


# Bilinguals with CAS: You've Got This!

A 3-part training program to increase SLP skills in serving individuals with CAS with different language needs.

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## Disclosures

- Relevant Financial Disclosures
  - Christina is employed as a professor at Portland State University
- Relevant Non-Financial Disclosures
  - Christina is a member of Apraxia-Kids Professional Advisory Council
  - Ashley, Brenda, and Izela have no non-financial disclosures.

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## Modules

- 1 Overview, Myths, Bilingualism & CAS
- 2 Assessment of CAS in Bilinguals
- 3 CAS Treatment Approaches for Bilinguals

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# Assessment of CAS in Bilinguals



## Module 2

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## Learning Objectives

- The participant will
  - be able to alter evidence-based assessment for CAS to assess a bilingual child in both languages
  - understand how to use parent questionnaires in the assessment process of bilingual children with CAS
  - understand functional bilingual needs to consider in the CAS assessment

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## Bilingual Assessment<sup>19, 20, 21</sup>

- Evidence-based practice has primarily focused on assessment and intervention for monolingual-English children
- Assessment of children from non-dominant cultural backgrounds remains a challenge

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## Key Bilingual Assessment Obstacles<sup>22</sup>

- Lack of culturally appropriate tools
- Lack of norms for multilingual speech acquisition
- SLP's lack of confidence in differentiating difference vs disorder
  - Both under & over-diagnosis frequent
- Assumption that English skills strong enough that don't need to assess L1

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## Bilingual Assessment

- Consider sociocultural factors
- Assess phonological skills in Heritage Language & English
  - Choose assessment tools normed on comparative population
- Use alternative assessments
- Describe phonetic inventory
- Describe errors, including phonological error patterns
- Determine if child has speech sound disorder

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## Who Assesses CAS in the Bilingual Child?

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## Who Assesses Bilingual with CAS?

1. Bilingually-trained SLP who has expertise in
  - Pediatric speech disorders
  - CAS
  - CAS in bilinguals
2. Monolingual SLP trained in bilingualism & CAS with appropriate language supports and resources
  - understands how bilingualism affects development and disorders
  - has fully researched L1
  - has considered implications for type of disorder in L1
  - has skills in working with an interpreter

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## Who Assesses Bilingual with CAS?

3. Bilingual SLP trained in bilingualism but not CAS
  - with support from an SLP who is an expert in CAS
4. A bilingual bicultural SLP
  - who works with an SLP trained as above

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## Preparing for the Bilingual or non-English Assessment

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## Guiding Principles<sup>7</sup>

- Identify & reduce sources of bias
- Individualize timing of assessment
- Consider L1 & L2 Abilities & Needs
  - Past, Present, Future
- Look beyond obvious/Avoid oversimplifying
- Gather data using multiple measures at different points in time

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## Expand Understanding of Acquisition

- Move beyond using monolingual milestones
- Move beyond assuming English norms are adequate or accurate for other languages
- Understand specific bilingual situation

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## If SLP Does or Doesn't Speak L1

- Still need to assess both
- Research speech characteristics of L1
  - Phonemes, phonotactics
- Consider how phonology of home language
  - Differs from L2
  - Could affect presentation of SSD
- Record adult for comparison

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## General Language Information

- Review literature on phonology, grammatical structures, and pragmatics of client's other language
- Be aware of dialectal differences
  - typical for speakers from client's linguistic background
  - dialectal differences between client and bilingual professional

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## Caregiver Information<sup>20, 21</sup>

- SLP must learn how to ask questions to find out what parents know
- SLP must provide caregiver:
  - Knowledge of SLP & Special Education
  - Understanding of speech sound disorders
  - Understanding of CAS
  - Stigma concerns

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## Responsibilities to our Clients/Caregivers

- Reduce your cultural biases through continual self-reflection
- Recognize cultural interpretations of developmental milestones aren't universal truths
  - A delay in one culture may be not be considered a delay in another culture.
- Know that many developmental expectations, particularly social & language expectations, are culturally loaded
  - Remember that families/individuals vary within cultures

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## Responsibilities to our Clients/Caregivers

- Consider tasks/goals from the caregiver's perspective
  - Don't make assumptions as to how they will view goals
- Think about the environment that the child lives in
- Recognize the cultural values of special education practice/law
  - e.g., value of independence, individuality, personal choice, work, etc.

