word Type for Native English Speakers

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19+	
Grade					K	1	2	3	4	5	6	7	8	9	10	11	12			
Word Type	Emergent BICS		Intermediate BICS			Advanced BICS			Emergent CALP		Intermediate CALP			Advanced CALP						

The chronological age of an EL, by definition, does not indicate how long the individual has been learning English. Exposure to English can vary considerably among ELs of the same age or grade.

Some ELs may start learning English upon school entry at the age of 5.

Other ELs may start learning English upon school entry that occurs at a much later date, such as at the age of 10 or 5th grade.

A 17-year-old EL may have been learning English for as long as 16+ years, or a 17-year-old may have been learning English for as little as 1 month.

Comparing ELs by age alone, will not control or provide fairness regarding the wide range of variability in their respective exposures to English and the amount of time they each may have been learning English across their lifetimes.

Advances in Test Development Based on True Peers

“There are many different ways in which children can be exposed to a second language. For some children, two languages are present in the home from birth. For other children, exposure to a second language begins once they enter early childhood education programs...

Furthermore, children differ in their exposure to their languages. Some children receive a great deal of exposure to two languages, whereas for other children one language predominates.”

- *McLaughlin, Blanchard & Osanai, 1995*

For MLs, Language Exposure is Key to Comparability

- The historical conceptualization underlying a verbal vs. nonverbal approach to measurement is a false dichotomy because MLs do not perform at the same level on ALL nonverbal tests any more than they perform at the same level on ALL verbal tests.
- ML test performance represents a continuum formed by a proportional attenuation as a function of exposure and experience in the language of the test.
- Test performance of MLs is moderated by the degree to which a given test relies on or requires age- or grade-expected English language development and the acquisition of incidental acculturative knowledge.

*"although a student's conversational level of English language proficiency could be perceived to be relatively consistent with their peers', their level of academic language proficiency may not be sufficient to fully benefit from classroom instruction or **understand test directions to the same extent of a native English language speaker**" (p. 10; Cormier et al., 2022)*

Language Exposure and Test Performance

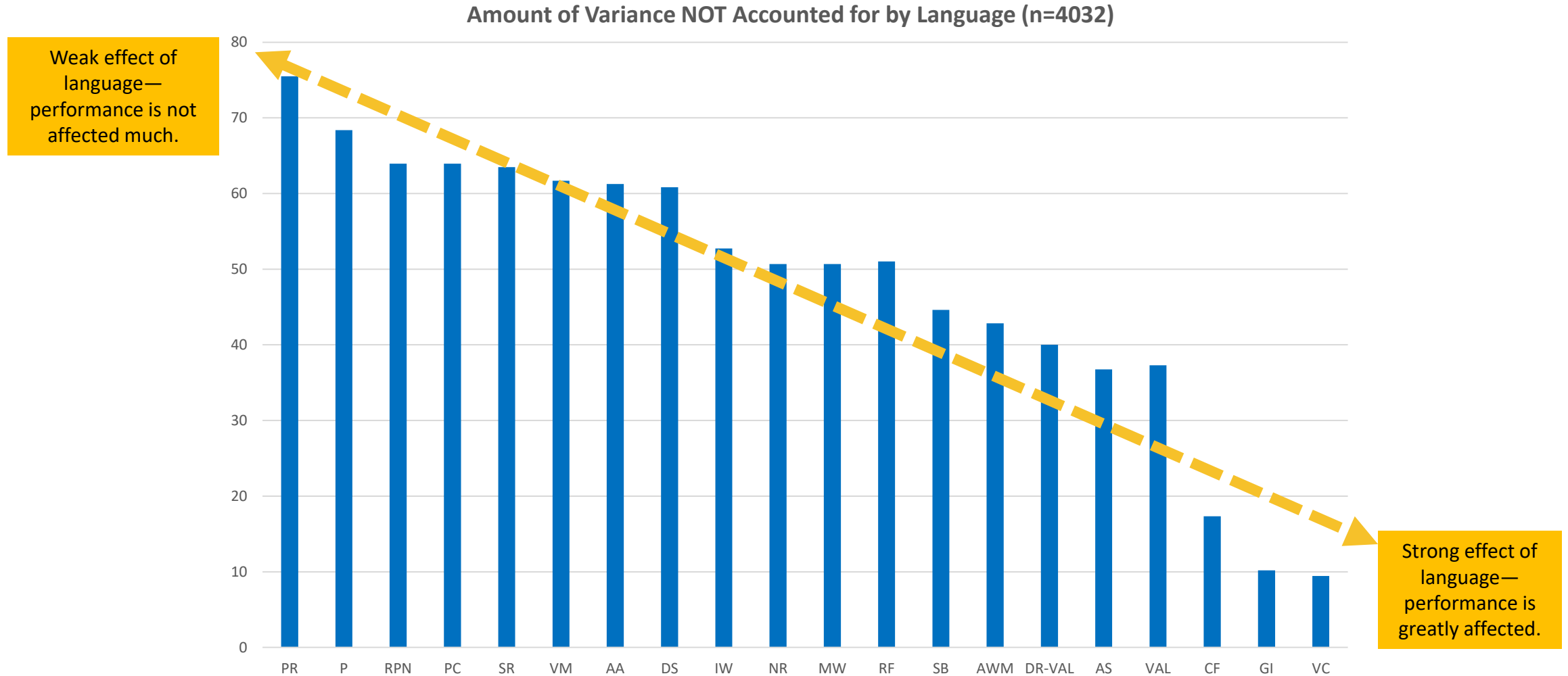
Table 3. Variance Explained by Exogenous Variables (Individual Test Performance) by Age Group.

Individual test	Variance explained			
	7-10	11-14	15-18	
Verbal Comprehension	.79 ^c	.86 ^c	.81 ^c	1
General Information	.71 ^c	.85 ^c	.86 ^c	
Concept Formation	.67 ^c	.71 ^c	.67 ^c	2
Visual–Auditory Learning	.40 ^b	.37 ^b	.41 ^b	
Delayed Recall Visual–Auditory Learning	.39 ^b	.32 ^b	.37 ^b	
Analysis Synthesis	.29 ^b	.44 ^b	.47 ^b	3
Sound Blending	.25 ^b	.32 ^b	.35 ^b	
Auditory Working Memory	.22 ^b	.44 ^b	.32 ^b	
Retrieval Fluency	.22 ^b	.22 ^b	.28 ^b	
Memory for Words	.18 ^b	.32 ^b	.23 ^b	
Numbers Reversed	.17 ^b	.26 ^b	.30 ^b	
Pair Cancellation	.17 ^b	.11 ^b	.11 ^b	4
Rapid Picture Naming	.16 ^b	.07 ^a	.16 ^b	
Incomplete Words	.13 ^b	.31 ^b	.23 ^b	
Visual Matching	.13 ^b	.15 ^b	.16 ^b	
Decision Speed	.12 ^b	.15 ^b	.19 ^b	
Auditory Attention	.10 ^b	.20 ^b	.15 ^b	5
Spatial Relations	.08 ^a	.16 ^b	.16 ^b	
Planning	.07 ^a	.12 ^b	.11 ^b	
Picture Recall	.02 ^a	.06 ^a	.10 ^b	

*Source: Cormier, D.C., McGrew, K.S. & Ysseldyke, J. E. (2014). The Influences of Linguistic Demand and Cultural Loading on Cognitive Test Scores. Journal of Psychoeducational Assessment, 32(7), 610-623.

Research Foundations for ML Evaluation

Principle 4: Language influences ML test performance in a linear, continuous manner, not dichotomously



*Source: Cormier, D.C., McGrew, K.S. & Ysseldyke, J. E. (2014). The Influences of Linguistic Demand and Cultural Loading on Cognitive Test Scores. Journal of Psychoeducational Assessment, 32(7), 610-623.

Research Foundations for ML Evaluation

Principle 3: ML performance is moderated by linguistic/aculturative variables even at the subtest level

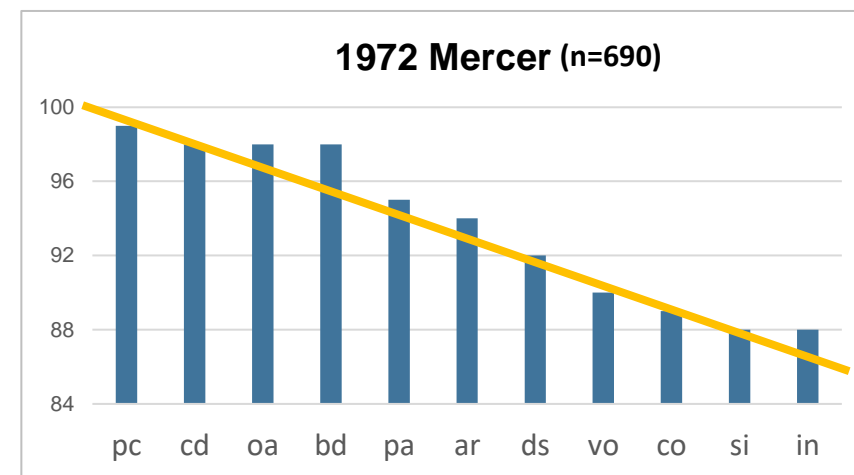
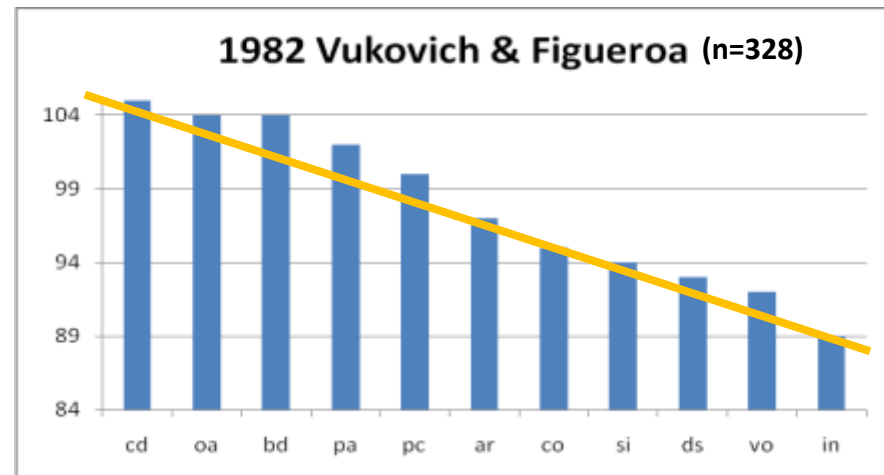
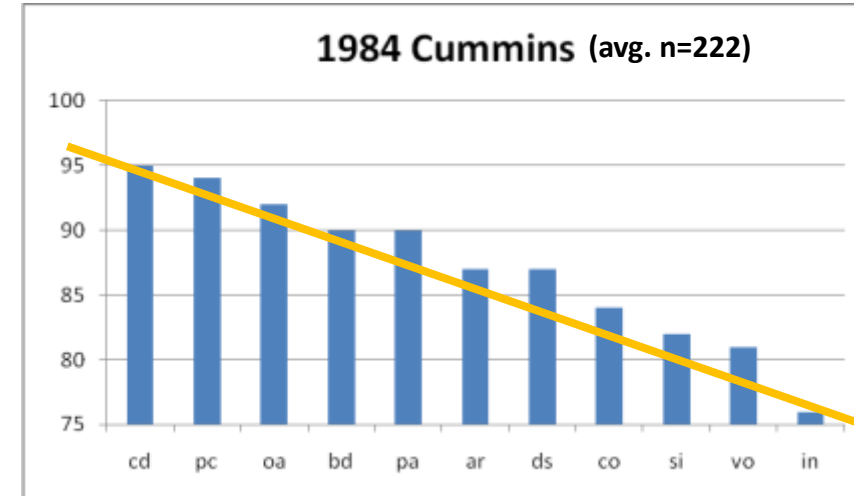
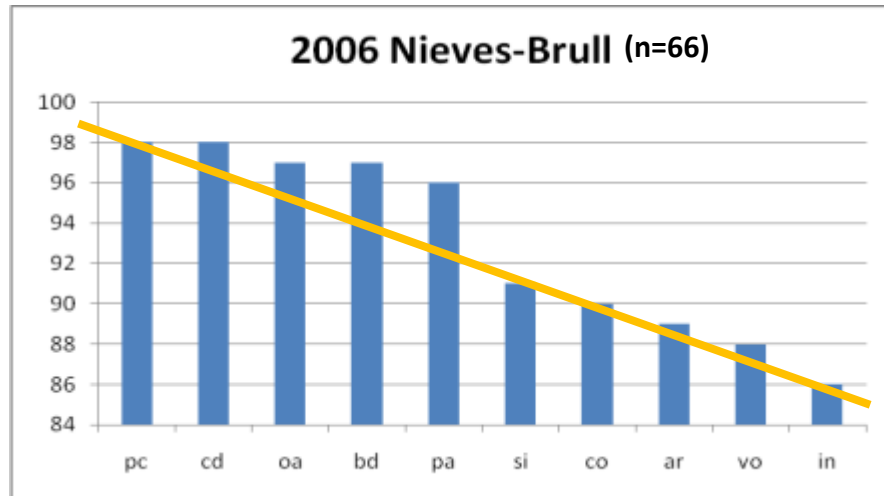
"the influence of language ability, particularly receptive language ability, is more influential than age on cognitive test performance. This last point highlights the importance of considering language abilities when assessing students' cognitive abilities." (p. 9; Cormier et al., 2022)

Variable	β	R^2
Step 1		.66***
Age	.67***	
Step 2		.79***
Age	.37***	
Lifetime Exposure to English	.52***	
		$\Delta R^2 = .18***$

*** $p < .001$

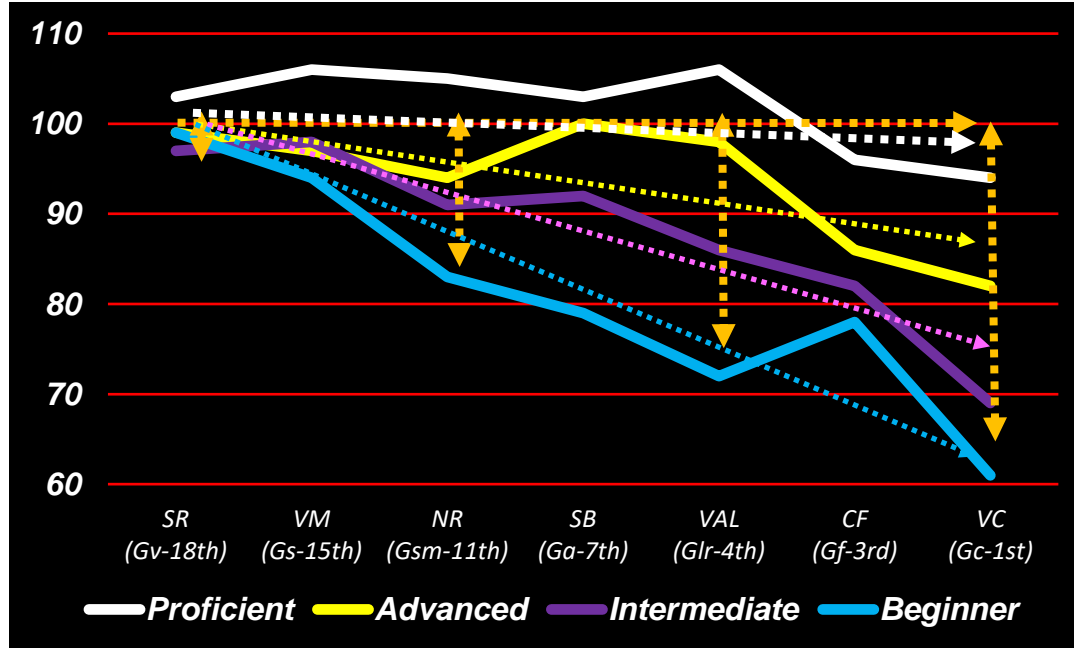
“[Lifetime English Exposure] was also found to exert more influence on the variance of the raw scores on the Ortiz PVAT compared to age...and because the Ortiz PVAT measures receptive language, or specifically receptive vocabulary, in English, **the strong effect of Lifetime English Exposure above and beyond age was observed**” (pp. 51; Wong, 2023).

