

IOWA

Supporting Multilingual Learners and Complexity Approaches to Intervention

ChildServe 2025

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Communication Sciences and Disorders*



All the resources from
this presentation are
available here



Hi!

- SLP and Assistant Professor, [University of Iowa](#)
- Director, [Clinical Linguistics and Disparities Lab](#)
- I am Third-Generation Mexican-American
But Spanish is not my first language...



IOWA



Agenda

10:15 - **Break**

Reframe our View of Multilingual Learners

Upgrade your Collaboration with Interpreters

SLPs: Know Your Multilingual Learners

Innovations in Multilingual Assessment

12:00 - **Lunch**

How to Support Home Language in Intervention

2:15 - **Break**

How to Use the Complexity Approach for Speech

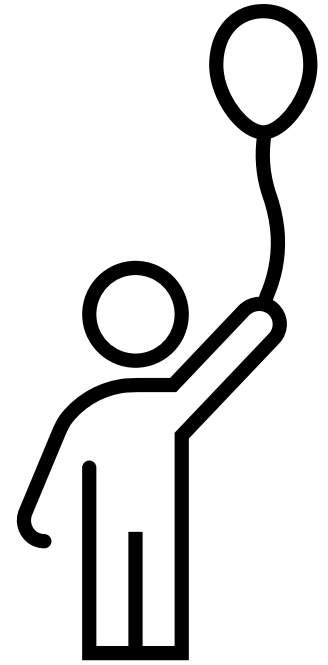
Create Action Plans

Our Learning Agreement

- Make yourself comfortable. Use this space however you need.
- Lessons leave with you, stories stay here
- We teach and support. No shame and blame.
- **You:** ask questions anytime **Me:** license to come back
- **Me:** Overabundance of slides, may or may not cover them all
- **You:** Commit to applying two things you learn today

A Different View on Multilingualism

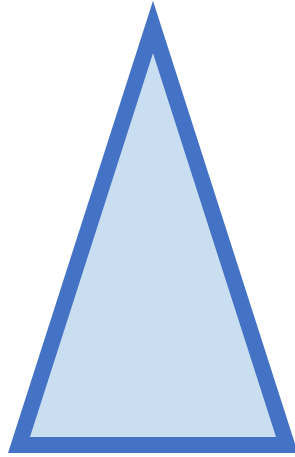
To improve how we support multilingual learners, we need to reframe how we think about multilingualism