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## Additional Cultural Considerations

- Get to know your families & their values.
- Don't make assumptions
  - Level of acculturation can be a factor
- Special education is a culture in and of itself. Point that fact out.
- You don't have to change *your* values, but
  - recognize & attempt to understand the values of others
  - find meaningful compromise if differences arise
- Avoid thinking about differences as aberrant or deficient
- Acknowledge and show respect for the caregiver/family's point of view

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## Build Successful Rapport

- Most successful outcomes if you understand cultural as well as language differences
- Understand
  - Views on disability
  - What they know about CAS and health care
  - Educational supports
  - Communication possibilities as a bilingual

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## Minimize Test Bias<sup>4,7</sup>

- Investigate availability of tests in other language
- Determine composition of standardization sample
- Review performance of subgroups
  - Don't use norms if child's subgroup not sufficiently represented or standard score skewed
- Review test items, stimuli, instructions & procedures for evidence of potential bias
- Consider cultural modification of tests

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## Standardized Test Modifications for Bilinguals<sup>7</sup>

- Be flexible with time restrictions
- Test beyond ceiling if appropriate
- Repeat and reword instructions or test item as necessary
  - Take note of how often you have to repeat and client's response before and after repetition.

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## Standardized Test Modifications

- Don't use test items that are not relevant in language and culture of child you are assessing
- Carefully examine incorrect responses
  - Consider dialectal differences

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## Use Extreme Caution with Translated Tests

- If test normed on individuals that don't share the client's cultural/linguistic background
  - standard scores are NOT valid and should not be reported
- In final report
  - include statement that testing results should be interpreted with caution because tests were not normed on individuals from client's cultural/linguistic background

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## Working with Interpreter

[PROFESSIONAL OR OTHERWISE]

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## Working with Interpreters

- If you are not fluent in child's L1,
  - Interpreters play an essential role during the assessment and treatment process
- SLP is responsible for all aspects of the assessment
  - the knowledge of the articulatory and phonological properties of the child's language
  - how language properties may manifest in a motor planning deficit
  - How L1 and L2 may intersect

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## Ideal Interpreter

- Familiar with client's community
- Shares client's dialect
- Same interpreter to establish a familiar working relationship.

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## Importance of a Trained Interpreter

- When assessing clients with CAS, a trained and experienced interpreter is preferred
  - They're more capable of interpreting complex conversations
  - Ideally have experience with typical and atypical speech development in first language
  - Interpreting a client with CAS is challenging due to their speech differences

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## Other Interpreter Factors

- SLPs and aides not appropriate as interpreters
  - Not within their scope of practice
- Bilingual SLPs may still opt to use an interpreter
  - May be a complex assessment
  - SLP should not be interpreting for others

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## Inappropriate Interpreters<sup>22</sup>

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- Community member, Family member, Friend
  - Potential conflict of interest
  - Limited training
  - Overinterpretation of child's attempts

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## Adaptation of the “BID” Process in Interpreting for CAS Assessment

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## BID<sup>22</sup>

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- Briefing
  - Discussion between the SLP and interpreter prior to the assessment
- Interaction
  - Time spent with client and caregiver during the assessment
- Debriefing
  - Discussion between the SLP and interpreter after to the assessment

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## Briefing – Meet Interpreter Beforehand<sup>22</sup>

- Confidentiality
- Background review
- Advise to limit non-verbal and verbal cues
- Need to take notes on the client's responses
- Learn greetings & appropriate pronunciation of names in the L1

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## Purpose & Procedures for Assessment<sup>22</sup>

- Agenda
  - How CAS may present and affect the interpretation process
  - Possible language specific errors to expect
  - Brainstorm motor planning needs
  - Possible characteristics of motor planning to consider
- Practice assessment
- How role of interpreter will differ in L1 & L2
- How role of interpreter will differ in interaction with parent & child

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## Prior to Testing

- Avoid oversimplification of important explanations.
- Build in extra time
- Talk directly to your client.
- Provide written materials in the L1, whenever possible.

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## Interaction – Caregiver & Child

- Introduce yourself and the interpreter to the child and their caregiver
- Speak directly to the client during introductions
- Convey your message effectively for accurate interpretation
  - Use simple language
  - Avoid using professional jargon, acronyms, figurative language, or abbreviations
- Request clarification
- Avoid uninterpreted side conversations

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## Interaction – Caregiver & Child

- Describe roles and purpose of testing
- Use short, concise sentences.
- Pause frequently to allow interpreter to translate information.
- Allow enough time for the interpreter to organize information for effective translation.