Differences in Performance Between Bilinguals and Monolinguals



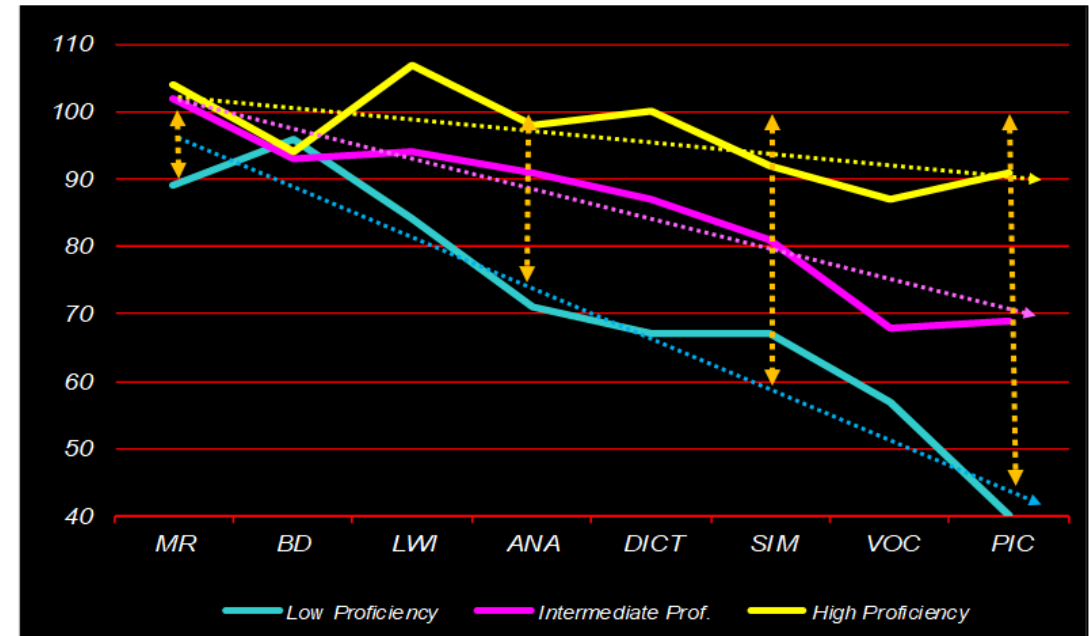
Differences in Performance Among Bilinguals

Domain specific scores across the seven WJ III subtests according to language proficiency level on the NYSESLAT



Source: Sotelo-Dyrega, M., Ortiz, S.O., Flanagan, D.P., Chaplin, W. (2013). English Language Proficiency and Test Performance: Evaluation of bilinguals with the Woodcock-Johnson III Tests of Cognitive Ability. *Psychology in the Schools*, Vol 50(8), pp. 781-797.

Mean subtest scores across the four WASI subtests and four WMLS-R subtests according to language proficiency level



Source: Dynda, A. M. (2008). The relation between language proficiency and IQ test performance. Unpublished manuscript. St. John's University, NY.

The less developmental proficiency of multilingual learners, as compared to monolingual native English speakers, the more test performance drops. However, performance also drops in comparison to other multilingual learners based on differences among multilingual learners in their own respective English language development.

The Future of Test Development for Bilinguals

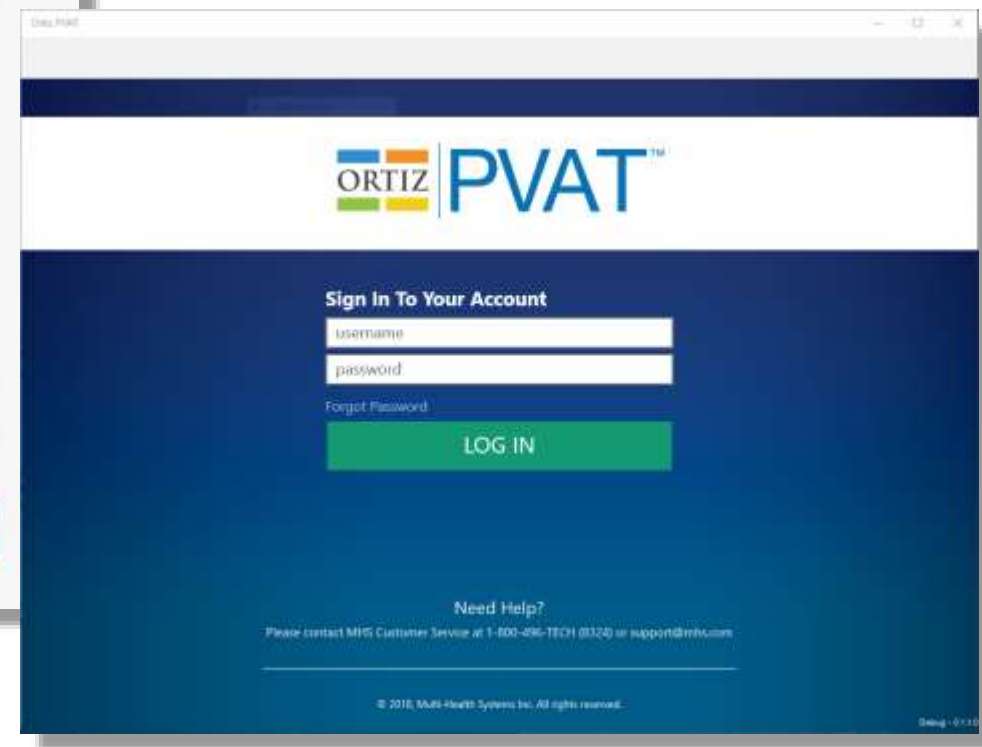
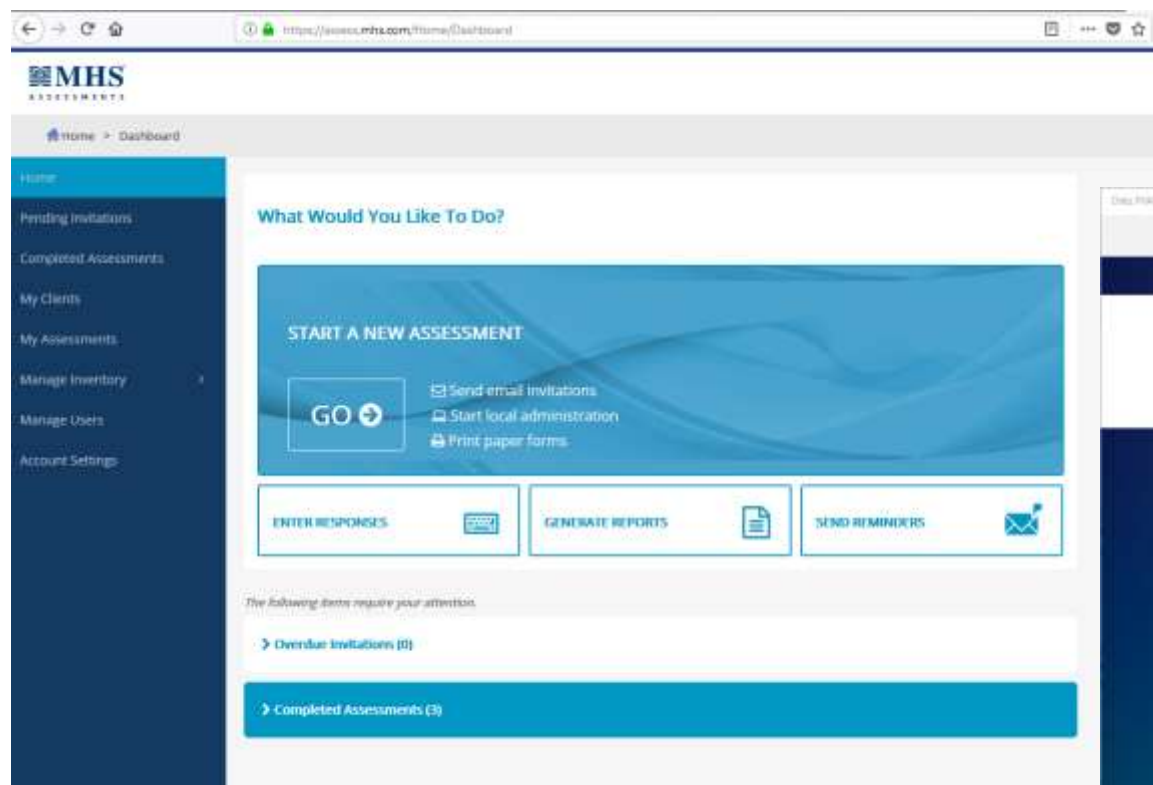
To be valid and useful, instruments must be:

“specifically developed to determine whether speech and/or language errors observed in some young children [are] due to limited exposure to English or to a language impairment.”

- Westby, 2015

Because bilingual children make many of the same linguistic errors as monolinguals who possess speech and language impairment, the process of distinguishing “difference vs. disorder” becomes significantly more complicated than when evaluating English learners whose language development is controlled by age alone.

Leading a new generation of tests



Fairness and English Learners:

New directions in test design

Practical and Measurement Issues:

1. In the U.S., academic accountability is based on demonstrating academic mastery in English.
2. English language acquisition, unlike nonverbal abilities, is highly related to academic success.
3. English is essentially a “common metric” for native English speakers and all English learners.
4. Using English eliminates the need for language-specific translations or adaptations.
5. Using English reduces dependence on professionals with bilingual abilities.
6. Receptive vocabulary can be assessed immediately and before expressive language emerges.

Assumptions:

1. Language explains significant variance in test performance above and beyond race/ethnicity
2. English language acquisition is an invariant process, irrespective of the native language
3. English learners of the same age can vary widely in their exposure to and development in English

Why Assess Vocabulary Acquisition?

Highly associated with intelligence and general cognitive ability

Highly associated with academic skills development and educational attainment



Highly associated with oral language proficiency

Is the foundation for learning to speak, read, and write

Powerful indicator of general language development

In an Increasingly Online World, Technology Matters

Technological Features of the Ortiz PVAT

- Portability – only requires a single laptop or tablet
- Efficiency – automated administration/scoring:
 - responses captured automatically
 - built-in screener moves seamlessly to appropriate starting point
 - built-in ceiling rules; test ends automatically
 - online scoring & informative reports with intervention recommendations
- Adaptability –
 - no verbal response required
 - can use mouse or touchscreen input
 - parallel forms facilitate progress monitoring
 - Can assess instructional and intervention needs, progress, growth, or diagnostic evaluation



In an Increasingly Diverse World, Fairness Matters

Features Regarding Fairness of the Ortiz PVAT

- Dual-norming – for “true peer” comparisons
 - native English speakers
 - all English learners
- Exposure – developmental language control
 - English learner norms account for variability in amount of lifetime exposure to English
- Fairness - demonstrated lack of bias relative to
 - race/ethnicity
 - first language spoken
- Universal – applicable/useable by everyone
 - does not require “bilingual” administrator
 - receptive vocabulary permits evaluation even in ELs with less than 1 month exposure
 - if needed, translated task instructions in Spanish, Chinese, Vietnamese, Arabic, and Russian



A Modern Test in an Era of Diversity

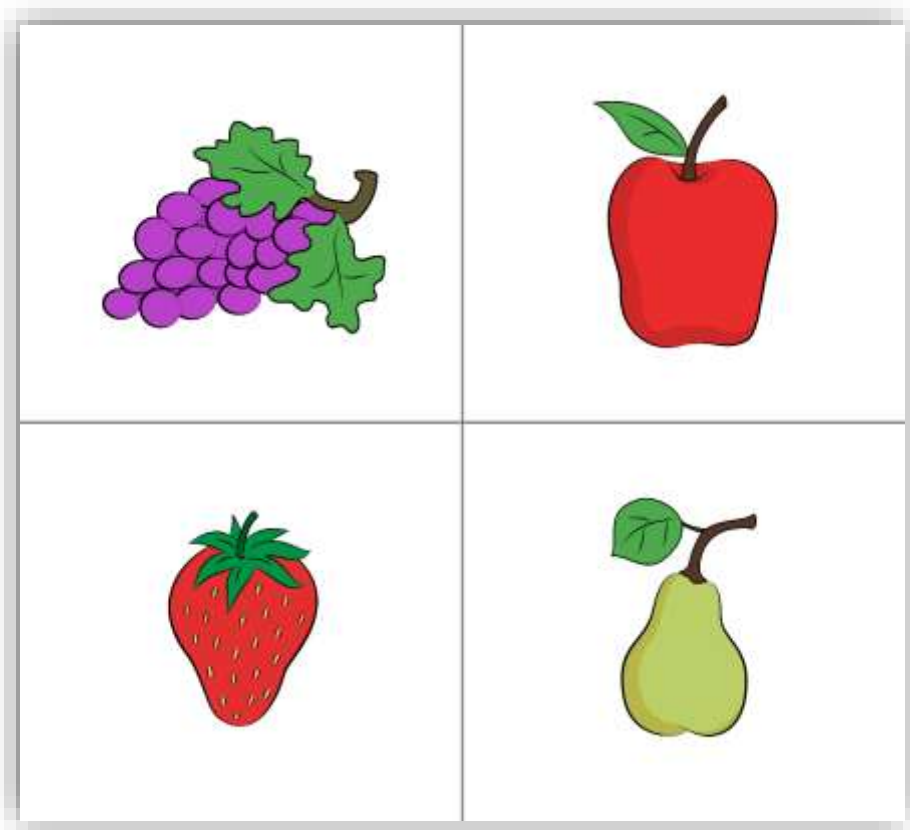


Features of The Ortiz PVAT:

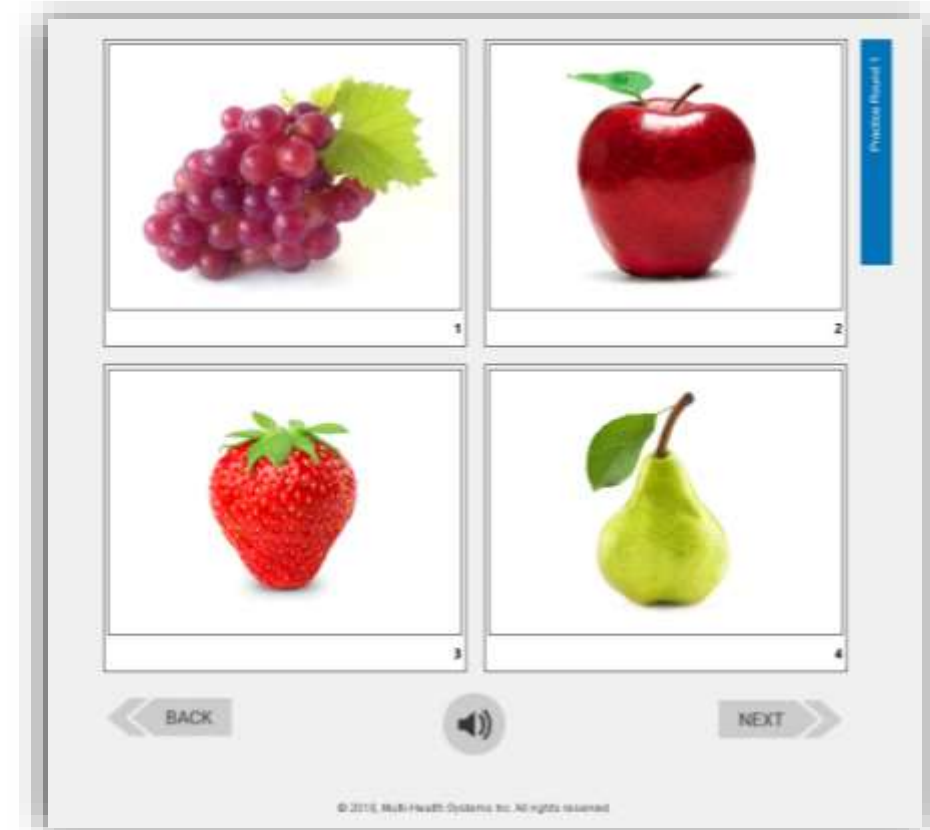
- 1) Valid results for English speakers & learners
- 2) Automated administration and scoring
- 3) Facilitation of observation of test behavior
- 4) Efficiency – reduced reliance on “bilingual” evaluators
- 5) Economy – one test for everyone
- 6) Utility – reports with instructional level, word type analysis, growth, and recommendations for teaching and intervention
- 7) Inherently interactive
- 8) Engaging, with ecologically valid visual stimuli and pre-recorded audio components

A Modern Test in an Era of Diversity

Which Is More Engaging?



Dated, hand-drawn illustrations



Modern, high-resolution, real-world stimuli

A Modern Test in an Era of Diversity

Which Is Easier to Handle?



Maximum weight and hassle



Maximum portability and efficiency

A Modern Test in an Era of Diversity

Which Is Easier to Administer?



Handling protocols and materials for administration



Focused observation during test administration

A Modern Test in an Era of Diversity

And What
About
Diversity?



If, according to the U.S. Census Bureau, there are over **350 languages** spoken in U.S. homes, then...

A Modern Test in an Era of Diversity

Which Test Is More Useful?



A test of English vocabulary (L2) for monolingual English speakers only?

