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Multilingualism for Monolingual Clinicians: Narrative and Vocabulary Assessment Options

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Multilingualism for Monolingual Clinicians: Narrative and Vocabulary Assessment Options

Teresa Signorelli Pisano, PhD, CCC-SLP
10 May 2018

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Disclosures

- **Financial Disclosures:** Teresa Signorelli Pisano works as an independent contractor and is receiving a stipend for this talk
- **Non-Financial Disclosures:** Teresa Signorelli Pisano is a Visiting Research Scholar in the Doctoral Program in Speech-Language-Hearing Sciences at the CUNY Graduate Center. She also serves on the Advisory Board of the Clinical Centers of Loyola University in Baltimore.

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Learner Outcomes

By participating in this course, participants will be able to:

1. Describe key differences between mono- and bilingual speakers, related regulations, and best practices.
2. Identify appropriate assessment protocols to use with multicultural/multilingual children.
3. Explain how to distinguish language difference versus disorder in bilingual children.

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Overview

- **Regulations & Background**

- Basics of Bilingualism
- Legal Perspectives
- Professional Perspectives
 - ASHA Knowledge and Skills
 - Ethnographic Interview

- **Assessment Options**

- Dynamic Versus Traditional Assessment Basics
- Narrative Analysis, focus on Dynamic Assessment
- Measuring Vocabulary

- **Summary & Conclusions**

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Audience

- Who is working with multilingual/cultural patients/clients?
- Who is NOT highly familiar with the principals of Dynamic Assessment?
- Who uses Dynamic Assessment?
- Who is NOT highly familiar the Conceptual Scoring concepts?
- Who employs Conceptual Scoring

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High Stakes



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“You had good intentions. Let’s find you a nice job paving roads.”

Misdiagnosis

Inadequate Intervention

Inappropriate Education

Malpractice

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Bilingual Language Development

- **Varied experience**
 - Simultaneous versus sequential
 - Spanish at home, English as school
- **Knowledge may be unequal and in flux**
 - Receptive and Expressive Skills
 - Language Areas: phonology, morphology, semantics, syntax, and pragmatics
- **Consider “ability” vs. “proficiency”** (Jacobson & Walden , 2015)
 - Ability to learn relative to attainment in a given language

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Bilingual Language Development

- **Long L2 Learning Process** (Cummins, 1999)
 - Basic Interpersonal Communication Skills (**BICS**): 3 - 5 years
 - Cognitive Academic Language Proficiency (**CALP**): 5 - 7 years
- **Shared LI Characteristics** (Seitel & Garcia, 2009)
 - Short Attention/Distractible
 - Confusion
 - Rely on gestures
 - Limited output
 - Challenge to sequence ideas
- **Normal Developmental Errors**
 - Interference/Transfer
 - Silent Period
 - Code Switching
 - L1 language loss

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Requisite Competencies

- *Cultural Competence*
- *Swallowing*
- *Clinician's Language Competencies*
- *Hearing & Balance*
- *Language, Socio-linguistic, & Cultural influences*
 - *Identification & Assessment*
 - *Foundational Content*
 - *Assessment Tools*
 - *Differential Diagnosis*
- *Articulation & Phonology*
- *Management*
- *Resonance, Voice, & Fluency*

**Sunsetted
Document**

ASHA Knowledge and Skills Needed by Speech-Language Pathologists and Audiologists to Provide Culturally and Linguistically Appropriate Services (2004)

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Requisite Competencies

- **Visit Practice Portal**
 - <http://www.asha.org/Practice-Portal/>
- **Bilingual Service Delivery**
 - <http://www.asha.org/Practice-Portal/Professional-Issues/Bilingual-Service-Delivery/>
- **Cultural Competence**
 - <http://www.asha.org/Practice-Portal/Professional-Issues/Cultural-Competence/>
- **Collaborating with Interpreters, Transliterators, and Translators**
 - <http://www.asha.org/Practice-Portal/Professional-Issues/Collaborating-With-Interpreters/>

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Federal & State Regulations

CLAS Report Four Mandated Standards

- Standard 4. No-cost language assistance services
- Standard 5. Inform of right to language assistance services.
- Standard 6. Assure competence of language assistance
- Standard 7. Easily understood patient-related materials - Signage in languages commonly to served community