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## Interaction with Child – L1

- Direct interaction between interpreter & child
  - SLP will advise, ask questions from sideline
- Have interpreter explain communication arrangement in child-friendly terms
- Interpreter will ask questions
- SLP will
  - advise, score, ask clarifications, guide steps, tell when to stop, move on, etc.
  - Sit next to interpreter (if authentic)

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## After the Session

- Review client's performance with the interpreter
  - Interpreter should report the client's response as well as the anticipated response
- Discuss difficulties in the testing process
- Discuss any difficulties in the interpretation process
- Ask for observations

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## Debriefing

- Ask questions about motor planning
- Ask the interpreter for their insight into the client's language properties
  - Are their observations consistent with CAS characteristics?
- Review the interpretation process
  - What can change next time

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## Preparing for the Bilingual CAS Assessment

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## Bilingual Speech Development Involves

- Exposure to meaningful communication in both languages
- Phonological knowledge
  - How meaningful sound contrasts are used
  - How phonologies overlap/intersect
- Typical language development in L1 & L2

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## Bilingual Speech Development Involves

- Cognitive skills
- Articulatory, physiological maturity
- Structural integrity for speech execution
- Skills gained through meaningful L1 & L2 contexts
  - Motor planning and programming
  - Motor execution skills

In general, evaluating all in CAS assessment

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## CAS Assessment Part 1: Basic Bilingual Speech Assessment

- Both languages
  - Single words (with representative sounds)
  - Connected speech (load later-developing sounds, sounds in error)
  - Language samples
  - Perception of L1 and L2 contrasts
- In one language (typically L1)
  - Oral mechanism evaluation
  - Motor performance evaluation
  - Hearing testing

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## Whether or Not You Speak Child's L1

- Need to oversee assessment of both languages
- Research speech characteristics of L1
  - Phonemes, phonotactics, prosody relevant to child's dialect
- Learn/Review phonological features of language
- Consider how phonology of L1:
  - Differs from L2
  - Could affect presentation of CAS
- Can use L1 & L2 monolingual norms to understand bilingual<sup>19</sup>

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## English Assessment NOT Appropriate

- If child doesn't (yet) speak L2,
  - Results not valid, unethical to make them participate
  - Not testing core motor planning issues
- Still analyze L1 for potential shared properties with L2
  - Guides treatment and long-term planning

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## Bilinguals Differ!

- Sequential & Simultaneous Differences
- Status differences in languages may affect parent's understanding of L1 importance
- Different levels of exposure
- If one language much stronger, CAS assessment can be in that language only.
  - Especially when L1, the language of family
  - Regardless, consider implications for L2

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## Whether or Not You Speak Child's L1

- Examine/compare both languages in bilingual child
  - Possible cross-linguistic effects
  - Determine shared/unshared phonemes

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## Conducting the Bilingual CAS Assessment

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## CAS Understood through English Properties<sup>16, 17</sup>

- Strong-weak (Iambic) stress pattern
- High frequency of monosyllabic words
- Moderate number of consonants
- Many vowels
- Range of open and closed word shapes
- Large range of clusters in initial and final positions

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### 3 Key Differential Aspects

- Segmental Errors
  - Inconsistent consonant, vowel, tone errors in same words
- Syllable- or Word-Level Errors
  - Lengthened and disrupted articulatory transitions
  - Difficulty with sequencing and as words are longer
  - Breaks between consonants & vowels
- Suprasegmental Errors
  - Inaccurate / excess equal stress
  - Inaccurate intonation — often monotone speech
  - Variable rate, resonance, loudness, pitch at word and sentence levels

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### Other Reported Signs of CAS<sup>16, 26, 17</sup>

- Phonetic inventory > than phonemic inventory
  - Produces sounds that doesn't use correctly.
- Uneven development of phonetic inventory
- Increased errors on longer utterances
- Consonant and vowel distortions
- Groping
- Gestures
- Diadochokinetic tasks slow/fast/irregular

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### Differential Signs in Bilinguals or L1?