Self-Reflection



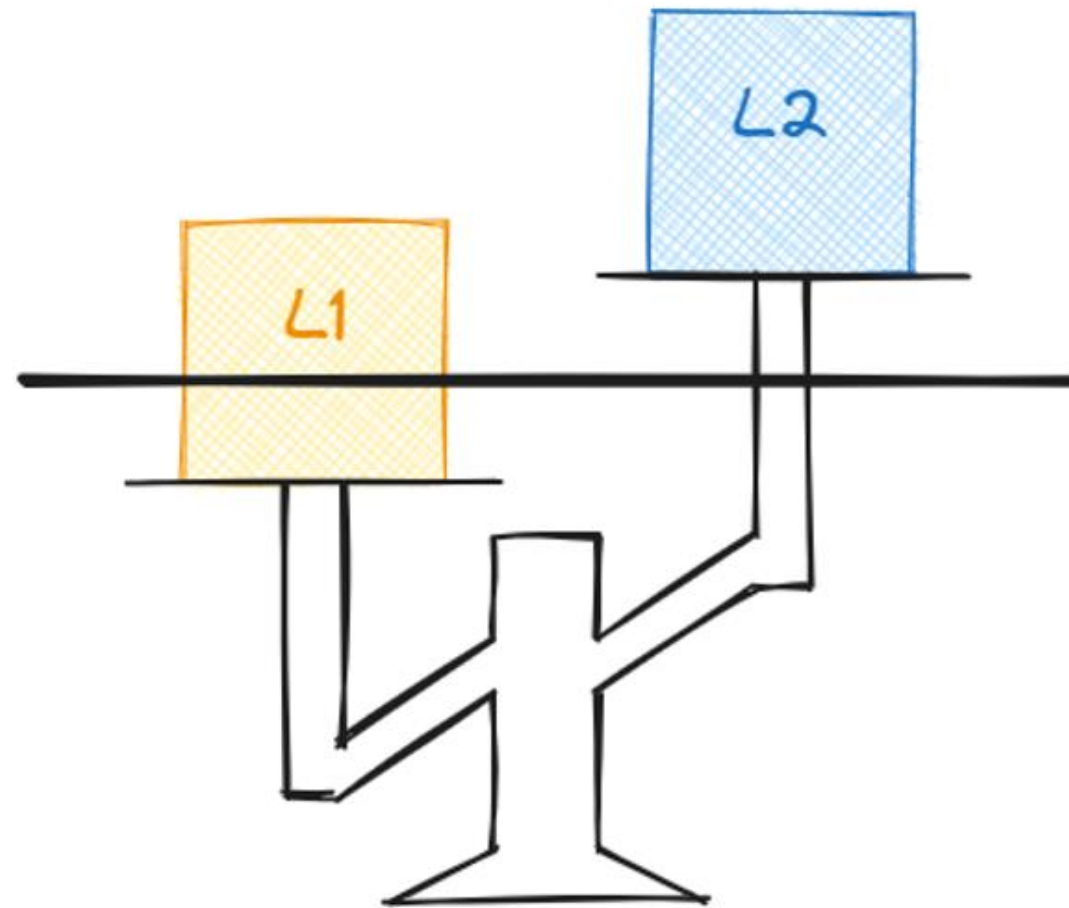
**Monolingual
Expectations**



Multilingualism

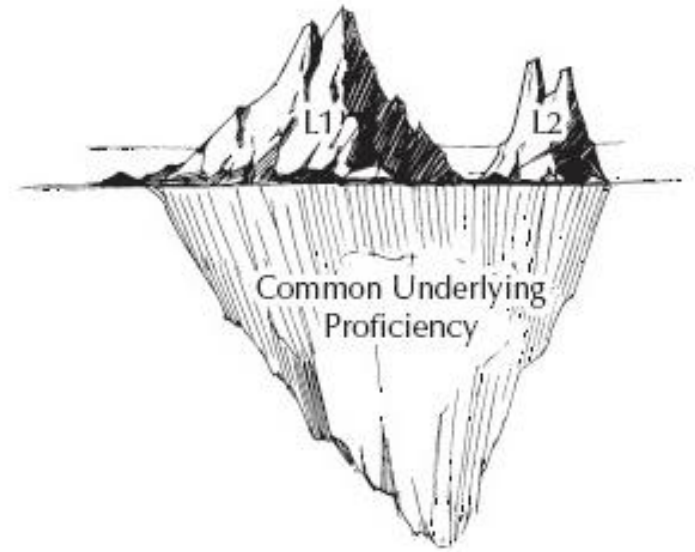
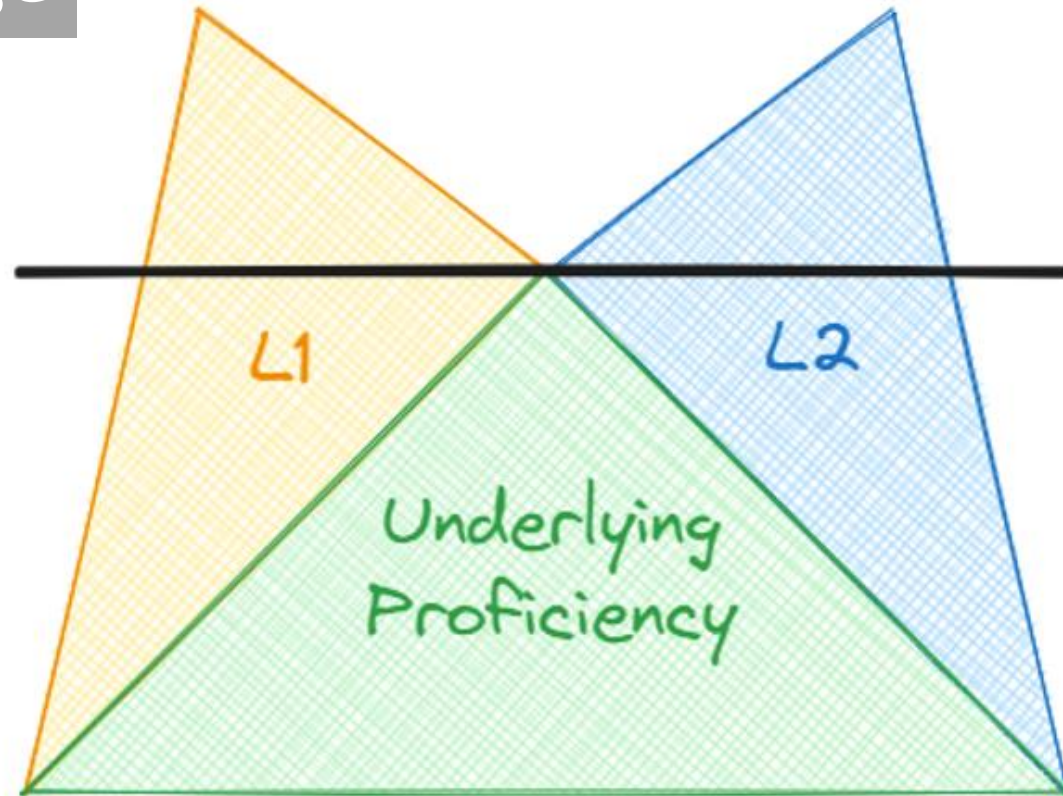