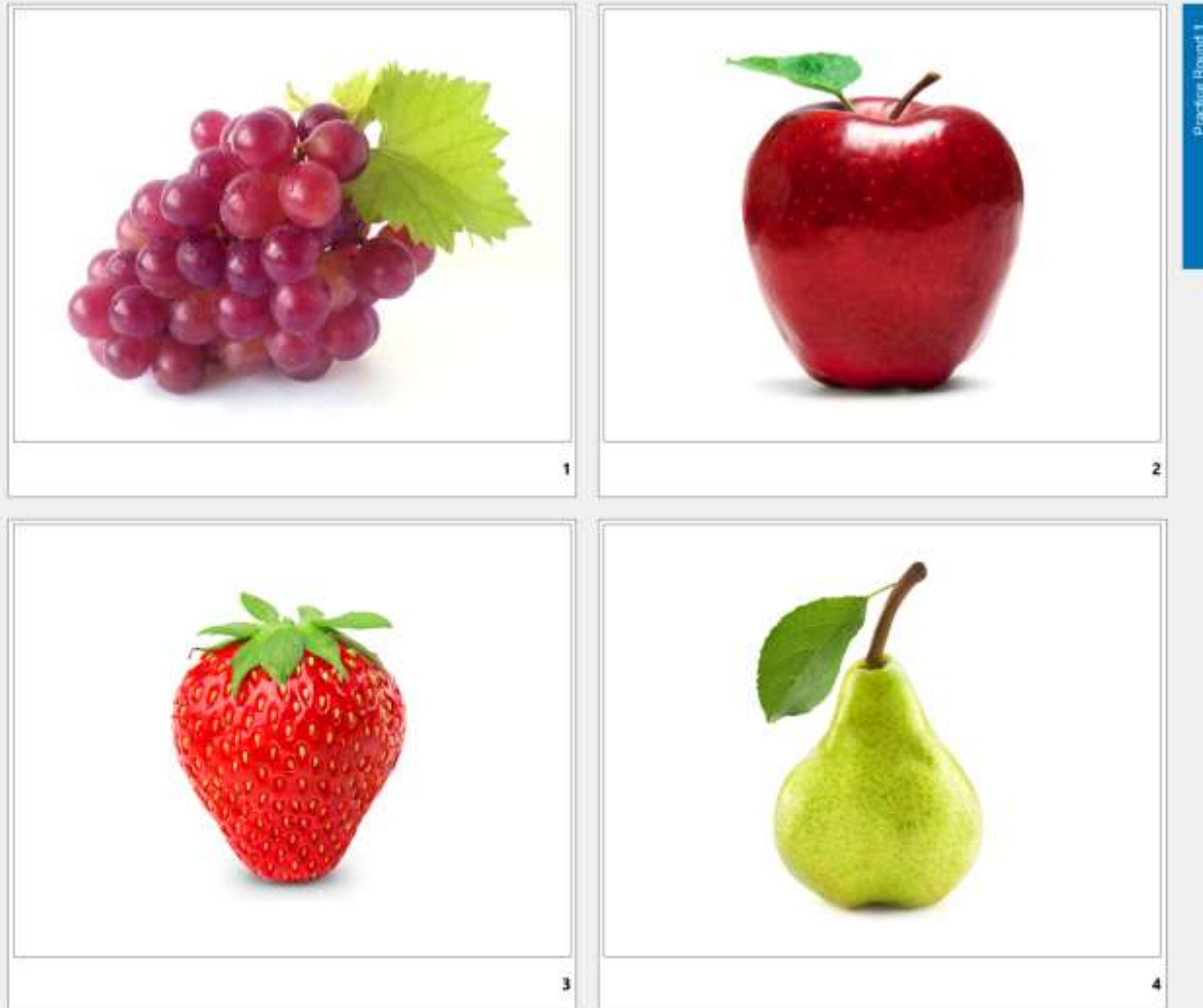
A test of heritage language vocabulary (L1) for heritage language speakers only?



Or, a test of English vocabulary for anyone learning English as their only language (L1) or as an additional (L2) language?


Administration of the Ortiz PVAT

Practice Round 1



1 2

3 4

BACK  NEXT

The test begins with screener items. Upon missing the first screener item (10 max), the test automatically and seamlessly jumps to the correct starting point and continues the test until the examinee reaches the ceiling (5 wrong out of last 10). At that point, the test ends automatically.



1



2



3



4

BACK



NEXT



1



2



3



4

BACK



NEXT



1



2



3



4

BACK



NEXT



1



2



3



4

BACK



NEXT

The Ortiz PVAT – Assessment Report



ORTIZ PICTURE VOCABULARY ACQUISITION TEST™
Samuel O. Ortiz, Ph.D.

Assessment Report

Examinee Information

Name/ID: Josephine Cruz
Age: 15 years 6 months
Gender: Female
Date of Birth: July 18, 2003
Language(s) Spoken at Home: Unspecified
Age at First Exposure to English: 14 years
Exposure to English: 3% of life
Primary Language of Instruction: Unspecified
School Grade: 10

Assessment Information

Administration Date: January 20, 2019
Examiner Name:
Form Administered: A
Norms Used: English Learner Norms (accounting for exposure to English)
Number of Items Presented: 24
Number of Items Omitted: 0

This computerized report provides quantitative information about the performance of the examinee. Additional interpretive information can be found in the *Ortiz PVAT Technical Manual*. **This Assessment Report is intended for use by qualified evaluators only, and is not to be used as the sole basis for clinical diagnosis or intervention.**



Assessment Report – Form A for Josephine Cruz
Admin Date: 01/20/2019

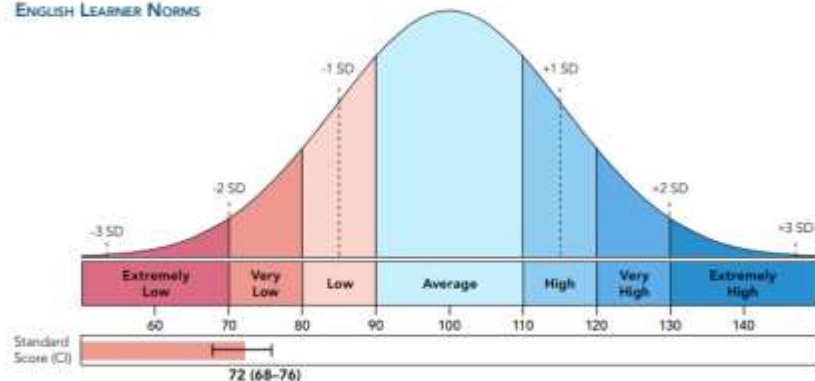
About the Ortiz PVAT™

The Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT) is a test that assesses the ability of a child, youth, or young adult (aged 2 years 6 months to 22 years 11 months) to comprehend the meaning of spoken English words (i.e., receptive vocabulary). It is appropriate for both native English speakers and English learners. In addition, it can be used to measure and track growth and development in English vocabulary, investigate possible speech-language difficulties, and guide instruction and educational intervention.

Vocabulary Acquisition and Development

This section of the report compares the examinee's scores against the **English Learner norms** to assess vocabulary acquisition in English relative to other English learners of the same age who have similar exposure to English. This comparison assists in differentiating the normal process of learning another language from an underlying language disorder. Please see the *Ortiz PVAT Technical Manual* for more information on the importance of using English Learner norms that account for exposure to English.

ENGLISH LEARNER NORMS



Ortiz PVAT Scores	English Learner Norms*
Raw Score	28
Standard Score (95% Confidence Interval)	72 (68-76)
Percentile	3rd
Stanine	1
Age Equivalent (Years:Months)	5:3
Classification	Very Low

*Compared to other English learners of the same age who have similar exposure to English.

Interpretation

- Compared to same-age peers who have been exposed to English for 3% of their lives (**English Learner norms**), Josephine's ability to recognize spoken English words is **very low**.
- Because her performance is well below that of other English learners with similar exposure to English, an **underlying language difficulty may be indicated** if such difficulties are supported by additional converging evidence, including identification of similar difficulties in the individual's native language.

The Ortiz PVAT – Assessment Report

Instructional Level

This section of the report compares the examinee's scores against the **English Speaker norms** to assess instructional needs. A comparison to native English speakers provides a baseline of current functioning relative to peers from the same age group and can be used to inform instructional level or services required. Please see the *Ortiz PVAT Technical Manual* for more information on the use of English Speaker norms for English learners.

Instructional level recommendations:

- With respect to the level of instruction required for continued academic growth and success in English, Josephine's vocabulary acquisition is **extremely below** the level typically associated with same-age native English-speaking peers (**English Speaker norms**).
- **Classroom instruction requires substantial modification** to accommodate her level of English comprehension. **Intensive interventions are needed** to assist in making further progress toward grade-level standards in English.

Important Note: English-language experiences should not be viewed as a replacement or substitute for continued native-language development which may offer better educational outcomes for Josephine, in both English and her native language.

Intervention Recommendations (English and Native Language)

Instructional strategies for English language development:

- Provide significant opportunities to hear and use content vocabulary in the English language:
 - Facilitate language learning through speech production and interaction so that the learning process is active rather than passive. Support and encourage active participation rather than just presenting information.
 - Create interactive educational settings where there is greater exposure to English language models that focus primarily on social conversations. Such interactive environments should focus on providing significant opportunities for using language, as well as frequent and corrective feedback that is appropriate for the student's current vocabulary level.
- Increase contextualization of information:
 - Use clear, consistent, and basic relational language (i.e., descriptions of simple characteristics that illustrate similarities) for objects, key vocabulary words, and ideas, especially when introducing new or more complex ways of using social and academic language in English and the native language (if the student speaks their native language).
 - Provide frequent opportunities for scaffolding, focusing primarily on social language acquisition in English via the use of rich, visual analogy with a lot of contextual information (e.g., hand gestures, pointing to surrounding objects) in order to aid comprehension. This technique may include requiring the student to access information that they have understood or been taught previously.
 - Provide frequent opportunities for drawing, writing, and expressions in the English language in order to connect the student's own ideas primarily to social interactions, but also to academic settings.
- Use visual aids and graphic organizers (e.g., picture dictionaries, icons, or flowcharts) during instruction to tag and connect vocabulary and ideas.
- Allow the student to incorporate their own experiences into learning situations.
- Encourage the student to express thoughts and ideas by using their own words in English.
- Provide increased opportunities for the student to connect the English language with ideas or concepts within the context of academic and social settings.
- Provide increased opportunities for the student to read aloud in English in order to practice effective language use and appropriate expression.

Intervention Recommendations (English and Native Language) continued...

- Encourage the student to create picture dictionaries using illustrations and images to support semantic language development and acquisition of English vocabulary.
- Categorize words by concept or by similar features to develop a network of connections.
- Teach the student to monitor their understanding and ask questions while reading.
- Present the student with illustrations of people engaged in various activities. Ask the student to dictate a story in English about the people and watch while they transcribe it in front of you.
- Ask direct, literal questions (e.g., who, what, where, when) about a picture with a lot of context to collaboratively build a structured definition or mental concept. Have the student respond in English as much as possible.
- Create stories and promote social language by encouraging the student's use of story maps and illustrations as well as written/spoken English.
- Employ the Whole-Part-Whole instructional model (Roseberry-McKibbin, 2008):
 - Provide the student with the "big picture" and support semantic relationships or overlaps with the parts.
 - Opt for small group instruction; encourage students to interact with one another during learning experiences instead of passive listening.
- Use thematic instructional units focusing on topics relevant to the student's interests that are aligned with the classroom curriculum.
- Interpret or decode written English materials for the student. Read instructions aloud and one step at a time to ensure comprehension.
- Model effective questioning and conversational practices in English, and gradually encourage peer-led discussions using these skills.

Practical strategies for intervention:

- Focus on teaching concepts or strategies that help the student learn new social and academic English words.
- Expand the student's social and academic English vocabulary within familiar and naturalistic contexts. In other words, create authentic communication situations that focus on meaning and comprehension rather than just the structure of language.
- Provide increased opportunities for interactions with English-speaking models for social and academic language communication.
- Encourage active peer-to-peer communication in English (e.g., discussions, acting out a concept or scenario) to balance passive listening of oral information (e.g., rote lesson plans, videos).
- Frequently repeat and review newly acquired English vocabulary words.
- Relate new words to previously learned words to accelerate acquisition. Help students relate or connect new information to what they already know.
- Carefully listen and respond to the student's communication attempts.

Instructional strategies in the native language to assist in English language development:

- Read aloud to the student developmentally appropriate passages from bilingual books, if they understand their native language and if there are native language models available at home.
- Create opportunities to support cross-linguistic learning from the student's native language to English. For example, "mama" sounds fairly similar across many languages. For languages that share roots with English, this can be accomplished through cognates (i.e., words from different languages that share both form and meaning [e.g., rose/rosa in Spanish; lamp/lampa in Polish; alligator/alligatore in Italian; eat/essen in German]).
- Foster exposure to the student's native language through media (e.g., books, songs, television, or movies) and conversations with native language models (e.g., family, friends, and relatives).

The Ortiz PVAT – Assessment Report

Vocabulary Type Analysis

This section of the report presents an analysis of the examinee's mastery of the various parts of speech and word types.

PARTS OF SPEECH

An examination of the examinee's vocabulary relative to various parts of speech may provide additional information regarding expected growth and progress. The general pattern of English language acquisition for both native English speakers and English learners is largely the same. In general, nouns tend to be acquired first, followed by verbs, adjectives, adverbs, and prepositions. Although the sequence is unchanged, the lack of opportunity for sustained and advanced English-language interactions may alter the age at which the parts of speech are acquired in English learners as compared to native English speakers.

Part of Speech	Number Presented	Number Correct	Percent Correct
Noun	18	14	78%
Verb	5	4	80%
Adjective	1	1	100%
Adverb	0	n/a	n/a
Preposition	0	n/a	n/a

WORD TYPES

The Ortiz PVAT divides words into two categories: Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP). Each category is then subdivided into three ranges: Emergent, Intermediate, and Advanced. The categories are arranged in an ascending order of development that describes the type of broad English proficiency and general development exhibited by the examinee.

Word Type	Number Presented	Number Correct	Percent Correct
Emergent BICS	13	13	100%
Intermediate BICS	11	6	55%
Advanced BICS	0	n/a	n/a
Emergent CALP	0	n/a	n/a
Intermediate CALP	0	n/a	n/a
Advanced CALP	0	n/a	n/a

Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19+
Grade				K	1	2	3	4	5	6	7	8	9	10	11	12		
Word Type		Emergent BICS	Intermediate BICS	Advanced BICS		Emergent CALP	Intermediate CALP	Advanced CALP										

A true peer norm sample helps establish current baseline functioning and identifies areas of possible need.

For example, by using the “Parts of Speech” information, specific **intervention goals** can be designed to help an EL improve vocabulary acquisition with respect to various parts of speech as the list is arranged by order of acquisition.

By using the “Word Types” information, additional **intervention goals** can be designed to help an EL improve vocabulary acquisition with respect to social/conversational language as well as content/subject matter words.

What Makes the Ortiz PVAT Different from Any Other Test? Exposure Norms

Age norms (4:0 – 6:11) for monolingual English and monolingual Spanish speakers and for bilinguals by relative proficiency.

3-Levels of categorical stratification based on relative dominance of English and Spanish.



The Bilingual English-Spanish Assessment: Sampling bilinguals—categorical (3 levels of exposure)



Authors: Elizabeth D. Pena, Vera F. Gutierrez-Clellen, Aquiles Iglesias, Brian A. Goldstein, Lisa M. Bedore.

Table 5.2 Sample Distribution by Age and Language Exposure

Age	Language Group					Total
	Functional Monolingual: English	Bilingual Dominant: English	Balanced Bilingual	Bilingual Dominant: Spanish	Functional Monolingual: Spanish	
4	7.80%	2.90%	3.20%	3.80%	12.80%	31%
5	9.20%	3.90%	6.70%	6.40%	12.00%	38%
6	6.70%	3.80%	7.00%	4.90%	8.90%	31%
Total	24%	11%	17%	15%	34%	

Performance is based on comparison to peers grouped by three categories based on language development.

The Ortiz Picture Vocabulary Acquisition Test Sampling bilinguals—continuous (99 levels of exposure: 1%-99%)



Author: Samuel O. Ortiz

Table 5. Length of Exposure to English: Ortiz PVAT English Learner Normative Sample

Length of Time Exposed to English	English Learner Normative Sample (N)	English Learner Normative Sample (%)
0–6 months	128	10.8
7–11 months	131	11.0
1–2 years	168	14.1
3–4 years	165	13.9
5 years	119	10.0
6–7 years	118	9.9
8–9 years	113	9.5
10–11 years	90	7.6
12–13 years	70	5.9
14–15 years	51	4.3
16 years or more	37	3.1
Total	1,190	100.0

Table 6. Percentage of Life Exposed to English: Ortiz PVAT English Learner Normative Sample

Percentage of Life Exposed to English (%)	English Learner Normative Sample (N)	English Learner Normative Sample (%)
0–20	280	23.5
21–40	196	16.5
41–60	196	16.5
61–80	209	17.6
81–100	309	26.0
Total	1,190	100.0

Performance is based on comparison of exact amount of language development determined by percentage of lifetime exposure—not by category.



Age norms (2:6 – 22:11) for monolingual English speakers and for any English learner by percent lifetime exposure to English.

Continuous stratification across full range of English language exposure for bilinguals for all ages and languages.

The Ortiz PVAT – Advances in fairness and testing

Stratification Variables in Dual Standardization Norm Samples of the Ortiz PVAT

English Speakers ($N = 1,530$)

- Ages 2:6 to 22:11
- Gender: equal split
- Stratification:
 - Geographic region
 - Parental education level (PEL)
 - Race/ethnicity

English Learners ($N = 1,190$)

- Ages 2:6 to 22:11
- Gender: equal split
- Stratification:
 - Geographic region
 - Parental education level (PEL)
 - Language spoken at home (53 different languages)
 - Proportion of lifetime exposure to English (i.e., opportunity to learn English):
 - 11 categories for length of exposure to English
 - 0-6 months up to 16+ years

Inclusion of these variables in the stratification of the EL Norm Sample is a completely unique feature of the Ortiz PVAT not found in any other test.

The Ortiz PVAT – Advances in fairness and testing

Does race/ethnicity account for important variance in test performance?

Form	Racial/Ethnic Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i> (<i>df</i>)	<i>p</i>	Pairwise Comparisons (<i>p</i> < .01)	Partial η^2
Form A	Black	280	99.4	15.2	2.60 (3, 1523)	.051	ns	.005
	Hispanic	126	99.5	15.4				
	White	1,018	100.5	15.3				
	Other	106	96.3	15.3				
Form B	Black	280	99.6	15.1	2.47 (3, 1523)	.060	ns	.005
	Hispanic	126	99.7	15.3				
	White	1,018	100.6	15.2				
	Other	106	96.4	15.2				

NO. Neither race nor ethnicity are variables that directly or significantly affect receptive vocabulary and general language acquisition, although sometimes they are indirectly correlated because the majority of English learners are also ethnically or racially non-White. When language is strictly controlled (monolingualism vs. multilingualism), the effect of race and ethnicity disappear.