- Still difficulties in
  - motor planning and programming of speech
  - phonemic, phonotactic, prosodic planning difficulties
- But assumed characteristics of CAS have English prototype
- Actual speech characteristics of CAS likely depend on language properties
  - Importance of segmental, syllable, suprasegmental factors
  - What impact CAS has on utterance

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## Consider Motor Programming and Planning for CAS in L1

- Phonemes
  - Consonants, vowels, tones
  - More, fewer, different
  - Similar phonemes with differing phonetic properties
- Syllable and word properties
  - Different word shapes, monosyllabic vs multisyllabic words
- Prosody
  - Different stress, intonation, emphasis patterns

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## In Caregiver's Preferred Language

- Diadochokinesis\*
- Syllable Repetition Task\*<sup>27</sup>
- Maximum Performance Protocol\*<sup>28</sup>
- DEMSS\*<sup>29</sup>

*\*Adapt standardized protocol so relevant for child's L1*

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## Adapt Key Aspects of CAS Test for L1

- Maximum Performance Protocol and/or DDK
  - Open/close movements of jaw (syllable)
    - Alternating place of articulation with neutral vowel
  - Rhythmicity, rapidity, ability to sustain articulatory gestures
- DEMSS
  - Consistency of motor planning for meaningful syllable shapes & word lengths in a dynamic approach
  - Systematically increasing complexity and length of motor plan
- Syllable Repetition Task
  - Early consonant accuracy in differing sequences & increasing length

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## In Family's Preferred Language

- Caregiver Interview/Background
- Proficiency & Use of Each Language
- Speech Mechanism Evaluation
  - Evaluate range of motion, symmetry, coordinated movement
- Nonverbal oral apraxia
- Signs of dysarthria

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## Caregiver Interview in Home Language

- Developmental, Medical, Family History
  - Proficiency & use of each language by all caregivers
- Current mode of communication
- Motor skills
- Specific concerns
- Knowledge of CAS, SSDs
- Current & needed vocabulary
  - [Functional Communication Parent Questionnaire](#)
- Specific goals of assessment

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## Language Competency and Use<sup>23</sup>

- For each language, map:
  - Length of time the language has been spoken
  - Proficiency in the language
  - Frequency of use of language
  - Context the language is used in

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### Other Caregiver / Teacher Questions

- Is the child receiving ESL services? How long?
  - how is the child comparing in language-learning to his/her peers?
  - If learning English is taking longer than peers, may be a sign of a communication disorder.
- Child's academic success?

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### Other Caregiver / Teacher Questions

- How does the child's language-learning compare to their bilingual peers also learning English?
- How does child communicate with peers in play?
- Who does the child spend time with?
  - What language(s) do these individuals speak to the child? And the child to these individuals?
  - What language(s) do the child's siblings speak? Ages, number of siblings?

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### Culturally Sensitive Techniques<sup>24,25</sup>

#### Parent Questionnaire

- FOCUS (Focus on the Outcomes of Communication Under Six)
  - (1) My child's speech is clear.
  - (26) My child makes friends easily.
  - (27) My child is comfortable when communicating.
  - (28) My child can communicate independently.
  - (29) My child needs help to be understood by other children.

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## Culturally Sensitive Techniques<sup>24,25</sup>

### Parent Questionnaire

- Intelligibility in Context Scale
  - Do you understand your child?
  - Do your child's friends understand your child?

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## In L1 & L2 Separately

- Single-word articulation test or sample
  - In a row to see if motor plan can be maintained (DEMSS)
  - Words repeated on separate motor plans (NOT in a row)
- Connected speech sample
  - Contrast stress, intonation patterns
  - Compare words that increase in complexity
    - Phonemic, phonotactic, length

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## In Speech Sample or Task in L1

- Repetition of multisyllabic words
- Evaluate volitional control of loudness, rate, pitch, resonance
- Trial therapy with cueing strategies
  - Tactile, visual, auditory, kinesthetic

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# Post-Assessment Considerations

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# Use a Strengths-Based Approach

- Understand what they CAN do
  - Sounds
  - Syllables
  - Suprasegmentals
- Understand what they can do in each language
  - bootstrapping from one language to the other

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# Post Assessment Analysis: Speech

- Independent analysis
  - Phonemic & phonetic inventory
    - Consonants, Vowels, Tones
  - Syllable & word shapes
  - Prosody
- Relational analysis
  - Phoneme accuracy
    - Consonants, Vowels, Tones
  - Percent consonants and vowels correct
  - Word shape errors
  - Prosodic errors

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### Additional Speech Sample Analyses

- Compare words that increase in complexity (segments, clusters, diphthongs, lengths)
- Does accuracy decrease in longer words?
- Inconsistent vs patterned errors
- How do multiple productions of words compare throughout assessment
- How do abilities differ across languages?