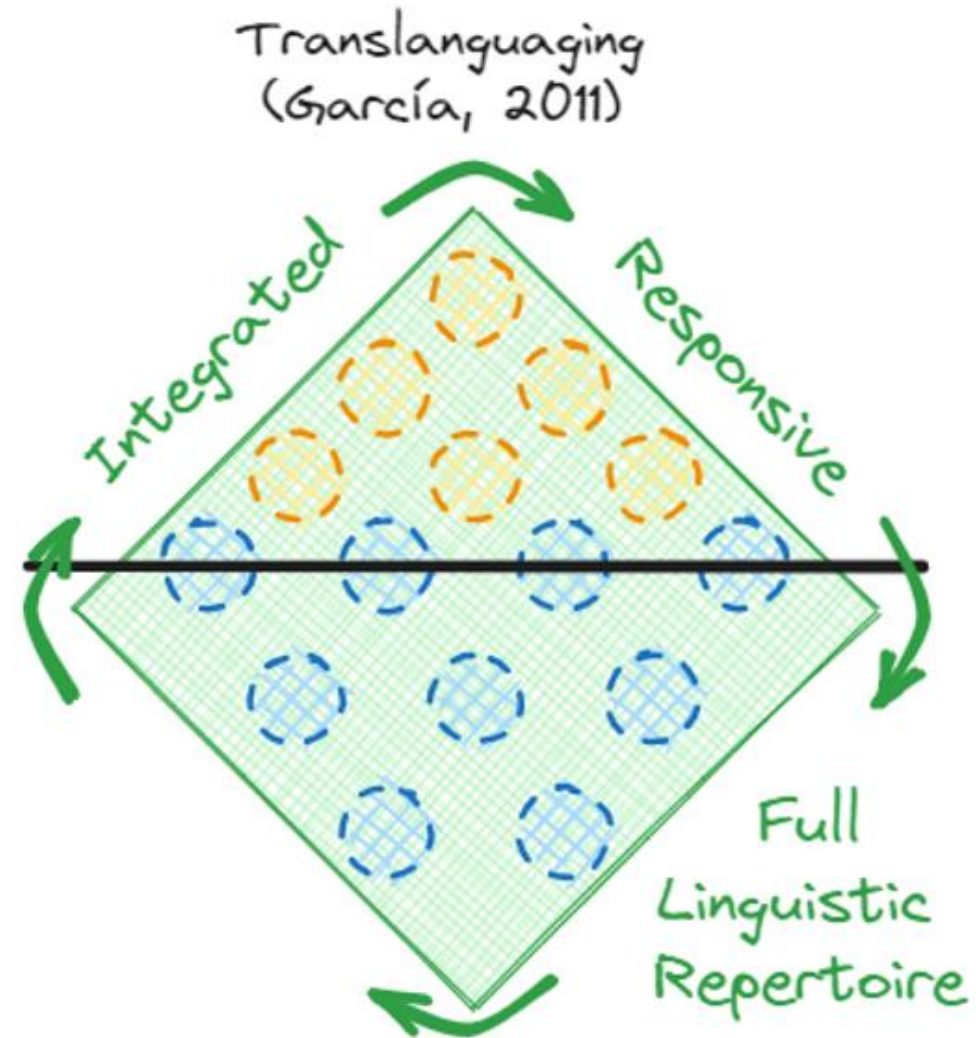
Deficit Model
Macnamara (1966)