The Ortiz PVAT – Advances in fairness and testing

Does the L1 differentially affect the learning of L2 (English)?

Form	Language Spoken	N	M	SD	F (df)	p	Pairwise Comparisons (p < .01)	Partial η^2
Form A	Spanish & Spanish Creole	872	101.5	15.5	1.63 (3, 1183)	.181	ns	.004
	Indo-European Languages	161	99.4	15.7				
	Asian & Pacific Islander Languages	129	98.8	15.4				
	All Other Languages	28	99.9	15.4				
Form B	Spanish & Spanish Creole	872	101.7	15.5	1.52 (3, 1183)	.208	ns	.004
	Indo-European Languages	161	99.8	15.7				
	Asian & Pacific Islander Languages	129	99.0	15.4				
	All Other Languages	28	99.9	15.4				

NO. The first language an individual learns does not affect the sequence of English language acquisition which remains an invariant process. Only the rate of progress may be affected which by virtue of various factors, such as amount of formal L1 instruction.

The Ortiz PVAT – Pre- and Post- Referral Applications

Pre-school Screening and Evaluation – dual norms permit evaluation of basic language development (receptive vocabulary) in very young children (minimum age: 2 years, 6 months) in both native English speakers and English learners prior to the beginning of formal instruction.

Progress Monitoring of English Language Proficiency – many tests, for example those used to monitor compliance with Title III ELA requirements are not well designed for that purpose and give misleading results regarding progress and growth and no information relative to the acquisition of BICS vs. CALP.

Determination of Instructional Level – the Assessment Report indicates the linguistically appropriate level of instruction and the degree of intensity required to assist the student in making progress toward grade-level standards and expectations. Specific instructional strategies are also provided.

Progress monitoring of Reading and Writing Vocabulary – the Progress Report provides data for evaluating increases in receptive vocabulary that may reflect relative progress in response to specific interventions that are being employed.

Evaluation of Growth in General Language Ability – unlike tests that do not allow measurement of growth, a specific index documenting actual growth in English vocabulary/language acquisition across short and long intervals is provided.

Development of Intervention/Treatment Strategies – performance is linked directly to specific and customized recommendations for language-based intervention and treatment strategies relative to true peers.

Diagnostic and Disability Evaluation – provides the only norm-referenced “true peer” comparison necessary for evaluating “difference vs. disorder” in general language-related disabilities/disorders related to vocabulary acquisition.

The Ortiz PVAT – Fairness in Measuring Language Growth

ORITZ PVAT™
 ORTIZ PICTURE VOCABULARY ACQUISITION TEST™
 Samuel O. Ortiz, Ph.D.

Progress Report

Examinee Information (Based on the most recent administration)

Name/ID: Maria Ayala / Case Study
 Gender: Female
 Date of Birth: Unspecified
 Language(s) Spoken at Home: Spanish and English†
 Age at First Exposure to English: 5 years†
 Primary Language of Instruction: English†
 Norms Used: English Learner Norms (accounting for exposure to English)

Assessment Information

	Admin 1	Admin 2	Admin 3
Administration Date:	Apr 14, 2021	Apr 14, 2021	Apr 14, 2021
Age at Testing (Years:Months):	9:8	9:8	9:8
Grade:	4	4	4
Exposure to English:	44% of life	44% of life	44% of life
Form Administered:	A	A	A
Number of Items Presented:	35	46	63
Number of Items Omitted:	0	0	0
Examiner Name:	Maria's Examiner	Case Study	Maria's Examiner

About the Ortiz PVAT™

The Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT) is a test that assesses the ability of a child, youth, or young adult (aged 2 years 6 months to 22 years 11 months) to comprehend the meaning of spoken English words (i.e., receptive vocabulary). It is appropriate for both native English speakers and English learners. In addition, it can be used to measure and track growth and development in vocabulary, investigate possible speech-language difficulties, and guide instruction and educational intervention. This computerized report compares the

After 2 administrations, a Progress Report can be generated, and The Growth Index provides an indication of actual change or true growth across two or more administrations.

ORITZ PVAT™ Progress Report for Maria Ayala / Case Study
 Admin Dates: Apr 14, 2021 to Apr 14, 2021

Vocabulary Acquisition and Development Across Administrations

Vocabulary is expected to improve with age and with increased exposure to English. The Growth Index provides an indication of the amount of growth of an examinee's receptive vocabulary ability from one administration to another. When interpreting results from repeated administrations, all reported Ortiz PVAT scores should be considered in conjunction with the Growth Index. Since the Growth Index only estimates the amount of change in vocabulary skills over time, an examination of the examinee's standard scores at various administrations is also required to determine their relative standing at any given point in time (i.e., performance compared to that of their same-aged peers in the English Learner norm sample with the same exposure to English). See the Ortiz PVAT Technical Manual for more information.

Ortiz PVAT Scores	Administration			Growth Index		
	Admin 1 04/14/21	Admin 2 04/14/21	Admin 3 04/14/21	Admin 1 to 2	Admin 2 to 3	Overall (1 to 3)
Raw Score	52	60	75		3.18	4.00
Standard Score (95% CI)	85 (81-89)	89 (85-93)	96 (92-100)	1.82		
Age (Age Equivalent)	9:8 (7:0)	9:8 (7:9)	9:8 (9:9)			
Classification	Low	Low	Average			
Rate of Growth				As Expected	More than Expected	More than Expected

Note: CI = Confidence Interval. Age and age equivalent scores are denoted in terms of years and months (e.g., 7:6 = 7 years 6 months).
 Growth Index: Much Less than Expected = -4.00 to -3.01; Less than Expected = -3.00 to -2.01; As Expected = -2.00 to 2.00; More than Expected = 2.01 to 4.00.

Instructional Level Recommendations Across Administrations

This section presents the examinee's vocabulary level compared to same-aged native English-speaking peers (using the English Speaker norms) at each administration to assess instructional needs or services required for academic growth and success in English.

Administration	Admin 1 04/14/21	Admin 2 04/14/21	Admin 3 04/14/21
Vocabulary Level	Well Below Average	Below Average	Below Average
Instructional Level Recommendation	Classroom instruction requires substantial modifications and intensive interventions are needed.	Classroom instruction requires modifications and interventions are needed.	Classroom instruction requires modifications and interventions are needed.

MHS Copyright © 2018 Multi-Health Systems Inc. All rights reserved.
 P.O. Box 950, North Tonawanda, NY 14120-0950
 3770 Victoria Park Ave., Toronto, ON M2H 3M6

4.7.4

The Ortiz PVAT – Pre-referral Applications

U.S. Department of Education | Contacts



IDEA

Individuals with Disabilities Education Act



[Home](#)

[About](#)

[Law and Policy](#)

[Reports](#)

[Grants and Funding](#)

[Resources](#)

Sec. 300.302 Screening for instructional purposes is not evaluation

[Statute/Regs Main](#) » [Regulations](#) » [Part B](#) » [Subpart D](#) » Section 300.302

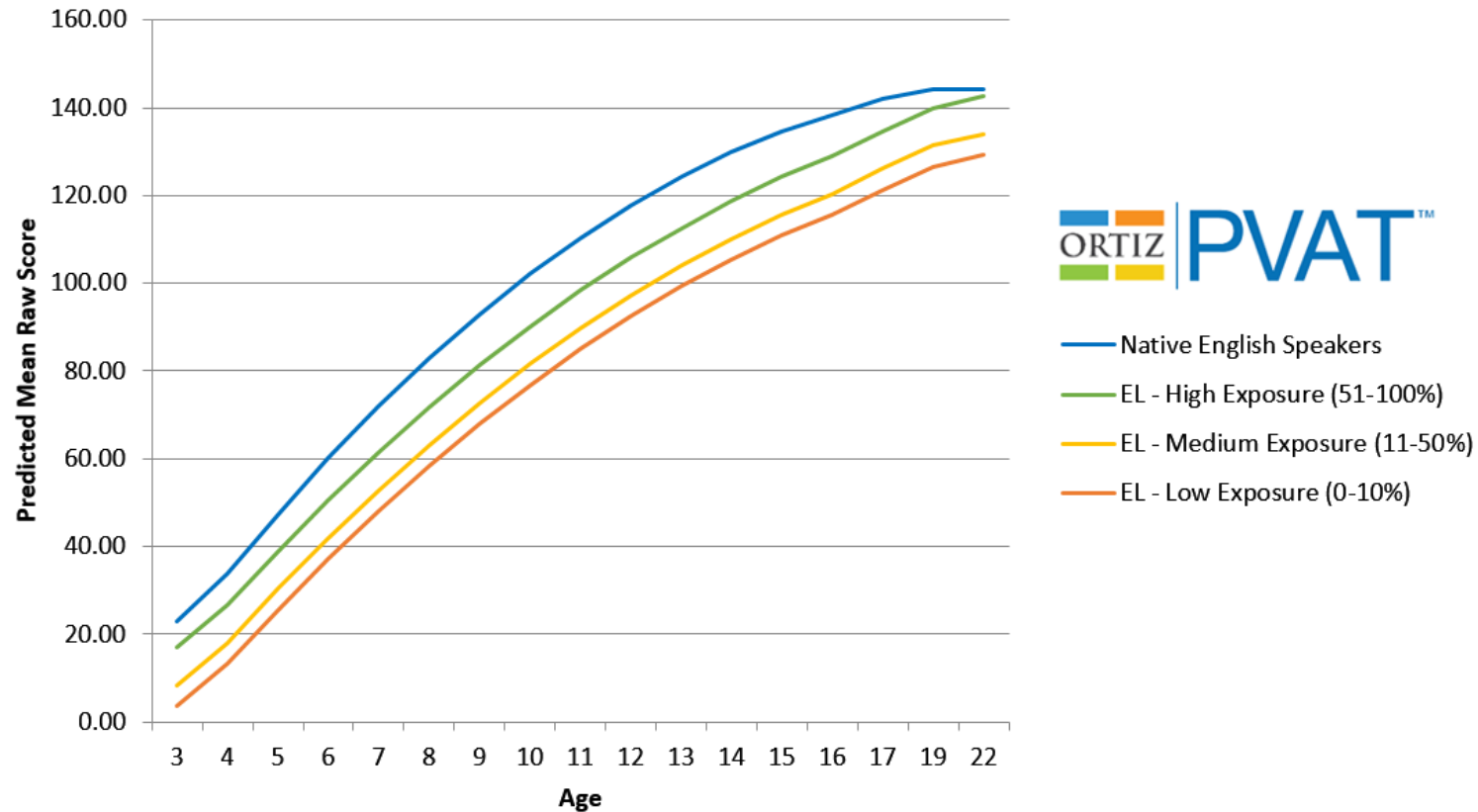
300.302 Screening for instructional purposes is not evaluation.

The screening of a student by a teacher or specialist to determine appropriate instructional strategies for curriculum implementation shall not be considered to be an evaluation for eligibility for special education and related services.

Last modified on May 3, 2017

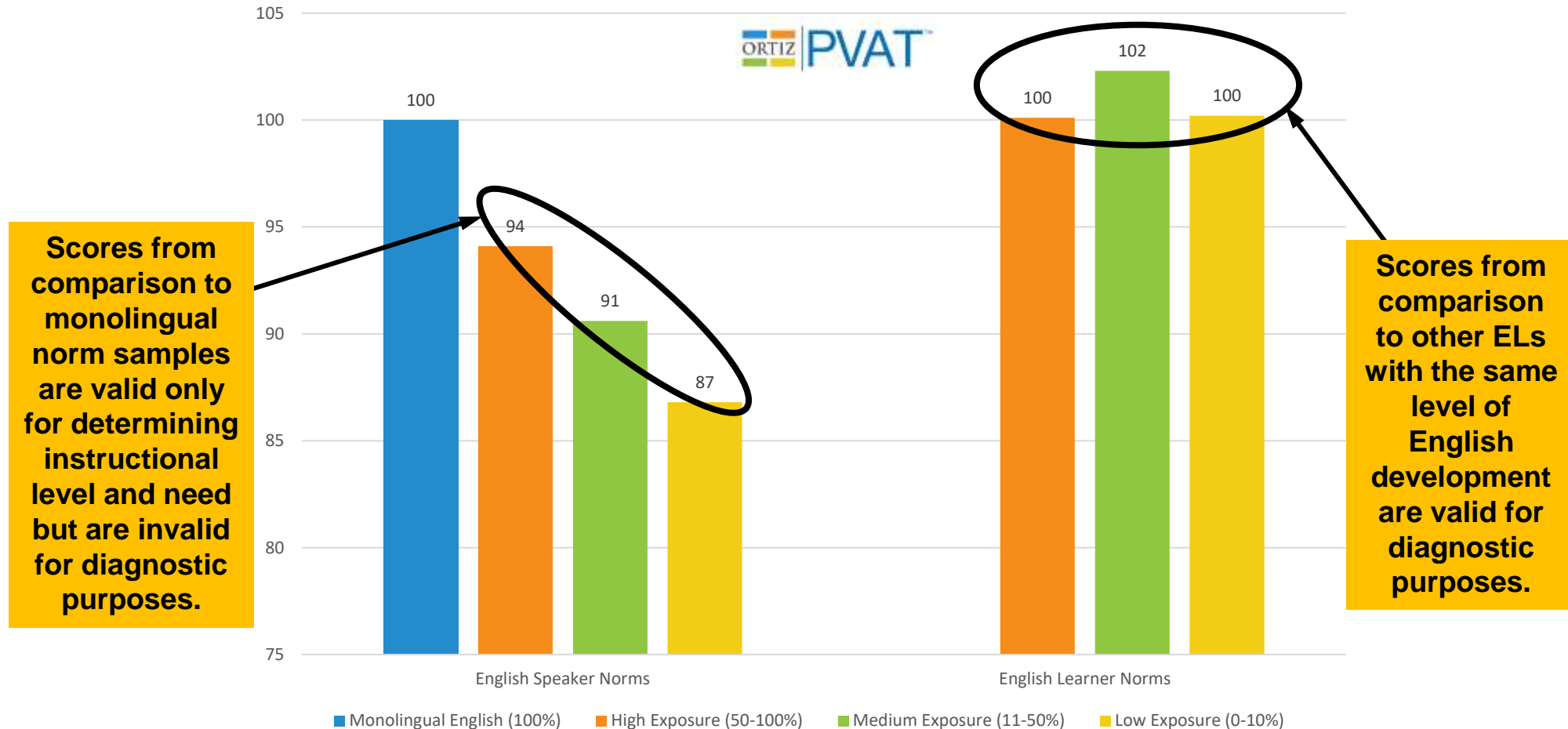
The Ortiz PVAT – Advances in fairness and testing

Does controlling for English exposure differentially affect test performance?



YES. Both age and exposure are critical variables in determining test performance because they are both tied directly to the amount of development in English that an individual possesses as a function of time and experience.