Individuals with Disabilities Education Act

- ASHA IDEA Part B Issue Brief:
 - Racially or culturally non-discriminatory
 - Native language unless it is clearly not feasible
 - Lack of English skill not indicate disability
 - Interpreters IEP meetings
 - IEPs sensitive to need for child with limited English

State Regulations

- Bilingual Extension of the TSSLD in NY State
- Check with your state

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The Ethnographic Interview

- **Ethnography:**
 - Qualitative research method to study culture
 - Naturalistic observation
 - Sensitive to potential bias
 - Language and culture are inextricably linked
- **Ethnographic Approach**
 - Fosters patient/family agenda
 - Family has valuable information, clinician may be unaware
 - Specific questioning approach

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Ethnographic Q&A Principals

- **Use over Meaning**
 - **Say** *“Describe the environments in which having conversations is difficult?”*
- **Be Open Ended**
 - **Say**, *“In what ways does your daughter tell you her wants and needs?”*
- **Restate | Don’t Rephrase or Interpret**
 - May prompt more detailed information

See: Westby et al., (2003) Asking the Right Questions in the Right Way, The ASHA Leader, 8, 4-17

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Ethnographic Q&A Principals

- **Summarize to**
 - Validate Understanding
 - Direct Accurate Intervention Planning
- **Beware of Bombarding with Question Sequence**
- **Beware of Leading Questions**

Westby et al., (2003)

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Ethnographic Q&A Principals

- **Beware | Yes/No queries can often be leading**
- **Beware of “Why” Questions. They can sound presumptive and critical**
 - **Say,** *“What keeps you from attending therapy regularly?”*

Westby et al., (2003)

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Language History

- **Always, ALWAYS** include languages and/or dialects patient/child uses
- **Mention exposure and use**
 - when began, with whom, what situations, include educational and home setting
 - include estimates of dominance and proficiency
- **References/Tools**
 - LEAP-Q: Adapted parent survey on language experience and proficiency (Marian, et al., 2007)
 - <https://bilingualism.northwestern.edu/leapq/>
 - See Hammer et al. (2012) article “Predicting Spanish-English Bilingual Children’s Language Abilities” in JLSHR
 - See Li et al. (2006) “Language history questionnaire: A Web-based interface for bilingual research” in Behavior Research Methods

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Traditional Assessment

- **Lends to Bias**
- **Few Appropriate Tools**
 - Static comparison to “peers”
- **Inadequate sensitivity & specificity**
 - Sensitivity
 - Specificity
- **Static comparison to “peers”**
- **Translation fraught**
 - Milestone variations
 - Varied social experiences
 - Structures lost in translation
 - No normative data for scores



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Dynamic Assessment

- **Mitigates bias**
- **Cultural relevance**
- **Variable, more natural**
- **Child compared to self**
 - Nature/degree of change
- **Theoretical Bases**
 - Vygotsky's Zone of Proximal Development
 - Information-Processing
 - Language challenges 2nd to attention/memory (Marton, 2007, 2008)

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Dynamic Assessment

- **Multi-step, Active, Interactive**
 - **1.** Test
 - **2.** Teach (**M**odified **L**earning **E**xperience)
 - **3.** Re-Test
- **Aims**
 - Identify skills through teaching/learning session/s
 - Ascertain learning potential
 - Determination of language difference or disorder
 - Intervention targets (Need be...)

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On Employing Dynamic Assessment

- DA has good track record for accurate classification
 - Especially regarding modifiability
- DA, however, not widely employed
- Potential DA use barriers
 - Clinician training
 - Administration time
 - Subjective characteristics
 - Unclear disorder cutoff points

Peterson et al. (2017). Dynamic Assessment of Narratives: Efficient, Accurate Identification of Language Impairment in Bilingual Students, *JSLHR*, 60, 983-998.