Big “L” language
vs.
Little “l” language

Language Interdependence
(Cummins, 1990)

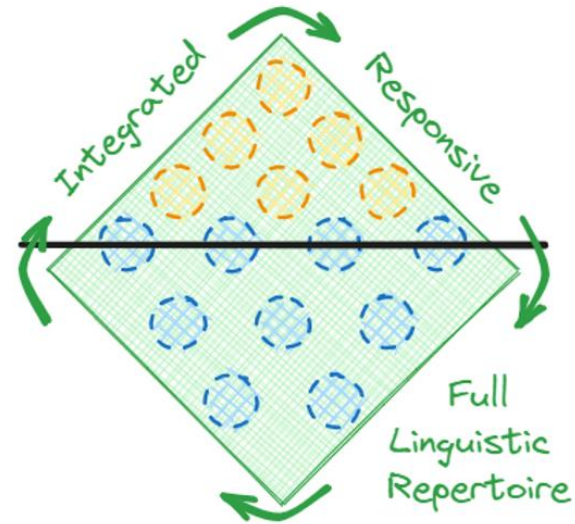




See also: Garivaldo & Fabiano-Smith (2023)

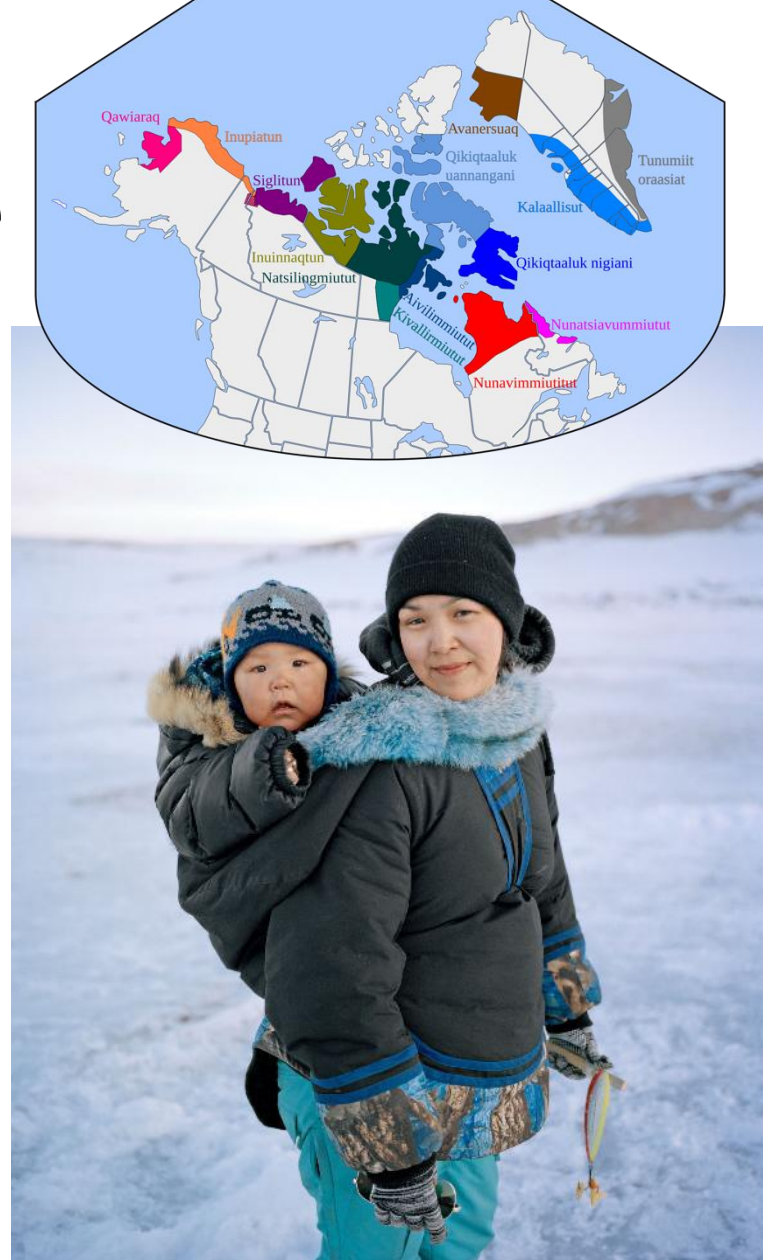
A Different View on Multilingualism

To improve how we support multilingual children, we need to reconsider how we conceptualize multilingualism