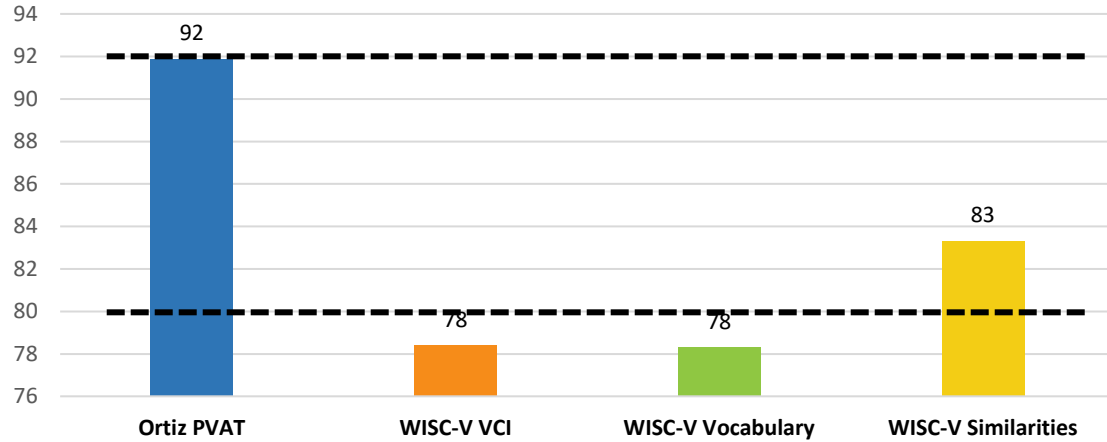
Controlling for Variability in Language Development is Key to Test Score Validity



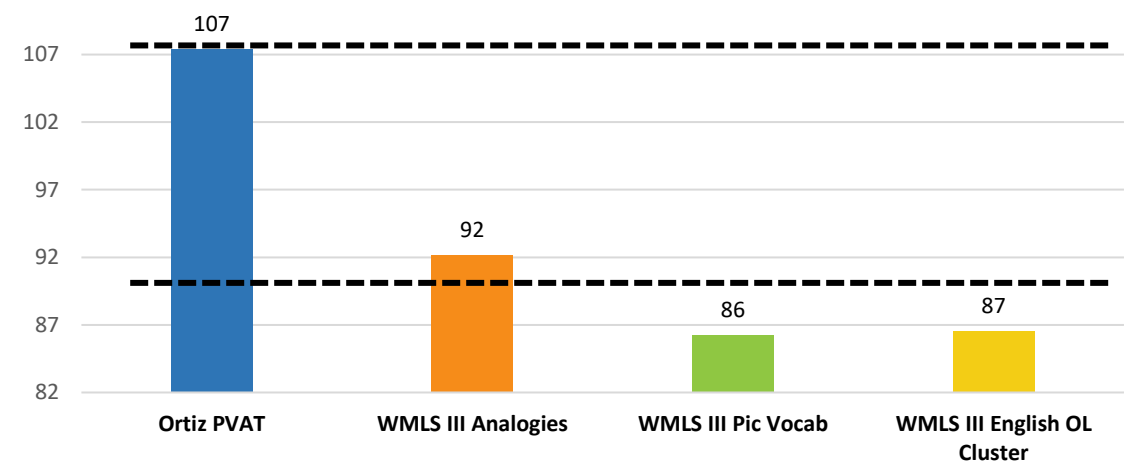
Control for Developmental Language/Exposure-based Comparison Provides Validity and Fairness for ELs

The Ortiz PVAT – Advances in Fairness and Testing

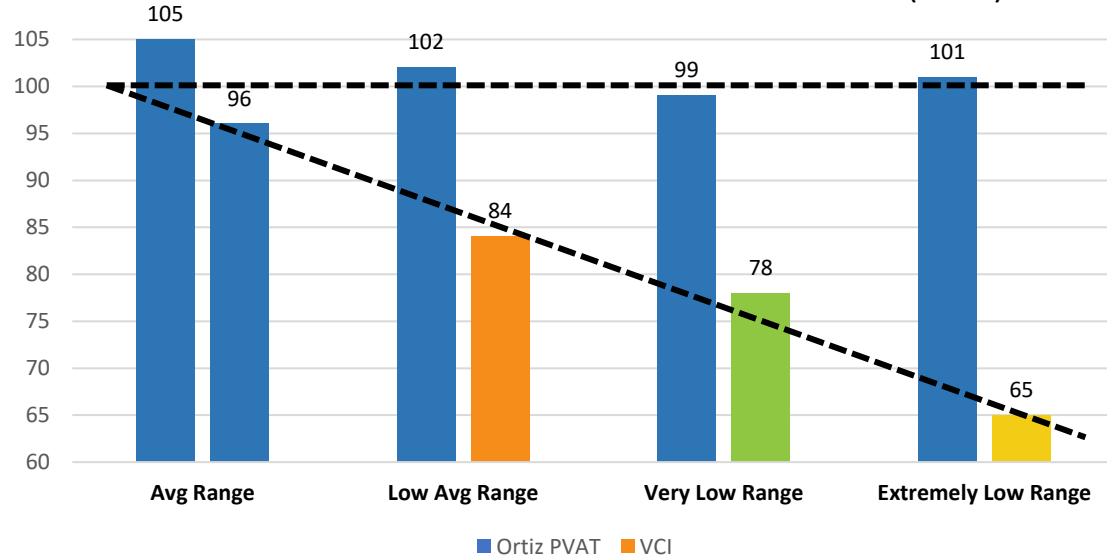
Mean Differences between Ortiz PVAT and WISC-V (n=59)



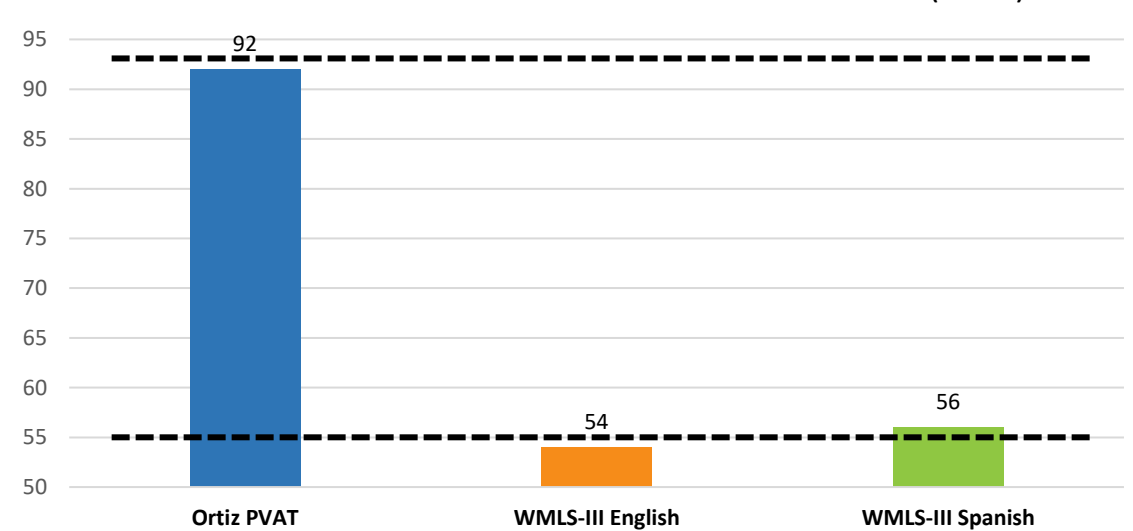
Mean Differences between Ortiz PVAT and WMLS-III (n=24)



Mean Differences between Ortiz PVAT and WISC-V (n=59)



Mean Differences between Ortiz PVAT and WMLS-III (n=14)



The Ortiz PVAT – Advances in Fairness and Testing

How much of a difference does “true language peer” comparison make for diagnostic decisions?

Grade	Age	EL vs. EL	EL vs. ES	EL vs. SS
		Ortiz PVAT	WMLS-III English	WMLS-III Spanish
4	9	97	64	40
3	8	87	69	43
4	10	105	63	40
2	7	84	58	42
1	6	98	45	104
5	10	92	42	88
K	5	71	45	40
4	9	97	61	41
4	9	95	55	42
4	9	94	40	61
2	7	92	65	48
1	6	104	68	55
5	9	84	40	73
1	7	89	43	59
Average=		92	54	56
Percentile Rank =		30th	0.1st	0.1st

EL = English Learner
 ES = English speaker
 SS = Spanish speaker

WMLS-III Oral Language
 Oral Comprehension
 Picture Vocabulary

L1 dominance approach = 3/5 with language impairment

L2 dominance approach = 9/9 with language impairment

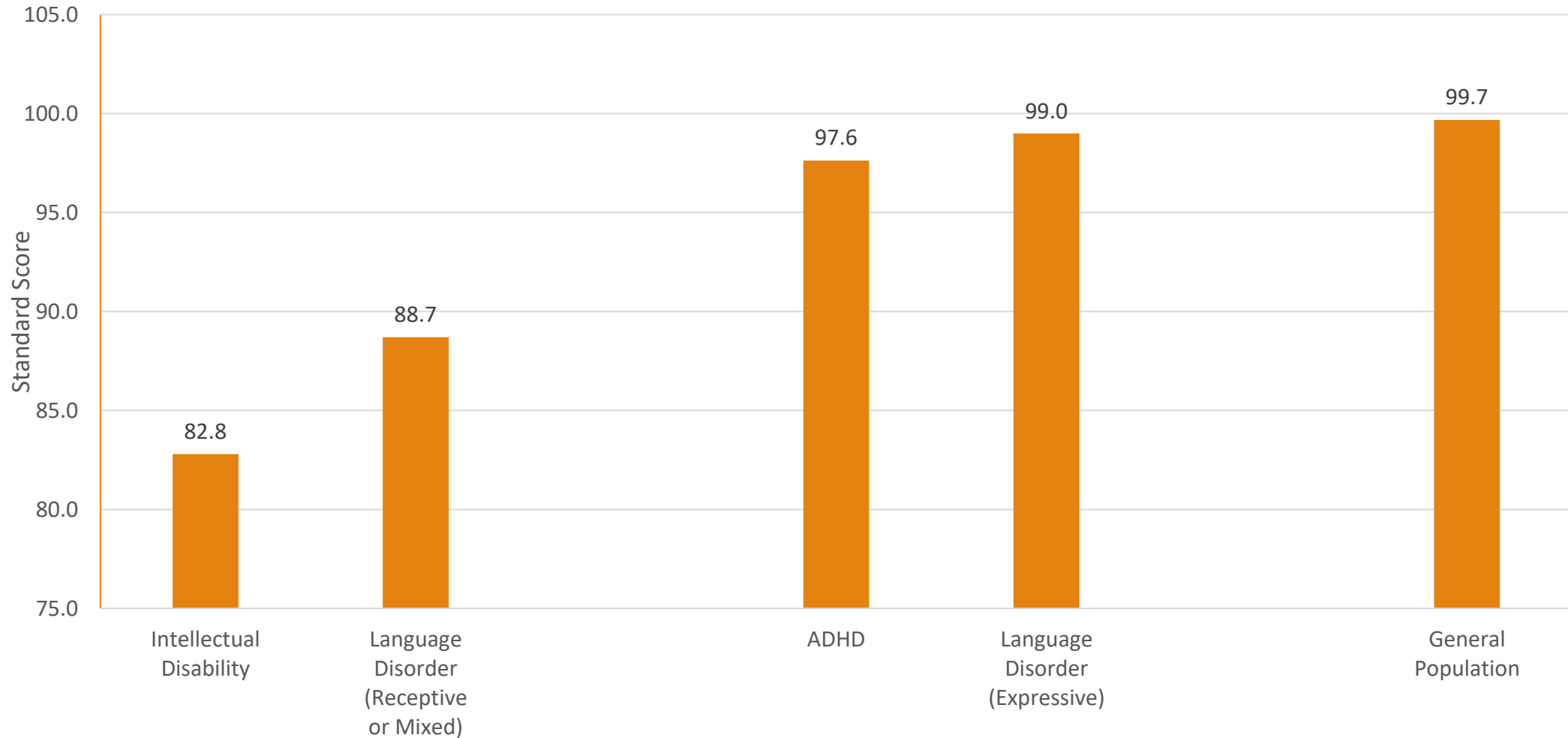
True peer comparison = 1/14 with language impairment*

*Of the 3 scores in the true peer comparison, two are very close to being WNL (SEM=2) and may not actually represent a disability.

Without true peer comparison, false positive error rates for misidentification of ELs will remain exceptionally high: 1/14 = 7% (Ortiz PVAT) versus 12/14 = 86% (WMLS-III in Spanish) and 14/14 = 100% (WMLS-III in English).

Diagnostic Applications: Disability Determinations

Validity Evidence by Clinical Diagnostic Group Mean Differences



Diagnostic Applications: Disability Determinations

Summary

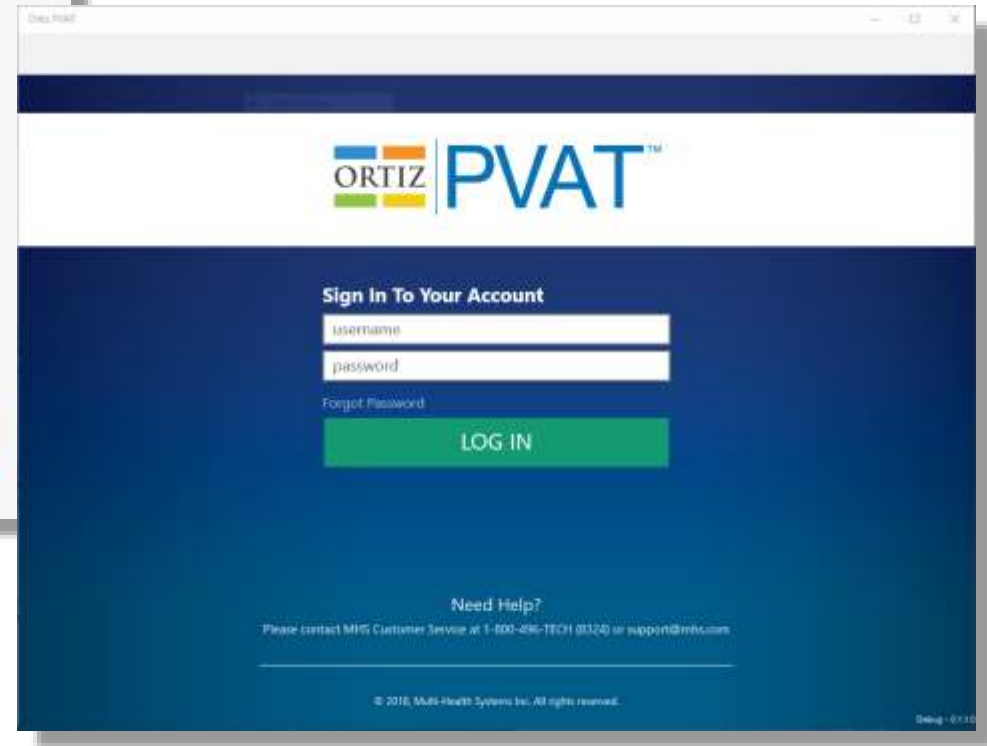
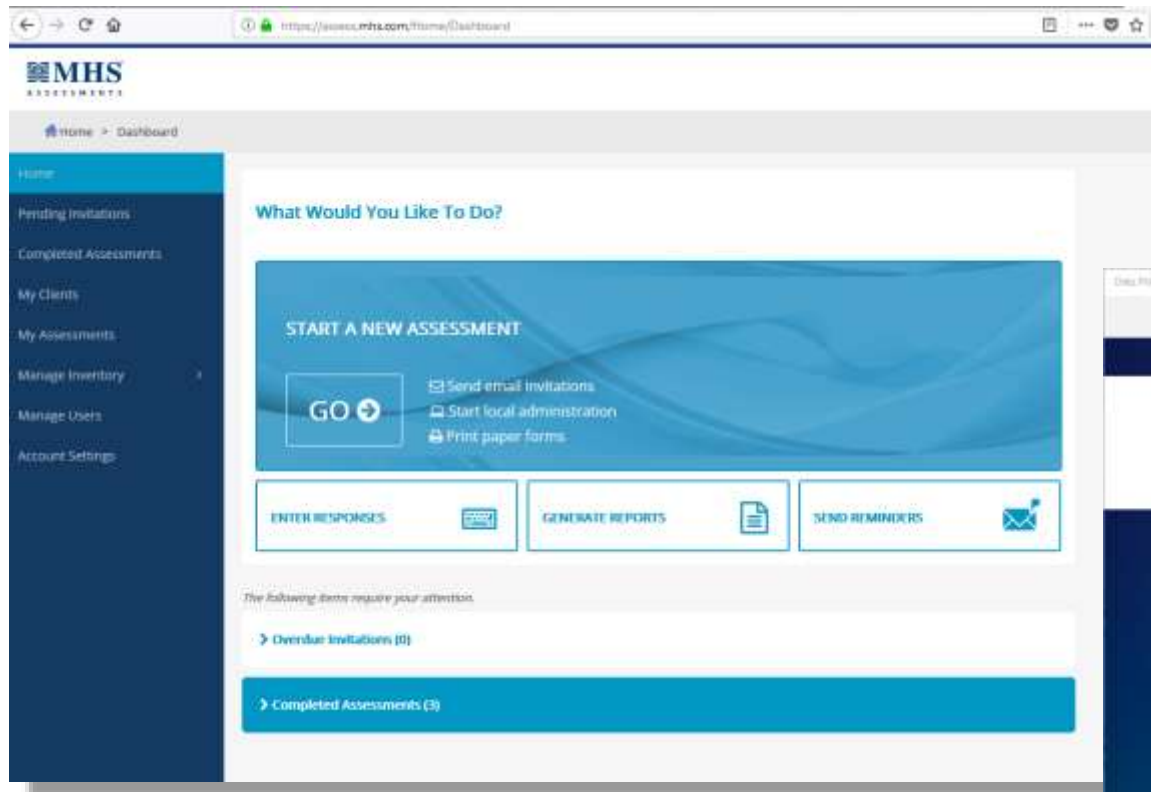
True peer group comparisons is essential for the valid and fair assessment of any population especially for English Learners:

- Developmental differences in language and acculturative experiences must be controlled for, alongside of age
- Comparison of performance must be made relative to others with the same level of English exposure—true peer group comparison
- Instruments without true peer norms controlling for exposure between and among English learners will necessarily lack inherent diagnostic fairness



Case Study Examples

Jenni Y. and Benni A.



Jenni Y.