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### Look at Composite Speech Abilities

- Better with shared sounds/word shapes in one language over the other?
- Are there sounds absent in one language that are produced in the other?

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### CAS Checklist: Both Languages

- Contrast suprasegmentals. Is there volitional control of
  - Intonation
  - Stress variation
  - Loudness
  - Rate
  - Pitch
- Compare words, and sounds in syllables and words that increase in complexity
  - Phonetically
  - Phonotactically
  - Word length
- Compare repetitions of multisyllabic words.
  - Are the errors and motor plans similar?

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## Stimulability

- Can child produce difficult sounds in syllables with cues?
  - Tactile
  - Visual
  - Auditory
  - Kinesthetic
- Can child produce longer words/utterances with cues?
  - Tactile
  - Visual
  - Auditory
  - Kinesthetic

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## Bilingual Assessment Outcome Goals

- Motor planning/programming deficits in L1 & L2 & overall
- Accurate profile of L1 & L2 speech
- Crosslinguistic Effects
  - How L1 affects L2 and vice versa
  - Whether skills shared across languages
  - Possibilities for bootstrapping
- Intelligibility in various contexts
  - How speech affects activities & participation
- Differences in speech in different environments

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## Evaluating Bilingual Assessment Results

- **Bilingual Speech Framework:** Independent/Relational Analysis
  - If bilingual, of both languages
  - Examine as composite
  - Disparities between two languages?
- Compare to "typical" for child's environment. If not possible,
  - Ask for expert language opinion (professional, parent, etc.)
  - Look at universal norms
    - For bilingual, tentatively compare to 2 monolinguals

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## L1 & L2 Speech Framework

- Inventory
  - Vowels, Consonants, Word Shapes, Suprasegmentals
- Relational analyses
  - Vowels, Consonants, Word Shapes, Suprasegmentals
  - PCC, PVC
  - Error types
  - Consistency of errors
  - Comparison of multisyllabic word productions

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## Modified CAS Tasks

- Consider what CAS specific testing tells you about CAS and motor planning and programming
  - SRT, DEMSS, MPP, DDK
  - Consider impact of L1 on these tasks
- Determine whether findings support CAS diagnosis

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## Diagnosis: Convergence of Evidence

Multiple signs of motor planning disorders in multiple tasks

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## Motor Planning Difficulty Evidence

- Inconsistencies
  - across words
  - in repetition of words
- Distortions
- Phonetic inventory > phonemic inventory
- Difficulty regulating/changing motor plans

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## Motor Planning Difficulty Evidence

- Suprasegmentals
  - Excess equal stress
  - Difficulty with intonation, pitch
- Motor performance tasks
  - DDK rates, rhythmicity, segmentation errors
  - inability to sustain repetitions of alternating gestures
  - Maximum Performance Protocol
- SRT scores
- Adapted DEMSS observations

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## Considerations in Convergence of Evidence

- Age
- Severity
- Amount of input
- Previous therapy

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## Summarize Findings

- Identify impairment
- Consider impact of CAS to-date
- Consider language of intervention needs
  - Needs differ over time
  - Might not be in L2 yet
  - Might not be in L1 yet

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## Reporting Results

- Explain how testing was conducted and who assisted in assessment
- Determine presence of communication disorder or language difference
  - Usually if skills in native language & English below normal limits → communication impairment
  - Usually if skills in native language normal; English below normal limits → language difference
- Recommend language(s) of treatment
  - At this point in time

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## To Avoid in Assessment

- Monolingual assessment of bilinguals
- Reporting norms for test not valid or standardized for bilinguals
- No mention of language in reports
  - Of assessment
  - Of family
- One-language view for individuals with disorder

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## Example – CAS in Spanish-English Bilingual

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## Vowels: Spanish Differences from English

- fewer vowel contrasts
- no tense/lax distinctions
- no stressed/unstressed vowel quality changes
  - greater importance of minimal vowel distinctions in English
  - allophonic variation greater in Spanish? Overlap with English vowels?
- steady state vowels versus non-phonemic diphthongs
- vowel motor planning errors lesser role in Spanish?