Canadian Inuit Language-Culture

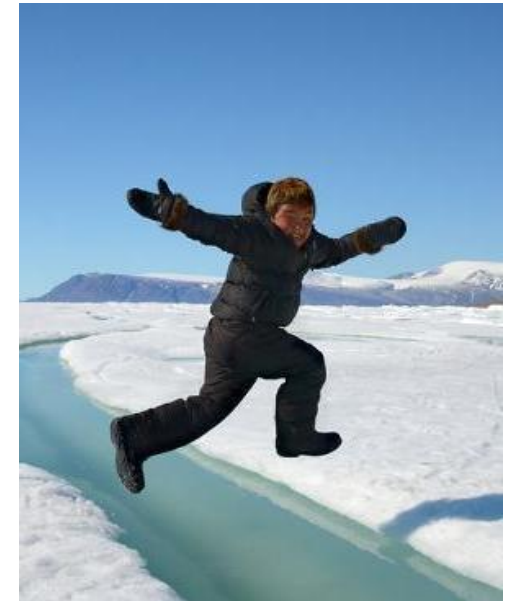
- Mothers typically communicate around their babies but not directly to them
- Babies addressed with rhythmic, rhyming talk
- Early vocalizations are not acknowledged
- Children converse with peers, not adults
- Literacy is not emphasized or practiced while young



Pauloosie

Boy, age 8

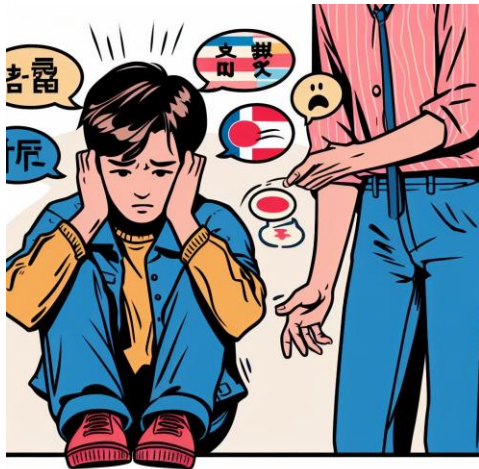
- Sequential language learner (Inuktitut > English)
- Isolated Inuit settlement in Northern Quebec, Canada
- Large family, school in Inuktitut until 2nd grade.
Literate in Inuktitut. Now English in school.
- Other siblings schooled in French.
- Academic rules different between Inuit and Canadian culture (sharing work, etc.)
- Exposed to new academic and other culture at age 8.



Why support multilingualism?

- Culture, family, community membership, and identity

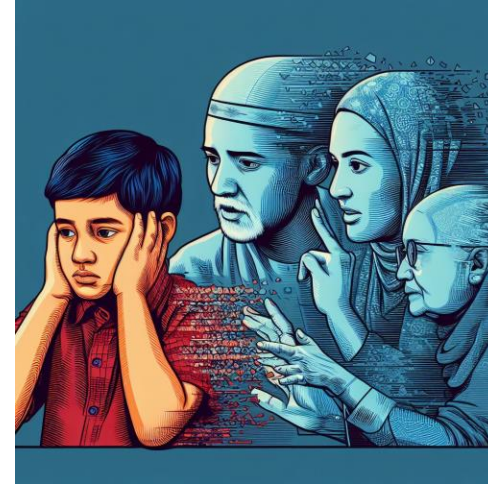
What is lost when children and parents cannot communicate easily with one another?



Wong-Fillmore (1991); Oh & Fuligni, 2010; Yan (2003); Oh & Fuligni, 2010

Why support multilingualism?

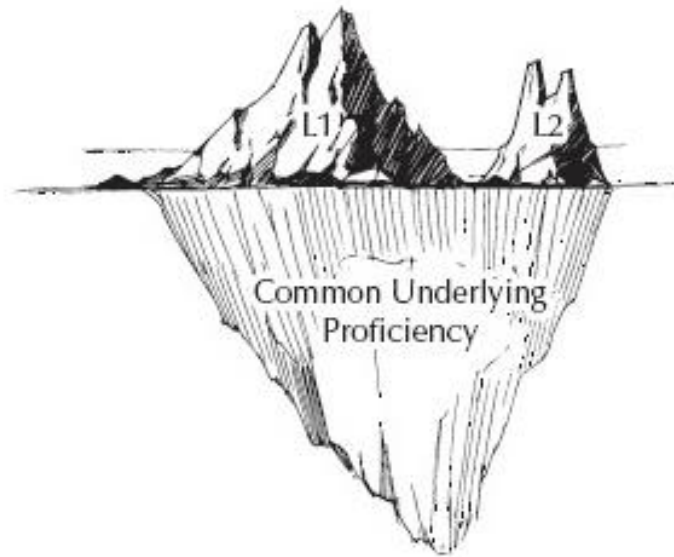
- Culture, family, community membership, and identity
- Language development opportunities