7-year-old girl in 2nd grade

Native English speaker

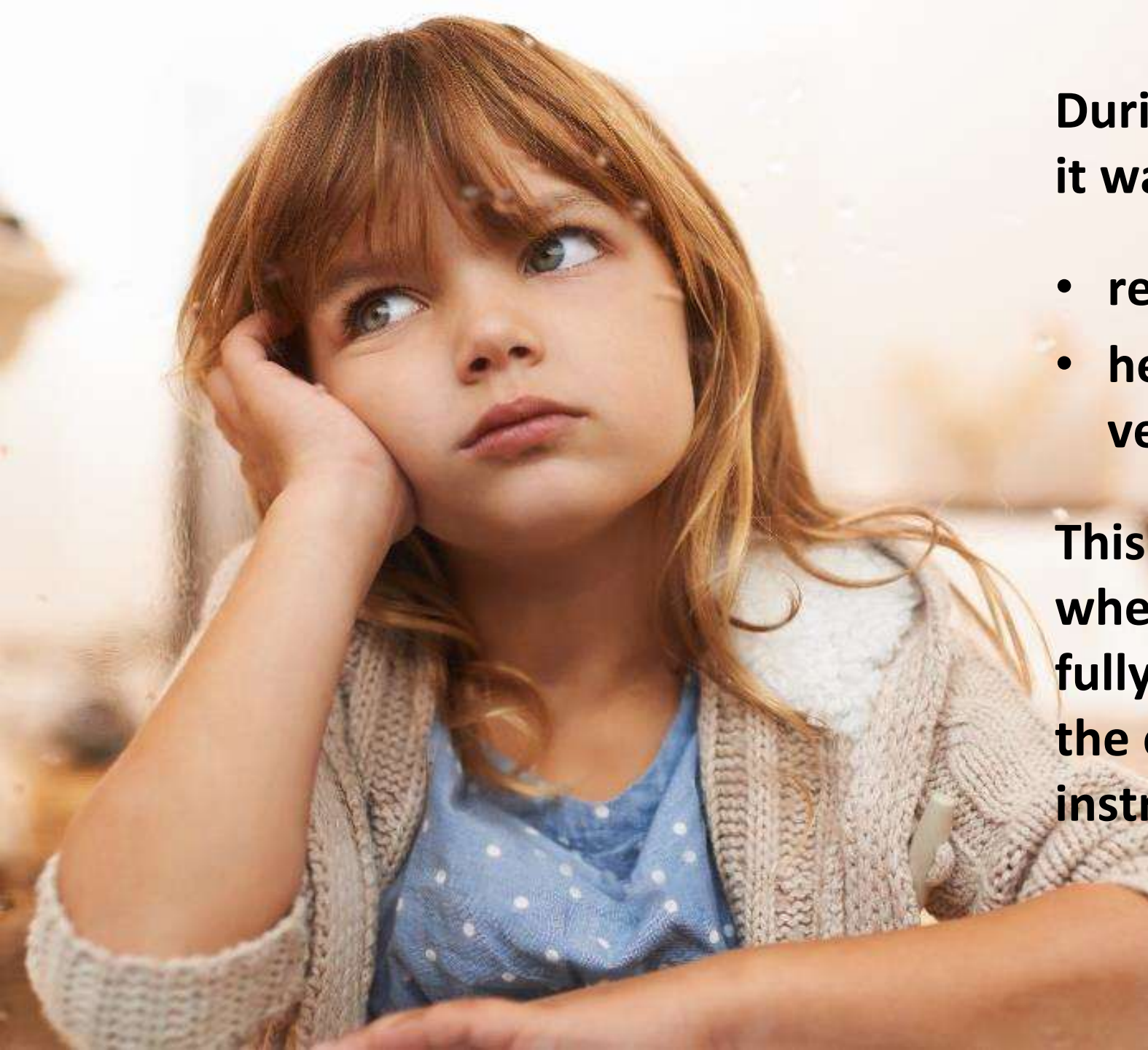
Quiet at school

Quiet at home but older siblings reported to have same pattern

Concerns about possible emotional issues

Didn't speak much until age 3

School psych/Speech path was called in for consultation



During observation and interview it was noted that Jennie was:

- **reticent to speak**
- **hesitated to engage in any verbal activities**

This made it unclear as to whether or not she was able to fully comprehend the language of the classroom and the teacher's instructional efforts.



ORTIZ PICTURE VOCABULARY ACQUISITION TEST™
Samuel O. Ortiz, Ph.D.

Assessment Report

Examinee Information

Name/ID:	Jenni Yonge
Age:	7 years 7 months
Gender:	Female
Date of Birth:	September 16, 2010
Language Spoken at Home:	English
Primary Language of Instruction:	English
School Grade:	2

Assessment Information

Administration Date:	May 14, 2018
Examiner Name:	
Form Administered:	A
Norms Used:	English Speaker Norms
Number of Items Presented:	34
Number of Items Omitted:	0

This computerized report provides quantitative information about the performance of the examinee. Additional interpretive information can be found in the *Ortiz PVAT Technical Manual*. This Assessment Report is intended for use by qualified evaluators only, and is not to be used as the sole basis for clinical diagnosis or intervention.



Copyright © 2018 Multi-Health Systems Inc. All rights reserved.
P.O. Box 950, North Tonawanda, NY 14120-0950
3770 Victoria Park Ave., Toronto, ON M2H 3M6

Pre-referral Team decides to implement MTSS program to assess Jenni's response to intervention.

In addition to the typical CBM probes and benchmark evaluations, the Ortiz PVAT was included as a standardized measure for progress monitoring.

The Ortiz PVAT is highly engaging for young children and requires no speech on the part of the examinee.



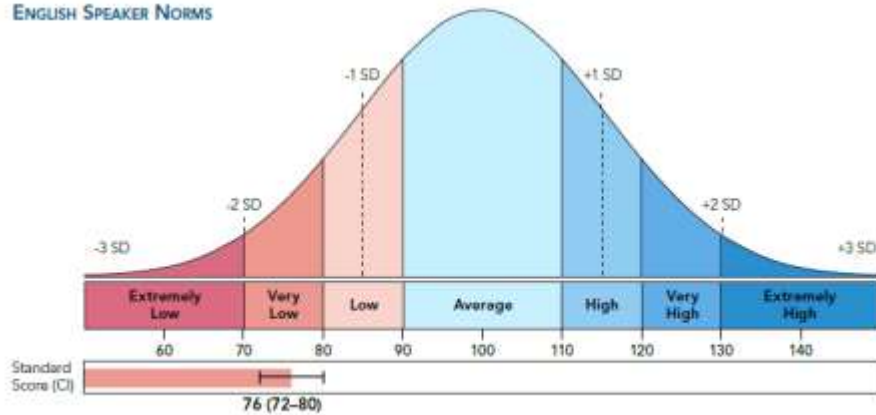
About the Ortiz PVAT™

The Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT) is a test that assesses the ability of a child, youth, or young adult (aged 2 years 6 months to 22 years 11 months) to comprehend the meaning of spoken English words (i.e., receptive vocabulary). In addition, it can be used to measure and track growth and development in vocabulary, investigate possible speech-language difficulties, and guide instruction and educational intervention.

Vocabulary Acquisition and Development

This report compares the examinee's scores against the English Speaker norms to assess vocabulary acquisition relative to other native English-speaking peers.

ENGLISH SPEAKER NORMS



Ortiz PVAT Scores	English Speaker Norms
Raw Score	36
Standard Score (95% Confidence Interval)	76 (72-80)
Percentile	5th
Stanine	2
Age Equivalent (Years:Months)	4:3
Classification	Very Low

Interpretation

- Compared to other native English-speaking peers of the same age, Jenni's ability to recognize spoken English words is **very low**.
- Because her performance is well below that of her peers, an **underlying language difficulty may be indicated** if such difficulties are supported by additional converging evidence.

Baseline Results:

The Ortiz PVAT automatically:

- establishes the basal with a built-in Screener
- establishes the ceiling
- captures responses
- scores the test and determines the results

Jenni's behavior was easily observed during testing:

- she interacted with the auditory and visual stimuli in a relatively attentive manner
- she clearly had some trouble recognizing the meaning of the words and was often hesitant
- she displayed positive affect throughout the test

Jenni's **standard score of 76** placed her performance in the *Very Low* range—and indicated the possibility of a mild delay in vocabulary acquisition relative to peers.

Instructional Level

Instructional level recommendations:

- With respect to the level of instruction required for continued academic growth and success in English, Jenni's vocabulary acquisition is **well below** the level typically associated with same-age native English-speaking peers.
- **Intensive instructional modifications and interventions are needed** to assist her in making further progress toward grade-level standards.

Intervention Recommendations

Instructional strategies:

- Provide significant opportunities to engage in structured academic talk:
 - Facilitate language learning through speech production and interaction so that the learning process is active rather than passive. Support and encourage active participation rather than just presenting information.
 - Create interactive educational settings where there is greater exposure to language models that focus primarily on social conversations. Such interactive environments should focus on providing significant opportunities for using language, as well as frequent and corrective feedback that is appropriate for the student's current vocabulary level.
- Increase contextualization of information:
 - Use clear, consistent, and basic relational language (i.e., descriptions of simple characteristics that illustrate similarities) for objects, key vocabulary words, and ideas, especially when introducing new or more complex ways of using social and academic language.
 - Provide frequent opportunities for scaffolding, focusing primarily on social language acquisition via the use of rich, visual imagery with a lot of contextual information (e.g., hand gestures, pointing to surrounding objects) in order to aid comprehension. This technique may include requiring the student to access information that they have understood or been taught previously.
 - Provide frequent opportunities for drawing, writing, and expressions of language in order to connect the student's own ideas primarily to social interactions, but also to academic settings.
- Use visual aids and graphic organizers (e.g., picture dictionaries, icons, or flowcharts) during instruction to tag and connect vocabulary and ideas.
- Allow the student to incorporate their own experiences into learning situations.
- Encourage the student to express thoughts and ideas by using their own words.
- Provide increased opportunities for the student to connect language or ideas within the context of academic and social settings with teachers and peers.
- Provide increased opportunities for the student to read aloud in order to practice effective language use and appropriate expression.
- Encourage the student to create picture dictionaries using illustrations and images to support semantic language development and verbal acquisition.
- Categorize words by concept or by similar features to develop a network of connections.
- Teach students to monitor their understanding and ask questions while reading.
- Present the student with illustrations of people engaged in various activities. Ask the student to dictate a story about the people while you transcribe it in front of them.
- Ask direct, literal questions (e.g., who, what, where, when) about a picture with a lot of context to collaboratively build a structured definition or mental concept.

Instructional Utility:

Findings from the Ortiz PVAT Assessment Report were used to determine and establish the level of Jenni's instructional needs. The recommendation noted that instructional modifications may be needed suggested typical Level 2 (small group) interventions would be appropriate at this time.

Recommendations for continued vocabulary growth were shared with the teacher to instructional level to ensure that the language of the classroom would not exceed Jenni's ability to comprehend the teacher. The **instructional strategies** listed were shared with the teacher to ensure Jenni would continue to receive effective instruction that would further support her progress in language acquisition.

Vocabulary Type Analysis

This section of the report presents an analysis of the examinee’s mastery of the various parts of speech and word types.

PARTS OF SPEECH

An examination of the examinee’s vocabulary relative to various parts of speech may provide additional information regarding expected growth and progress. In general, nouns tend to be acquired first, followed by verbs, adjectives, adverbs, and prepositions.

Part of Speech	Number Presented	Number Correct	Percent Correct
Noun	23	20	87%
Verb	8	6	75%
Adjective	2	1	50%
Adverb	0	n/a	n/a
Preposition	1	0	0%

WORD TYPES

The Ortiz PVAT divides words into two categories: Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP). Each category is then subdivided into three ranges: Emergent, Intermediate, and Advanced. The categories are arranged in an ascending order of development that describes the type of broad English proficiency and general development exhibited by the examinee.

Word Type	Number Presented	Number Correct	Percent Correct
Emergent BICS	13	12	92%
Intermediate BICS	19	14	74%
Advanced BICS	2	1	50%
Emergent CALP	0	n/a	n/a
Intermediate CALP	0	n/a	n/a
Advanced CALP	0	n/a	n/a

Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19+
Grade				K	1	2	3	4	5	6	7	8	9	10	11	12		
Word Type	Emergent BICS			Intermediate BICS		Advanced BICS			Emergent CALP			Intermediate CALP			Advanced CALP			

Intervention Utility:

By using the “Parts of Speech” information in the report, specific **intervention goals** were designed to help Jenni improve her vocabulary acquisition with respect to various parts of speech as the list is arranged by order of acquisition.

By using the “Word Types” information in the report, additional **intervention goals** were designed to help Jenni improve her vocabulary acquisition by still focusing on increasing her social/conversational language as well as content/subject matter words.

Progress Monitoring Utility

ORTIZ PVAT™
ORTIZ PICTURE VOCABULARY ACQUISITION TEST™
Samuel O. Ortiz, Ph.D.

Progress Report

Examinee Information (Based on the most recent administration)

Name/ID: Jenni Yonge
Gender: Female
Date of Birth: September 16, 2009
Language Spoken at Home: English
Primary Language of Instruction: English
Norms Used: English Speaker Norms

Assessment Information

	Admin 1	Admin 2	Admin 3	Admin 4	Admin 5
Administration Date:	May 14, 2018	May 14, 2018	May 14, 2018	May 14, 2018	May 14, 2018
Age at Testing (Years:Months):	7:7	7:10	8:1	8:4	8:7
Grade:	2	2	3	3	3
Form Administered:	A	A	A	A	A
Number of Items Presented:	34	35	42	13	31
Number of Items Omitted:	0	0	0	0	0
Examiner Name:	Admin 1	Admin - 2	Admin 3	Admin 4	Admin 5

About the Ortiz PVAT™

The Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT) is a test that assesses the ability of a child, youth, or young adult (aged 2 years 6 months to 22 years 11 months) to comprehend the meaning of spoken English words (i.e., receptive vocabulary). In addition, it can be used to measure and track growth and development in vocabulary, investigate possible speech-language difficulties, and guide instruction and educational intervention. This computerized report compares the performance of the examinee across a maximum of five administrations. For detailed information about any given administration, please refer to the particular Ortiz PVAT Assessment Report. Additional interpretive information can be found in the *Ortiz PVAT Technical Manual*.

This Progress Report is intended for use by qualified evaluators only, and is not to be used as the sole basis for clinical diagnosis or intervention.

MHS ASSESSMENTS Copyright © 2018 Multi-Health Systems Inc. All rights reserved.
P.O. Box 950, North Tonawanda, NY 14120-0950
3770 Victoria Park Ave., Toronto, ON M2H 3M6

Because the Ortiz PVAT is very sensitive to vocabulary growth it can distinguish differences in performance in very short intervals. In addition, the parallel forms of the Ortiz PVAT (Form A and Form B) provide another mechanism for being able to evaluate individuals frequently.

In the present case, benchmark testing of Jenni’s vocabulary was conducted every 3 months over a one year period and were later summarized in the Ortiz PVAT Progress Report.

Assessing Vocabulary Acquisition and Growth



Progress Report for Jenni Yonge
Admin Dates: May 14, 2018 to May 14, 2018

Vocabulary Acquisition and Development Across Administrations

Vocabulary is expected to improve with age. The Growth Index provides an indication of the amount of growth of an examinee's receptive vocabulary ability from one administration to another. When interpreting results from repeated administrations, all reported Ortiz PVAT scores should be considered in conjunction with the Growth Index. Since the Growth Index only estimates the *amount of change* in vocabulary skills over time, an examination of the examinee's standard scores at various administrations is also required to determine their relative standing at any given point in time (i.e., performance compared to that of their same-aged peers in the English Speaker normative sample). See the *Ortiz PVAT Technical Manual* for more information.

Ortiz PVAT Scores	Administration					Growth Index				
	Admin 1 05/14/18	Admin 2 05/14/18	Admin 3 05/14/18	Admin 4 05/14/18	Admin 5 05/14/18	Admin 1 to 2	Admin 2 to 3	Admin 3 to 4	Admin 4 to 5	Overall (1 to 5)
Raw Score	36	52	61	57	48					
Standard Score (95% CI)	76 (72-80)	83 (79-87)	86 (82-90)	82 (78-86)	77 (73-81)					
Age (Age Equivalent)	7:7 (4:3)	7:10 (5:6)	8:1 (6:3)	8:4 (6:0)	8:7 (5:3)					
Classification	Very Low	Low	Low	Low	Very Low					
Rate of Growth						As Expected	As Expected	As Expected	Less than Expected	As Expected

Note. CI = Confidence Interval. Age and age equivalent scores are denoted in terms of years and months (e.g., 2:6 = 2 years 6 months).
Growth Index: Much Less than Expected = -4.00 to -3.01; Less than Expected = -3.00 to -2.01; As Expected = -2.00 to 2.00; More than Expected = 2.01 to 4.00.