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Methods

- Participants
 - Bilingual children ages 6;4 to 7;7
 - 32 Typically Developing (TD)
 - 10 c/ Language Impairment (LI)
 - IEPs, receiving SpLx therapy; :
 - LI determination by native Spanish-speaking SLP;
 - 1 SD on story retell in both languages
 - Confirmation from parent or teacher/No contest of diagnosis
- Procedures & Materials
 - Baseline Narrative in Each Language: "Frog, Where Are You?"
 - Story modeled and child asked to retell
 - See SALT Script (Miller and Iglesias, 2012)
 - Two, 25 minute DA sessions across two days
 - Pretest and Posttest retell
 - Teaching session/Modifiability judged
 - Real-time scoring with structured scoring sheet

Peterson et al. (2017)

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Pre & Post-Test Rating Parameters

- **Quality (18 Points):**
 - Character, setting, problem, emotion, plan, attempt, consequence, ending, ending emotion
- **Target Words (10 Points):**
 - “Then” (1x), “Because”, “when”, and “after” (3x)
- **Episode Complexity (5 Points):**
 - Initiating event, attempt, consequence

Peterson et al. (2017)

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Four-Step Teaching Cycle

- **Clinician Models**
 - Identifies story grammar elements
 - Tells novel story using pictures with icons representing story elements
- **Child Retells with “Heavy” Support**
 - Pictures and icons present
 - Clinician support given during retell as needed with preset prompts
- **Child Retells with “Less” Support**
 - Only icons present
 - Clinician support given as needed
- **Child Retells with “Minimal” support**
 - Icons and picture removed
 - Clinician support as above

Peterson et al. (2017)

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Seven Modifiability Rating Parameters

0 to 2 Point Scale; “Relatively Heavy to Minimal Support”

- **1. Response to Prompts**
 - How much direction needed?
 - Pause time?
- **2. Degree of Transfer**
 - How are targets used across cycles?
- **3. Attention to Teaching**
 - How focused versus distracted is the child?
- **4. Ease of Teaching**
 - What is the degree of clinician teaching effort?
- **5. Frustration**
 - What are the degrees of enthusiasm versus distress?
- **6. Disruptions**
 - What is the degree of task interruption?
- **7. Overall Learning Potential**

Peterson et al. (2017)

TS Pisano (2018)

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Results & Discussion

- **Compared Measures**
 - DA gains
 - Posttest Scores*
 - Modifiability*
 - Overall Modifiability (Mod-7, Question 7 Only)
 - All Modifiability Factors/Total Modifiability (Questions 1 – 7)
 - Duration of First Teaching Cycle (TC1)*
- **Overall Modifiability & TC1 Duration Combined**
 - 90% Sensitivity and 97% Specificity
- **Mod-7 from both DA Sessions**
 - 100% Sensitivity and Specificity

Peterson et al. (2017).

*Significant Group Differences

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Results & Discussion

- **Cut-Off Points: ROC Curve Analysis**
 - Probability of falling in to a given category
 - .5 = chance, 1 = perfectly predictive
- **ROC Curve Results**
 - Mod-7 Score alone reasonable accuracy
 - Improved accuracy with any two of the four indices
 - Decreased accuracy with three and more so with four
- **Sensitivity/Specificity Trade-Off**
 - Overall Mod-7 had highest sensitivity BUT TMI had higher specificity
 - Cutoff Scores:
 - Lower cutoff: fewer falsely diagnosed as LI BUT more genuinely LI children are missed and vice versa
 - Classification accuracy dropped after combining more that two scores

Peterson et al. (2017).

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Results & Discussion

- **Posttest, modifiability, and learning-time duration evidenced “very good to excellent” classification accuracy**
- **Protocol Viability**
 - Real-time scoring with structured scoring sheet
 - Potential to decrease administration time with more research, clinician training, and use in the clinical arena
- **To Be Investigated**
 - Real-world setting results
 - More evidence of solitary modifiability rating validity
 - Performance in other cultural/linguistic populations
 - Larger sample sizes
 - Potential materials and protocol modification
 - Lack of significant differences with gain scores

Peterson et al. (2017).