Hammer et al. (2012); Pham & Tipton (2018); Rojas et al. (2016); Sorenson Duncan & Paradis (2020)

Why support multilingualism?

- Family, community membership, and identity
- Language development opportunities
- Strong home language = Stronger school language



Cummins (2000); Gutiérrez-Clellen (1996); Kohnert, Kim, Nett, Kan, & Duran (2005);
Castilla, Pérez-Leroux, and Restrepo (2009); Oller & Eilers (2002)

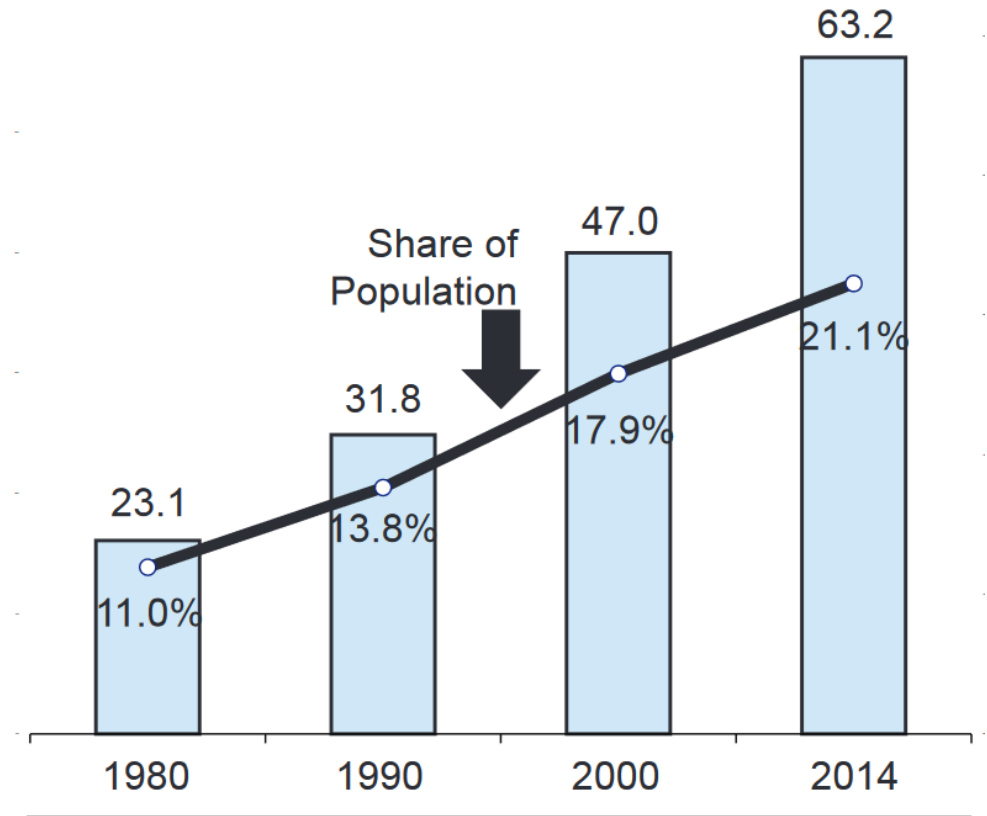
Multilingualism as a necessity

- Navigating a multilingual environment is usually a necessity, not a choice
- We must recognize the **value of the home language** in
 - forming parent–child relationships
 - establishing family and community connection
 - a child’s cultural identity within the family



Changing U.S. Demographics

- More than **350 languages** are spoken in homes across the U.S.
- **1 out of every 5** children speaks a language other than English at home