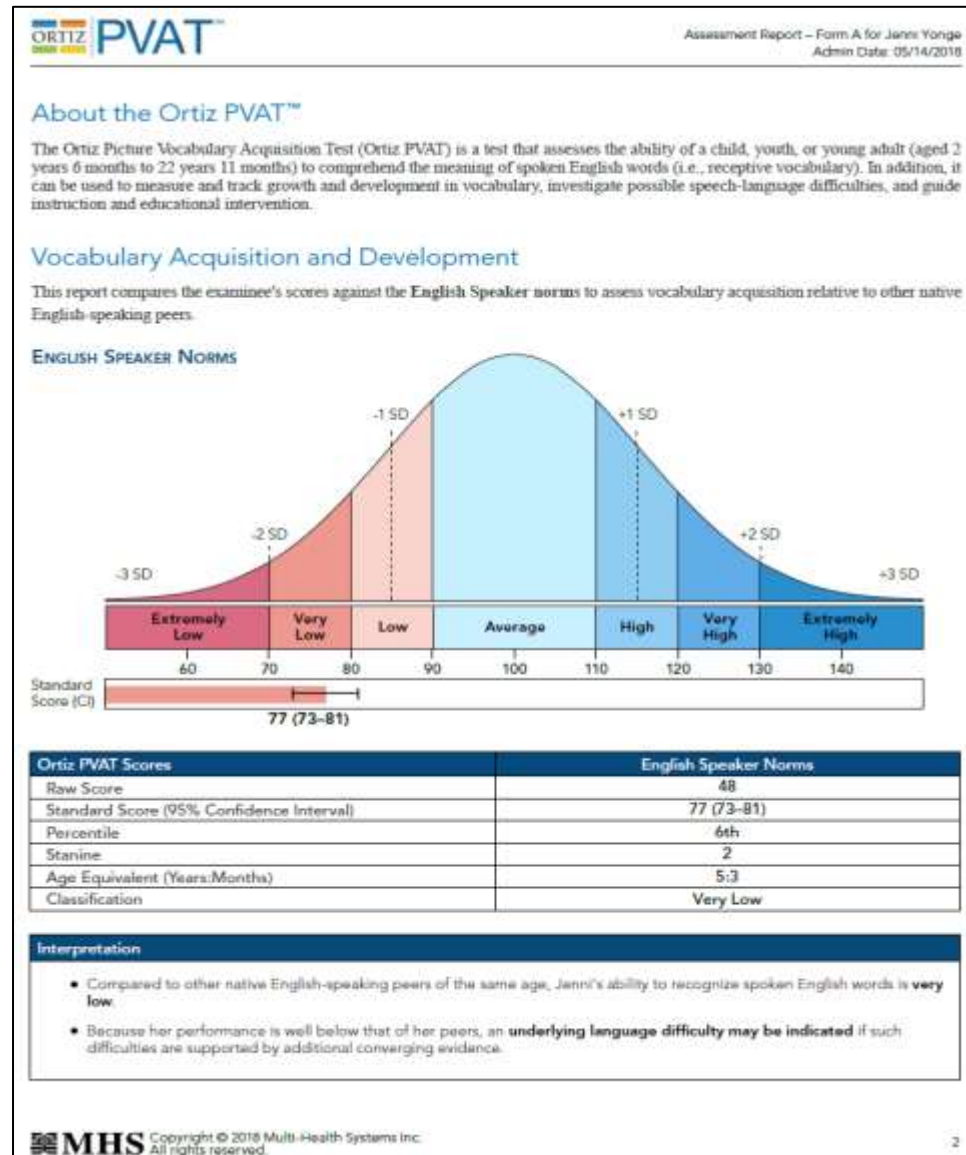
*Although their Growth Index for these two administrations is at the higher end of the As Expected range, the associated standard scores indicate a low level of vocabulary acquisition relative to their peers. See *Step 5: Evaluate Change over Time* in chapter 4 of the *Ortiz PVAT Technical Manual* for more detail.

Comparison of performance at 3 month intervals confirms a slight increase in performance followed by a decline and return to baseline levels of functioning.

This suggests that although Jenni benefitted initially from the interventions she was given, they ultimately proved ineffective in maintaining grade-level progress.

Based on this pattern of scores and other information collected in the MTSS process, the pre-referral team recommended a comprehensive evaluation with a focus on speech-language development.

Diagnostic Utility



The final (5th) administration of the Ortiz PVAT provided additional diagnostic data and information that was collated with other assessment scores and information.

It was ultimately concluded that Jenni had a mixed receptive-expressive language disorder and that she required special education services.

The instructional strategies and intervention recommendations from the Assessment Report of the current administration of the Ortiz PVAT were used in developing language-appropriate IEP goals and objectives.

Benni A.

What if you also had to evaluate Benni who is the same age as Jenni, in the same grade, has the exact same concerns and difficulties, and the same pattern of performance...

Would the process look any different in his case?





ORTIZ PICTURE VOCABULARY ACQUISITION TEST™
Samuel O. Ortiz, Ph.D.

Assessment Report

Examinee Information

Name/ID:	Benni Ayala
Age:	7 years 7 months
Gender:	Male
Date of Birth:	September 25, 2010
Language(s) Spoken at Home:	Spanish and English
Age at First Exposure to English:	5 years
Exposure to English:	29% of life
Primary Language of Instruction:	English
School Grade:	2

Assessment Information

Administration Date:	May 14, 2018
Examiner Name:	Admin 1
Form Administered:	A
Norms Used:	English Learner Norms (accounting for exposure to English)
Number of Items Presented:	36
Number of Items Omitted:	0

This computerized report provides quantitative information about the performance of the examinee. Additional interpretive information can be found in the *Ortiz PVAT Technical Manual*. This Assessment Report is intended for use by qualified evaluators only, and is not to be used as the sole basis for clinical diagnosis or intervention.



Copyright © 2018 Multi-Health Systems Inc. All rights reserved.
P.O. Box 950, North Tonawanda, NY 14120-0950
3770 Victoria Park Ave., Toronto, ON M2H 3M6

Pre-referral Team decides to implement MTSS program to assess Benni's response to intervention.

In addition to the typical CBM probes and benchmark evaluations, the Ortiz PVAT was included as a standardized measure for progress monitoring.

The Ortiz PVAT is highly engaging for young children and requires no speech on the part of the examinee.



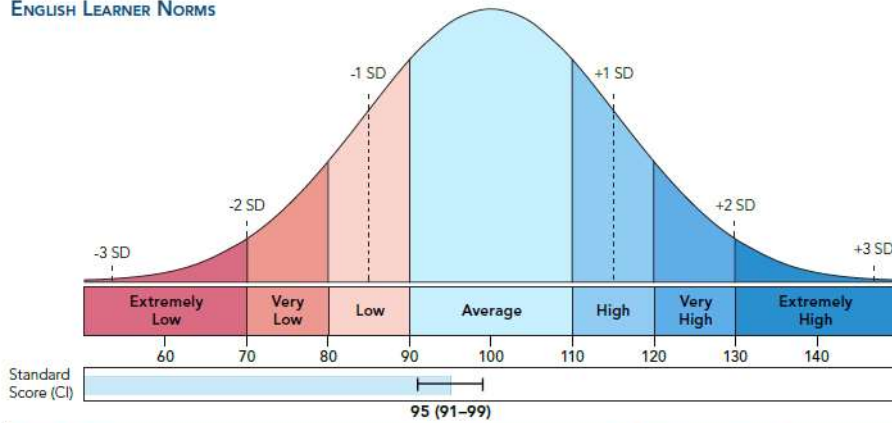
About the Ortiz PVAT™

The Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT) is a test that assesses the ability of a child, youth, or young adult (aged 2 years 6 months to 22 years 11 months) to comprehend the meaning of spoken English words (i.e., receptive vocabulary). It is appropriate for both native English speakers and English learners. In addition, it can be used to measure and track growth and development in English vocabulary, investigate possible speech-language difficulties, and guide instruction and educational intervention.

Vocabulary Acquisition and Development

This section of the report compares the examinee's scores against the English Learner norms to assess vocabulary acquisition in English relative to other English learners of the same age who have similar exposure to English. This comparison assists in differentiating the normal process of learning another language from an underlying language disorder. Please see the *Ortiz PVAT Technical Manual* for more information on the importance of using English Learner norms that account for exposure to English.

ENGLISH LEARNER NORMS



Ortiz PVAT Scores	English Learner Norms*
Raw Score	53
Standard Score (95% Confidence Interval)	95 (91-99)
Percentile	37th
Stanine	4
Age Equivalent (Years:Months)	7:6
Classification	Average

*Compared to other English learners of the same age who have similar exposure to English.

Interpretation

- Compared to same-age peers who have been exposed to English for 29% of their lives (English Learner norms), Benni's ability to recognize spoken English words is **average**.
- His performance is comparable to that of other English learners with similar exposure to English, which may indicate a normal process of learning another language and **does not suggest the presence of any underlying difficulties in language acquisition**.

Baseline Results:

The Ortiz PVAT automatically:

- established the basal with a built-in Screener
- established the ceiling
- captured responses
- scored the test and determined the results

Benni's behavior was easily observed during testing:

- he interacted with the auditory and visual stimuli in an attentive manner
- he clearly recognized the meaning by clicking without hesitation on the correct image
- he displayed positive affect throughout the test

Benni's **standard score of 95** placed his performance in the *Average* range—and did not suggest the presence of any underlying difficulties in receptive vocabulary acquisition relative to “true” peers.

Instructional Level

This section of the report compares the examinee's scores against the **English Speaker norms** to assess instructional needs. A comparison to native English speakers provides a baseline of current functioning relative to peers from the same age group and can be used to inform instructional level or services required. Please see the *Ortiz PVAT Technical Manual* for more information on the use of English Speaker norms for English learners.

Instructional level recommendations:

- With respect to the level of instruction required for continued academic growth and success in English, Benni's vocabulary acquisition is **below** the level typically associated with same-age native English-speaking peers (**English Speaker norms**).
- **Classroom instruction requires modifications** to accommodate his level of English comprehension. **Interventions are needed** to assist in making further progress toward grade-level standards in English.

Important Note: English-language experiences should not be viewed as a replacement or substitute for continued native-language development which may offer better educational outcomes for Benni, in both English and his native language.

Intervention Recommendations (English and Native Language)

Instructional strategies for English language development:

- Provide significant opportunities to hear and use content vocabulary in the English language:
 - Facilitate language learning through speech production and interaction so that the learning process is active rather than passive. Support and encourage active participation rather than just presenting information.
 - Create interactive educational settings where there is greater exposure to English language models that focus primarily on social conversations. Such interactive environments should focus on providing significant opportunities for using language, as well as frequent and corrective feedback that is appropriate for the student's current vocabulary level.
- Increase contextualization of information:
 - Use clear, consistent, and basic relational language (i.e., descriptions of simple characteristics that illustrate similarities) for objects, key vocabulary words, and ideas, especially when introducing new or more complex ways of using social and academic language in English and the native language (if the student speaks their native language).
 - Provide frequent opportunities for scaffolding, focusing primarily on social language acquisition in English via the use of rich, visual imagery with a lot of contextual information (e.g., hand gestures, pointing to surrounding objects) in order to aid comprehension. This technique may include requiring the student to access information that they have understood or been taught previously.
 - Provide frequent opportunities for drawing, writing, and expressions in the English language in order to connect the student's own ideas primarily to social interactions, but also to academic settings.
- Use visual aids and graphic organizers (e.g., picture dictionaries, icons, or flowcharts) during instruction to tag and connect vocabulary and ideas.
- Allow the student to incorporate their own experiences into learning situations.
- Encourage the student to express thoughts and ideas by using their own words in English.
- Provide increased opportunities for the student to connect the English language with ideas or concepts within the context of academic and social settings.
- Provide increased opportunities for the student to read aloud in English in order to practice effective language use and appropriate expression.

Instructional Utility:

Findings from the Ortiz PVAT Assessment Report were used to determine and establish the level of Benni's instructional needs. The recommendation noted that despite "average" development, instructional modifications and interventions (e.g., small group) were still required to help him continue to make progress.

Recommendations for continued vocabulary growth in both English and his native language were shared with the teacher to instructional level to ensure that the language of the classroom would not exceed Benni's ability to comprehend the teacher. The **instructional strategies** listed were shared with the teacher to ensure Benni would continue to receive effective instruction that would further support his progress in language acquisition.

Vocabulary Type Analysis

This section of the report presents an analysis of the examinee's mastery of the various parts of speech and word types.

PARTS OF SPEECH

An examination of the examinee's vocabulary relative to various parts of speech may provide additional information regarding expected growth and progress. The general pattern of English language acquisition for both native English speakers and English learners is largely the same. In general, nouns tend to be acquired first, followed by verbs, adjectives, adverbs, and prepositions. Although the sequence is unchanged, the lack of opportunity for sustained and advanced English-language interactions may alter the age at which the parts of speech are acquired in English learners as compared to native English speakers.

Part of Speech	Number Presented	Number Correct	Percent Correct
Noun	18	16	89%
Verb	14	10	71%
Adjective	2	2	100%
Adverb	0	n/a	n/a
Preposition	2	1	50%

WORD TYPES

The Ortiz PVAT divides words into two categories: Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP). Each category is then subdivided into three ranges: Emergent, Intermediate, and Advanced. The categories are arranged in an ascending order of development that describes the type of broad English proficiency and general development exhibited by the examinee.

Word Type	Number Presented	Number Correct	Percent Correct
Emergent BICS	0	n/a	n/a
Intermediate BICS	17	16	94%
Advanced BICS	19	13	68%
Emergent CALP	0	n/a	n/a
Intermediate CALP	0	n/a	n/a
Advanced CALP	0	n/a	n/a


Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19+
Grade					K	1	2	3	4	5	6	7	8	9	10	11	12	
Word Type	Emergent BICS		Intermediate BICS			Advanced BICS			Emergent CALP			Intermediate CALP			Advanced CALP			

Intervention Utility:

By using the “Parts of Speech” information in the report, specific **intervention goals** were designed to help Benni improve his vocabulary acquisition with respect to various parts of speech as the list is arranged by order of acquisition.

By using the “Word Types” information in the report, additional **intervention goals** were designed to help Benni improve his vocabulary acquisition with respect to social/conversational language as well as content/subject matter words.

Progress Monitoring Utility



ORTIZ PVAT™

ORTIZ PICTURE VOCABULARY ACQUISITION TEST™
Samuel O. Ortiz, Ph.D.

Progress Report

Examinee Information (Based on the most recent administration)

Name/ID: Benni Ayala
Gender: Male
Date of Birth: September 25, 2009
Language(s) Spoken at Home: Spanish and English†
Age at First Exposure to English: 5 years†
Primary Language of Instruction: English†
Norms Used: English Learner Norms (accounting for exposure to English)

Assessment Information


	Admin 1	Admin 2	Admin 3	Admin 4	Admin 5
Administration Date:	May 14, 2018	May 14, 2018	May 14, 2018	May 14, 2018	May 14, 2018
Age at Testing (Years:Months):	7:7	7:10	8:1	8:4	8:7
Grade:	2	2	3	3	3
Exposure to English:	29% of life	29% of life	38% of life	38% of life	38% of life
Form Administered:	A	A	A	A	A
Number of Items Presented:	36	40	20	24	23
Number of Items Omitted:	0	0	0	0	0
Examiner Name:	Admin 1	Admin 2	Admin 3	Admin 4	Admin 5

†See Assessment Report for details.

About the Ortiz PVAT™

The Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT) is a test that assesses the ability of a child, youth, or young adult (aged 2 years 6 months to 22 years 11 months) to comprehend the meaning of spoken English words (i.e., receptive vocabulary). It is appropriate for both native English speakers and English learners. In addition, it can be used to measure and track growth and development in vocabulary, investigate possible speech-language difficulties, and guide instruction and educational intervention. This computerized report compares the performance of the examinee across a maximum of five administrations. For detailed information about any given administration, please refer to the particular Ortiz PVAT Assessment Report. Additional interpretive information can be found in the *Ortiz PVAT Technical Manual*.

This Progress Report is intended for use by qualified evaluators only, and is not to be used as the sole basis for clinical diagnosis or intervention.



Copyright © 2018 Multi-Health Systems Inc. All rights reserved.
P.O. Box 950, North Tonawanda, NY 14120-0950
3770 Victoria Park Ave., Toronto, ON M2H 3M6

Because the Ortiz PVAT is very sensitive to vocabulary growth it can distinguish differences in performance in very short intervals. In addition, the parallel forms of the Ortiz PVAT (Form A and Form B) provide another mechanism for being able to evaluate individuals frequently.

In the present case, benchmark testing of Benni’s vocabulary was conducted every 3 months over a one year period and were later summarized in the Ortiz PVAT Progress Report. In addition, use of the EL Norms in the Ortiz PVAT provided appropriate and fair expectations of rate and degree of progress for ELs like Benni.

Assessing Vocabulary Acquisition and Growth

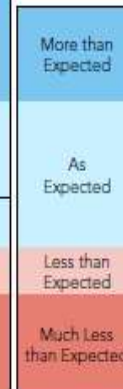


Progress Report for Benni Ayala
Admin Dates: May 14, 2018 to May 14, 2018

Vocabulary Acquisition and Development Across Administrations

Vocabulary is expected to improve with age and with increased exposure to English. The Growth Index provides an indication of the amount of growth of an examinee's receptive vocabulary ability from one administration to another. When interpreting results from repeated administrations, all reported Ortiz PVAT scores should be considered in conjunction with the Growth Index. Since the Growth Index only estimates the *amount of change* in vocabulary skills over time, an examination of the examinee's standard scores at various administrations is also required to determine their relative standing at any given point in time (i.e., performance compared to that of their same-aged peers in the English Learner normative sample with the same exposure to English). See the *Ortiz PVAT Technical Manual* for more information.