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More on Narrative Assessment

- **Dynamic:** Peña, Gillam, & Bedore (2014)
 - MLU, NDW, TNW, Main Verbs/Utterance: LI and TD on par
 - Pre- to post-test improvement significantly lower in LI than TD
 - LI significantly more **agrammatic** output than TD

- **Traditional:** Jacobson & Walden (2013)
 - NDW & Spanish Vocabulary: TD slightly higher raw scores but not statistically different from LI
 - English Vocabulary: TD marginal statistically higher score
 - Typical children significantly fewer **word/morpheme omissions** in both languages
 - Omission Errors more reliable predictor of LI relative to Lexical Diversity
 - Consistent with the literature (e.g., Bedore et al., 2010; Rice & Wexler, 1996; Jacobson & Schwartz, 2009)

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Measuring Vocabulary & Concepts

- **Vocabulary development and skills**
 - Linked to later higher-level language skills in mono- and bilingual children (e.g., Conboy and Thal, 2006)
 - Problem area for SLI

- **Bilinguals often score lower than monolingual in single-language vocabulary assessments**
 - Bilinguals not two monolinguals in one brain (Grosjean, 1989)
 - Not typically normed on bilingual speakers
 - Knowledge in/experience with languages not often overlap
 - School English, home Mandarin

- **Consider lexical and semantic knowledge across all languages**

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On Improving Vocabulary Measurement

▪ Vocabulary Measure “Pros”**

- Vocabulary development/use = areas of SLI weakness
- Ease of administration/scoring

▪ Vocabulary Measure “Cons”**

- Poor psychometric properties
 - English test ranges: sensitivity 71 -77%, specificity 68-77% (Gray et al., 1999)
- Bilinguals score lower than monolingual counterparts
 - Distributed vocabulary
 - Situation influencing word choice
 - Cognitive interference/non-target language suppression

**See article for more details

Anaya et al. (2018). Conceptual Scoring and Classification Accuracy of Vocabulary Testing in Bilingual Children. LSHSS, 49, 85-97

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Conceptual Scoring

▪ Conceptual Score

- Number of concepts a child knows regardless of the language

▪ Scoring Methods

- Immediate Code Mixing
 - Prompt child to use non-target language immediately following an incorrect/no response
- Semi-Delayed Re-administration
 - After testing “Language A”, immediately re-administer any missed items in “Language B”
- Independent Language Assessment
 - Test “Language A” one day/sitting and “Language B” another day/sitting

▪ Different Methods – Different Processing Demands

- Language activation and suppression levels?
- Costs of switching to and from stronger/weaker languages?
- See work by J. Abutalebi, E. Bialystok, D. Green, M. Finkbeiner, J. Kroll

Anaya et al. (2018)

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Methods: Participants

▪ **Participants**

- 247 bilingual children, 5;1 to 11;1 years old
- Typical (TD) and Impaired Language (LI)
- See article for TD/LI confirmation procedures
- Dual language programs
 - English : Spanish :: 51% : 49% (avg. combined in/output)
- Parent & Teacher Surveys (Pena et al., 2014)
 - Bilingual Input-Output Survey - BIOS
 - Inventory to Assess Language Knowledge – ITALK

Anaya et al. (2018)

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Methods: Materials

▪ **Materials** (Vocabulary)

- EOWPVT-3: English and SBE (Brownell, 2000, 2001)
 - Same items in each edition
 - 16 items precluded from regular Spanish protocol, but administered in this study for item level comparison

Anaya et al. (2018)

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Methods: Procedures

▪ **Test Administration**

- English “Only” EOWPVT-3
- Spanish “Only” EOWPVT-3 BSE
- Examiner prompted child to respond in non-target language in event of error or no response
- Target language prompted in event non-target language used
 - E.g., “Ojo” for “eye” in English test. Prompt English. Recorded both (any) response
- Research ceiling = six incorrect (per test manual) + additional 14 items

Anaya et al. (2018)

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Methods: Scoring

- **Scoring was consistent with the published Manuel**
- **Six scores calculated across three methods**
- **Monolingual English**
 - Only English accepted as correct
- **Monolingual Spanish**
 - Only Spanish accepted as correct
 - The 16 do-not-administer items were excluded from scoring

Anaya et al. (2018)

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Methods: Scoring

- **Within-Test Conceptual Scores**
 - Analyzed items **within** a single language administration
 - Responses in either language counted as correct
 - English standard score & Spanish standard score
 - The 16 do-not-administer items excluded from Spanish scoring