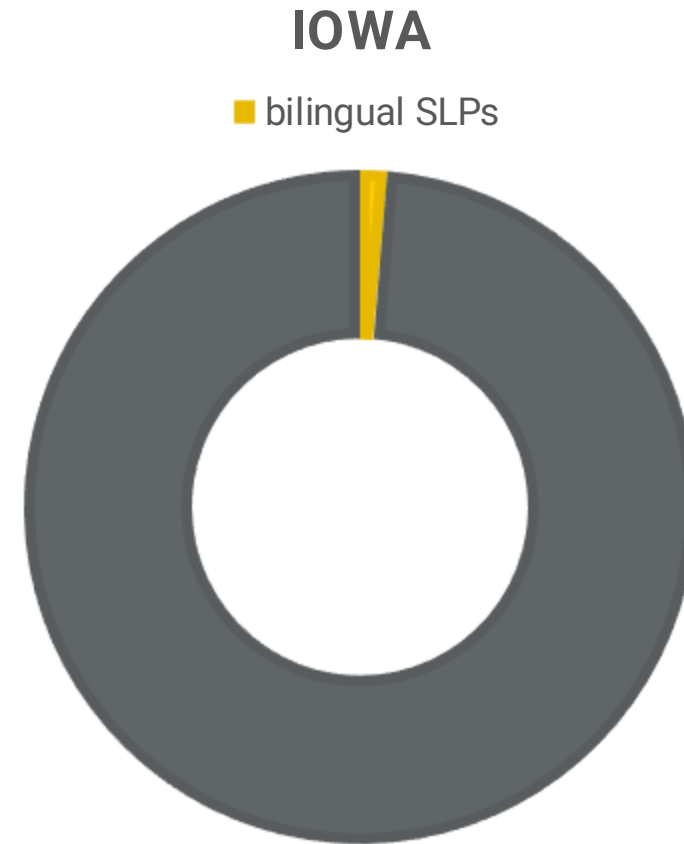


Source: Data for 2000 and 2014 are from [American FactFinder](#) for the American Community Survey and 2000 census. Figures for 1990 are from the [1990 census](#). Figures for 1980 are from the [1980 census](#).

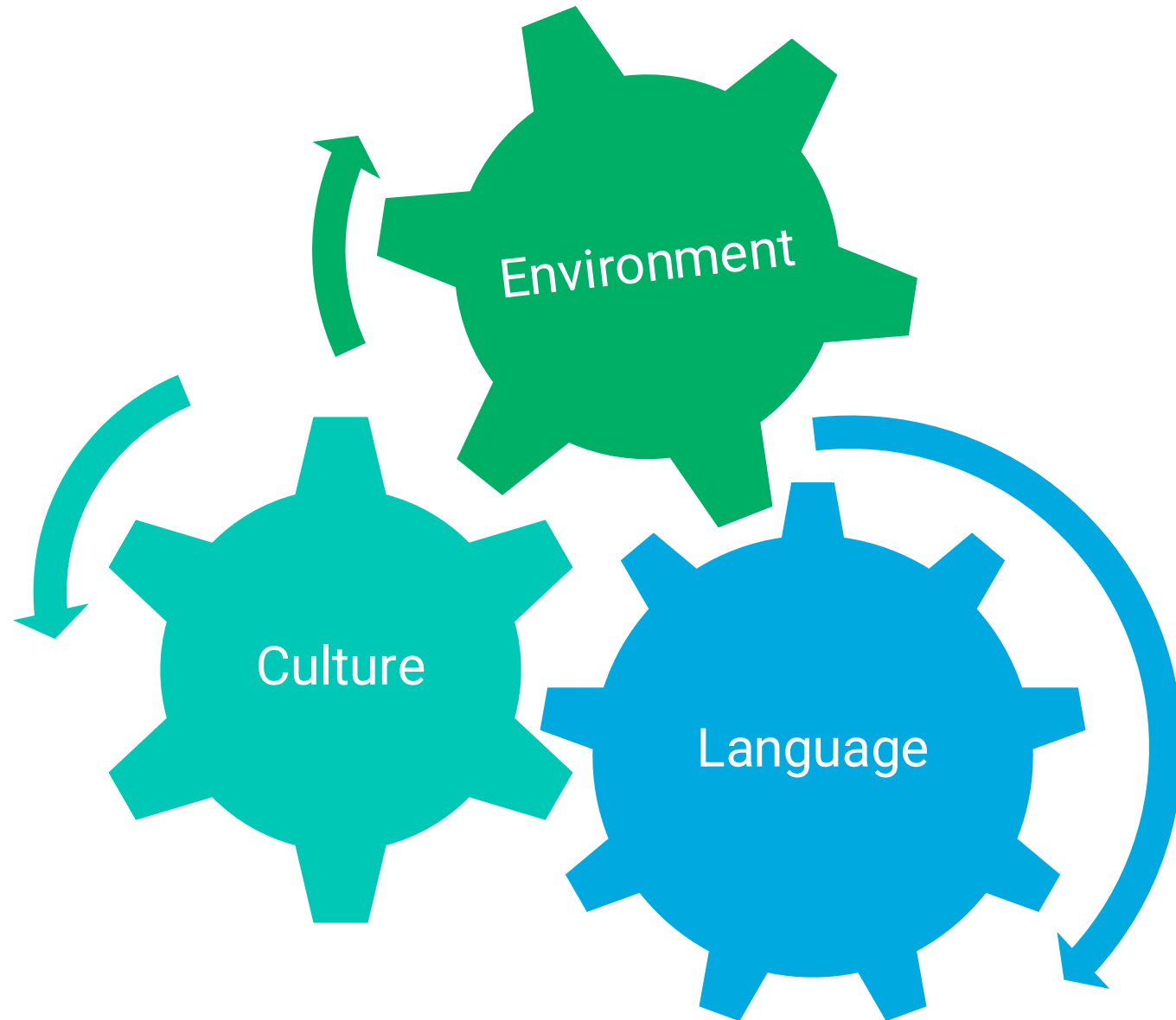
Camarota & Zeigler (2015)