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## Consonants: Spanish versus English<sup>9</sup>

### Spanish-Only

- Phonemes: /r, ɲ, x, r /
- No voiced spirants
- Unaspirated voiceless stops

### English-Only

- Phonemes /ŋ, v, z, ʒ, θ, ʃ, ðʒ, ʃ/
- Phonetic Properties
- Aspirated voiceless stops

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## Utterance Shape Comparison

- English
  - Monosyllabic words predominate
  - Longer words less frequent
  - Within-syllable shape most meaningful contrast
  - Consonant sequencing
  - Final consonants
- Spanish
  - Multisyllabic words predominate
  - Lesser reliance on syllable shape
    - ◻ Few final consonants
    - ◻ All final consonants voiced
  - Greater reliance on word length, syllable combinations

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## Spanish Word Length Properties

- Few monosyllabic content words
- Words primarily multisyllabic
- Word stress typically on the penultimate syllable.
  - If 3+ syllables typically unstressed initial syllable.

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## CAS in Spanish Presentation

- Vowel errors lesser impact
- Syllable & utterance-level errors largest impact
  - Consonant distortions from only partial obstruction of consonants
  - Motor planning errors
  - Inconsistent
  - Sequencing of phonemes
- Syllable lengths don't change in stressed/unstressed syllables
  - Excess equal stress
- Suprasegmentals
  - Intonation patterns?

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## Revising Syllable Repetition Task<sup>27</sup>

- Imitation task that assesses the speaker's ability to accurately imitate syllable sequences ranging from 2 syllables to 4 syllables, composed of four early consonants /b, d, m, n/ and the vowel /a/
- Adapt standardized protocol if language environment relates to child's differences, errors

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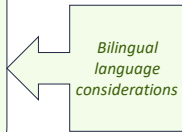
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## Adjusting SRT: Spanish-English Bilingual

- Nonlanguage specific
  - If sounds not present in child's language?
  - What phoneme has similar place & manner in their language?
- Vowel difference? Accept as SRT target
  - [mada] > [mada]
  - [manaba] > [manaba]



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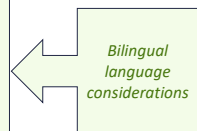
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## Adjusting MPP: Spanish-English Bilingual

- Are sounds present in their language?
  - If not, what phoneme has similar place & manner in their language?
    - /z/ & /s/
- Consonant differences? No, same
  - If only voiced consonants,
    - [pʌ.tʌ.kʌ] -> [bʌ.dʌ.gʌ]
- Vowel difference? Yes
  - [pʌ] > [pə]



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### Adjusting DEMSS: Spanish-English Bilingual

- Increase in complexity with real words  
 - CV, VC, C<sup>1</sup>V<sup>1</sup>C<sup>1</sup>V<sup>1</sup>, C<sup>1</sup>VC<sup>1</sup>, C<sup>1</sup>VC<sup>2</sup>,  
 C<sup>1</sup>V<sup>1</sup>C<sup>2</sup>V<sup>1</sup>, C<sup>1</sup>V<sup>1</sup>C<sup>2</sup>V<sup>2</sup>, CVCVCV
- Examine X, Y, Z
- Typical real word shapes in Spanish  
 - CV, VC, VCV, C<sup>1</sup>V<sup>1</sup>C<sup>1</sup>V<sup>1</sup>, C<sup>1</sup>VC<sup>1</sup>, C<sup>1</sup>VC<sup>2</sup>,  
 C<sup>1</sup>V<sup>1</sup>C<sup>2</sup>V<sup>1</sup>, C<sup>1</sup>V<sup>1</sup>C<sup>2</sup>V<sup>2</sup>, CVCVCV,  
 CVCVCVCV

*Bilingual language considerations*

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### CAS Example – Spanish

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### Angel – 3;9

- English PreK, L1 Spanish
- Failed Spanish screener.
- Parent & teacher concern
- Extremely limited English
- Intelligibility: 5%
- Evaluation in Spanish-only

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## Converging Evidence for Cruz

- Distorted Cs
  - Inconsistency across words
  - Errors increasing in longer words
  - Excess equal stress
  - Phonetic inventory > Phonemic Inventory
  - Adapted MPP results
  - DDK results
  - Groping
  - Cross-linguistic generalization difficulty in trial therapy.
- Severe CAS

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## Summary

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## What a Bilingual Assessment Provides

- A full understanding of CAS in the whole child
  - Including different presentations in L1 and L2
- Knowledge of child's strengths & weaknesses
- Possibly transfer of skills from L1 to L2
- More information for intervention decision...

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THANK YOU!

Click to Access

REFERENCES & RESOURCES

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