- **Across-Test Conceptual Scores**
 - Analyzed items **across** both language administrations
 - Responses in either language counted as correct
 - English standard score & Spanish standard score
 - The 16 do-not-administer items excluded from Spanish scoring

Anaya et al. (2018)

Scoring Illustration (not from an actual test or study)

Target	Testing			Raw Score	Scoring Methods					
	Spanish Test Performance	English Test Performance	Concepts Known		Monolingual Scoring		Within Scoring		Across Scoring	
					Spanish	English	Spanish	English	Spanish	English
Leche / Milk	Leche	Milk	1		Leche	Milk	Leche	Milk	Leche	Milk
Grande / Big	Big	Big	1		NA	Big	Big	Big	Big	Big
Nariz / Nose	Nariz	NR	1		Nariz	NR	Nariz	NR	Nariz	Nariz
Bola / Ball	Bola	Ball	1		Bola	Ball	Bola	Ball	Bola	Ball
Silla / Chair	Silla	Chair	1		Silla	Chair	Silla	Chair	Silla	Chair
Camisa / Shirt	Camisa	Camisa	1		Camisa	NA	Camisa	Camisa	Camisa	Camisa
Words Named Any Language	6	5		Raw Score	5	4	6	5	6	6
Total Concepts Known			6							

KEY
English word said in Spanish Test
Spanish word said in English Test
Stated in Other not This Test
NR = No Response
NA = Not Applicable

Results & Discussion

- **Best classification accuracy: Spanish across-language scoring**
- **Poorest classification accuracy: English single language scoring**
- **Success of across-test over within-test scoring suggests switching cost**
 - **Relatively less success toggling between a target language and one being inhibited versus staying (primarily) within one language**
- **Unacceptable sensitivity/specificity (56-79%) for diagnosis**
- **Next steps?:** Greater sample size, varied elicitation methods (narratives), varied word classes (verbs, prepositions, etc.), of switching costs

Anaya et al. (2018)

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Other Protocol Considerations

Gross et al. 2014 Method			Core et al. 2013 Method			
Target	Spanish Test	Repeat Missed Item in English	Target	Spanish Label	English Label	Concepts
Manzana (Apple)	1		Leche (Milk)	1	1	1
Grande (Big)	0	1	Chico (Small)	0	1	1
Pelo (Hair)	1		Nariz (nose)	1	0	1
Pie (Foot)	1		Bola (Ball)	1	1	1
	Spanish Total	ReAdmin Total		Spanish Total	English Total	
	3	1		3	3	
Conceptual Vocabulary	4		Total Vocabulary	6		
			Conceptual Vocabulary			4

Gross, Buac, Kaushanskaya (2014) Conceptual Scoring of Receptive and Expressive Vocabulary Measures in Simultaneous and Sequential Bilingual Children, *AJSLP*, 23, 574-586

Core, Hoff, Rumiche, Señor, (2013) Total and Conceptual Vocabulary in Spanish-English Bilinguals From 22 to 30 Months: Implications for Assessment, *JSLHR*, 56, 1637-1649

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Key Take-Aways

- **Appropriate knowledge and skills are needed to service bilingual patients and clients, such as :**
 - Understanding of bilingual language development and functioning
 - Knowing cultural perspectives of served population and own possible personal biases
 - Ethnographic principals
 - Collaborating with cultural/linguistic representatives
- **Few to no appropriately normed tests exist for bilingual children**
- **Formal tests are especially susceptible to bias and inappropriate diagnosis**

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Key Take-Aways

- **Dynamic Assessment:**
 - Good for differential diagnosis of language difference from genuine disorder
 - Assess learning potential/relative strengths and weaknesses
 - Mitigate cultural/linguistic biases
 - Modifiability can be quite useful for differential diagnosis
 - DA feasible to execute within an assessment session
- **Narrative Analysis:**
 - Can work well in DA format
 - Ungrammaticality and omission rather than substitution errors show good potential to indicate disorder from differences
- **Vocabulary:**
 - All languages need to be considered for the most accurate assessment of word knowledge
 - Vocabulary tests are not ideally designed for diagnosing a language impairment in mono- or bilingual speakers

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continued

Thank You

What are your questions?



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