Ortiz PVAT Scores	Administration					Growth Index				
	Admin 1 05/14/18	Admin 2 05/14/18	Admin 3 05/14/18	Admin 4 05/14/18	Admin 5 05/14/18	Admin 1 to 2	Admin 2 to 3	Admin 3 to 4	Admin 4 to 5	Overall (1 to 5)
Raw Score	53	58	64	68	66					
Standard Score (95% CI)	95 (91-99)	96 (92-100)	97 (93-101)	98 (94-102)	95 (91-99)	0.45	0.45	0.45		0.00
Age (Age Equivalent)	7:7 (7:6)	7:10 (7:9)	8:1 (8:0)	8:4 (8:3)	8:7 (8:6)				-1.36	
Classification	Average	Average	Average	Average	Average					
Rate of Growth						As Expected	As Expected	As Expected	As Expected	As Expected



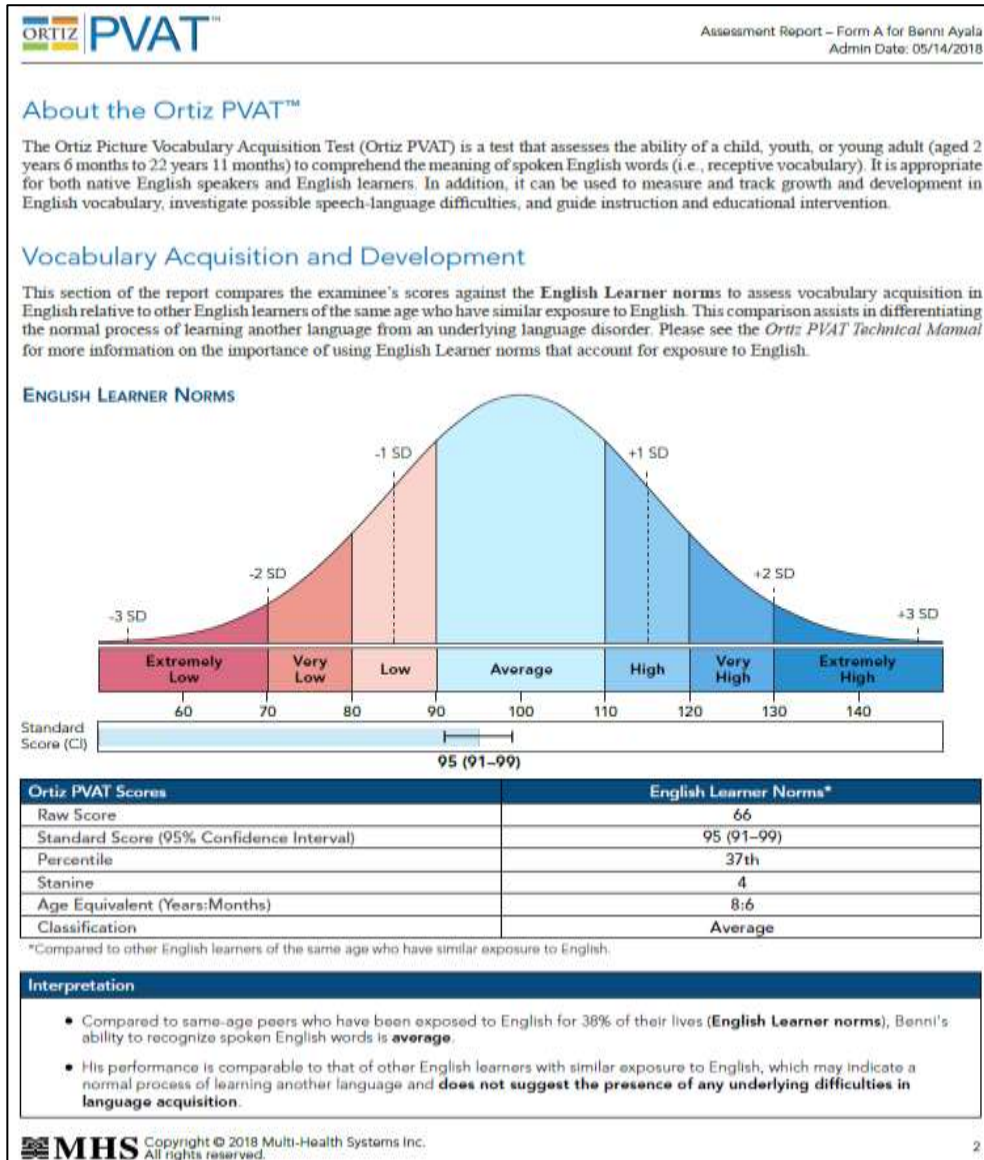
Note. CI = Confidence Interval. Age and age equivalent scores are denoted in terms of years and months (e.g., 2:6 = 2 years 6 months).
Growth Index: Much Less than Expected = -4.00 to -3.01; Less than Expected = -3.00 to -2.01; As Expected = -2.00 to 2.00; More than Expected = 2.01 to 4.00.

Comparison of performance at 3 month intervals confirms a slight increase in performance followed by a slight decline and return to baseline levels of functioning.

This suggests that although Benni benefitted initially from the interventions she was given, they ultimately proved ineffective, but he remained within the average range nonetheless.

Based on this pattern of scores and other information collected in the MTSS process, the pre-referral team did NOT recommend a comprehensive evaluation, however, the interventions were continued in general education.

Diagnostic Utility



Had the pre-referral team suspected that Benni had a disability, the final (5th) administration of the Ortiz PVAT would have provided important diagnostic data and information that would have argued against a language-based disorder.

This information could not have been obtained in any other way with any other test as the Ortiz PVAT is the only test that contains specific EL norms that control for both age and amount of English-language exposure.

Thus, with a fair and universally applicable test, both Jenni and Benni will receive the appropriate instruction, intervention, and support they need regardless of their primary language



Disorder or Difference?

Jenni: English Speaker

Benni: English Learner

ORITZ PVAT Assessment Report – Form A for Jenni Yonge Admin Date: 05/14/2018

Vocabulary Type Analysis

This section of the report presents an analysis of the examinee's mastery of the various parts of speech and word types.

PARTS OF SPEECH

An examination of the examinee's vocabulary relative to various parts of speech may provide additional information regarding expected growth and progress. In general, nouns tend to be acquired first, followed by verbs, adjectives, adverbs, and prepositions.

Part of Speech	Number Presented	Number Correct	Percent Correct
Noun	23	20	87%
Verb	8	6	75%
Adjective	2	1	50%
Adverb	0	n/a	n/a
Preposition	1	0	0%

WORD TYPES

The Ortiz PVAT divides words into two categories: Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP). Each category is then subdivided into three ranges: Emergent, Intermediate, and Advanced. The categories are arranged in an ascending order of development that describes the type of broad English proficiency and general development exhibited by the examinee.

Word Type	Number Presented	Number Correct	Percent Correct
Emergent BICS	13	12	92%
Intermediate BICS	19	14	74%
Advanced BICS	2	1	50%
Emergent CALP	0	n/a	n/a
Intermediate CALP	0	n/a	n/a
Advanced CALP	0	n/a	n/a

GENERAL RELATION BETWEEN AGE, GRADE, AND WORD TYPE IN MONOLINGUAL LANGUAGE DEVELOPMENT

Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Grade					1	2	3	4	5	6	7	8	9	10	11	12		
Word	Emergent BICS			Intermediate BICS			Advanced BICS			Emergent CALP			Intermediate CALP			Advanced CALP		

ORITZ PVAT Assessment Report – Form A for Benni Ayala Admin Date: 05/14/2018

Vocabulary Type Analysis

This section of the report presents an analysis of the examinee's mastery of the various parts of speech and word types.

PARTS OF SPEECH

An examination of the examinee's vocabulary relative to various parts of speech may provide additional information regarding expected growth and progress. The general pattern of English language acquisition for both native English speakers and English learners is largely the same. In general, nouns tend to be acquired first, followed by verbs, adjectives, adverbs, and prepositions. Although the sequence is unchanged, the lack of opportunity for sustained and advanced English-language interactions may alter the age at which the parts of speech are acquired in English learners as compared to native English speakers.

Part of Speech	Number Presented	Number Correct	Percent Correct
Noun	18	16	89%
Verb	14	10	71%
Adjective	2	2	100%
Adverb	0	n/a	n/a
Preposition	2	1	50%

WORD TYPES

The Ortiz PVAT divides words into two categories: Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP). Each category is then subdivided into three ranges: Emergent, Intermediate, and Advanced. The categories are arranged in an ascending order of development that describes the type of broad English proficiency and general development exhibited by the examinee.

Word Type	Number Presented	Number Correct	Percent Correct
Emergent BICS	0	n/a	n/a
Intermediate BICS	17	16	94%
Advanced BICS	19	13	68%
Emergent CALP	0	n/a	n/a
Intermediate CALP	0	n/a	n/a
Advanced CALP	0	n/a	n/a

GENERAL RELATION BETWEEN AGE, GRADE, AND WORD TYPE IN MONOLINGUAL LANGUAGE DEVELOPMENT

Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Grade					1	2	3	4	5	6	7	8	9	10	11	12		
Word Type	Emergent BICS			Intermediate BICS			Advanced BICS			Emergent CALP			Intermediate CALP			Advanced CALP		

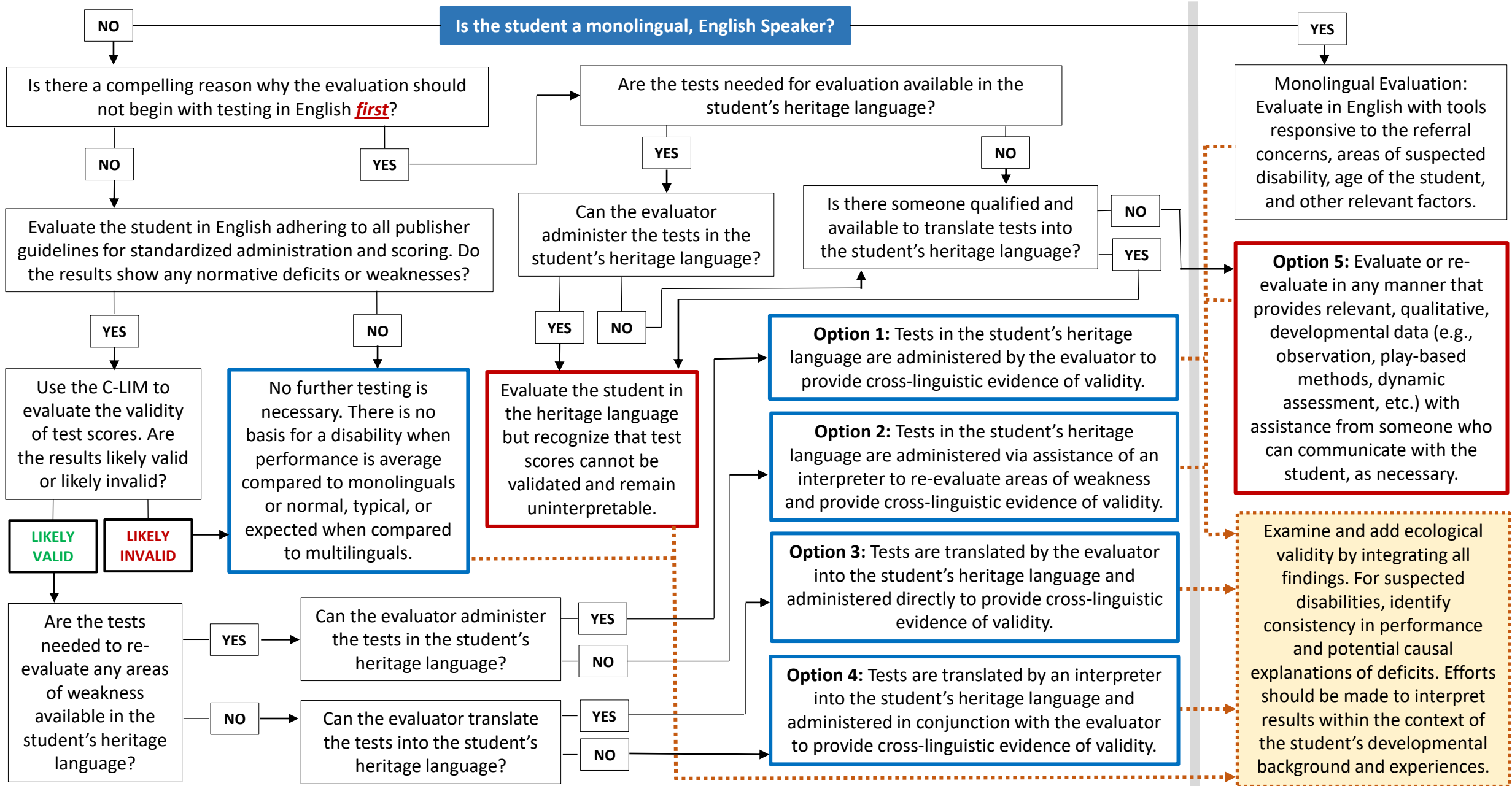
True peer comparison SS=76 (possible deficit)
 Grade peer comparison (well below typical level, high need for intervention and support)

True peer comparison SS=95 (normal L2 process)
 Grade peer comparison (below typical level, high need for intervention and support)

The Ortiz PVAT is the only test that can do all of this for **both** native English speakers and English learners alike, regardless of primary language



Multilingual Testing Framework: A guide to defensible practice and generating valid data.



Use of the Ortiz PVAT in Evaluation of Multilinguals

Pre-referral:

- Can be used for progress monitoring, evaluation of instructional effectiveness, and accurate measurement of growth in language over time.
- Overall score assists in determining whether language may be primary reason for current difficulties and guiding referrals for evaluation.

Post-referral:

- Can serve as a replacement for measuring Gc index/cluster/composite (e.g., VCI, Gc, etc.) in a valid manner.
- Facilitates interpretation of Gc ability because of true peer comparison that controls for differences in language development—not “interpret with caution” needed.
- Assists in addressing exclusionary factor related to limited English proficiency in identification of SLD.
- May serve as an indicator for appropriate referral for further speech-language testing.
- Use of obtained standard score does not adversely affect the process of PSW for SLD identification as the classification remains consistent with the magnitude.

Fairness and English Learners:

A new direction in tests and testing.

Summary

True peer group comparison is the foundation for fairness and interpretive validity in diagnostic evaluations of English Learners

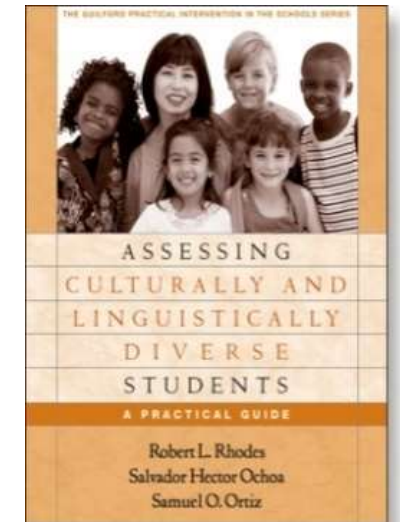
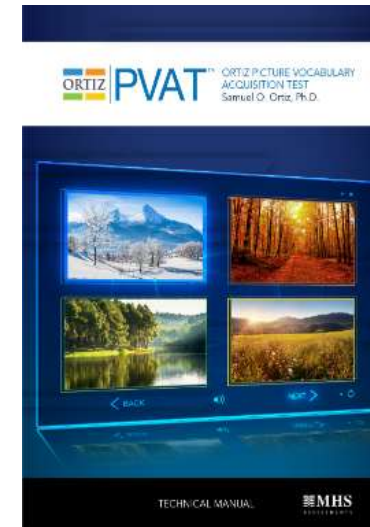
- Construct validity does not automatically guarantee diagnostic or interpretive validity
- Developmental differences in language and cultural knowledge acquisition are not well controlled by race/ethnicity, if at all
- Measurements on English learners must be made relative to others with similar levels of English exposure, not merely by age or grade
- Instruments without true peer norms controlling for exposure across English learners will lack inherent fairness

Assessment and Related Resources

TESTS:

Ortiz Picture Vocabulary Acquisition Test (Ortiz PVAT)

<https://www.mhs.com/ortizpvat>

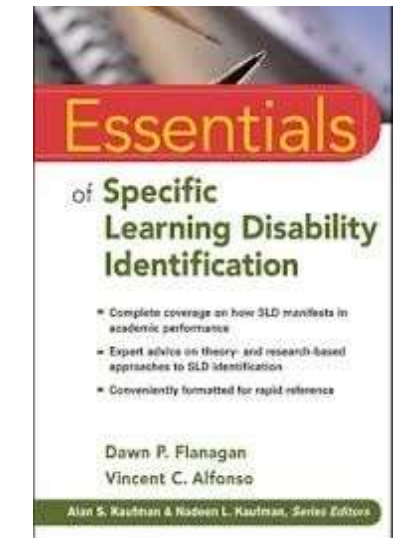
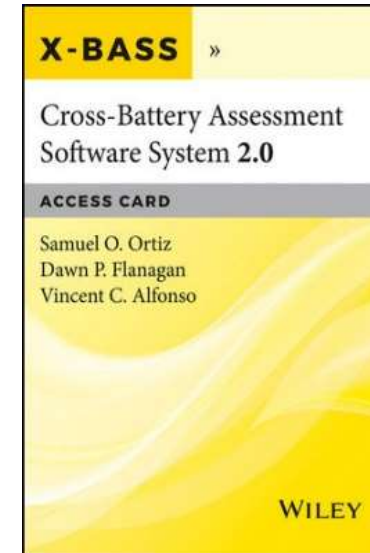


BOOKS:

Rhodes, R., Ochoa, S. H. & Ortiz, S. O. (2005). Comprehensive Assessment of Culturally and Linguistically Diverse Students: A practical approach. New York: Guilford.

Flanagan, D. P., Ortiz, S.O. & Alfonso, V.C. (2013). Essentials of Cross-Battery Assessment, Third Edition. New York: Wiley & Sons, Inc.

Ortiz, S. O., Flanagan, D. P. & Alfonso, V. C. (2015). Cross-Battery Assessment Software System (X-BASS v1.4). New York: Wiley & Sons, Inc.



ONLINE:

Competency-based XBA Certification Program

<https://www.schoolneuropsych.com/xba/>

CHC Cross-Battery Online

<http://www.crossbattery.com/>

Free C-LIM Resources

<http://facpub.stjohns.edu/~ortizs/CLIM/index.html>