Iowa

- 7.7% in Iowa speak a language other than English at home.
- **250% increase** in children learning English as a second language since 2000
- 1.3% of SLPs identify as bilingual service providers



ASHA Bilingual Service Providers, Year-End 2017



Reflect and Collaborate

Identify a multilingual learner that you know or support/supported. What is a characteristic of their environment that might affect their communication or participation in session?





Upgrade your Collaboration with Interpreters

Stages of L2 Development in Children

1. Home language use

2. Nonverbal period

Is this a non-communicative stage?

3. Formulaic language use

4. Semi-productive language use

5. Productive language use

Is there a set amount of time to reach this stage? **No**

Is a child perfectly fluent in English at this point? **No**

L1 = Home/Heritage Language
(e.g., Spanish, Arabic, French, etc.)

L2 = Second Language
(e.g., English)

An Illustration of L2 Development



A Necessity

- For most multilingual learners, a multilingual environment is a necessity, not a choice
- We must recognize the **value of the home language** in
 - optimal language development
 - forming parent–child relationships
 - establishing family and community connection
 - a child’s cultural identity within the family

Factors Affecting Rates of L2 Acquisition

- Motivation, Personality/social interaction
- Age of acquisition
- Similarity/overlap between L1 and L2
 - Similarity/overlap is facilitative
- Quantity/quality/types of L2 exposure

Overview of L1 and L2 Trajectories

- Majority L2 (English) rapidly increases upon onset
- Typically, dominance shifts to English over time
- A Minoritized L1 (Home/Heritage Language) is vulnerable to loss/attrition without continued support
 - Minoritized L1 can continue to develop with family, school, and community support

Anyone Can Support Language

- Create a translanguaging environment
- Be inquisitive about home languages
- Become a cheerleader for culture, communication, and expression

Take actions to ensure language access...

How to Support Families with Interpreters

- Make the time to get to know families. Build trust.
- Acknowledge the additional burden of communicating through and interpreter in a challenging situation for the family
- **Goal:** Communication as successful as if all parties were using the same language
- Confirm the most appropriate way to ensure language access.

Providing Language Access

- During a conversation **prior** to a planned initial session, clearly confirm full language access or confirm plan for access
 - Most comfortable language (and dialect) for caregivers
 - All languages (and dialects) in the child's environments
 - Child's preferred or most dominant language

*First, I want to confirm the best language environment for our meeting. We will discuss any concerns you have about your child, and your goals for them. What is the most comfortable language for you to have this conversation? **It does not have to be English unless that is your preference.***

*We will also assess your child in all the languages they speak or hear often.
What languages should we prepare for?*

Working with Interpreters: BID

- **B**rief – prior to the interaction away from everyone
- **I**nteraction – during the interaction
- **D**ebrief – after the interaction away from everyone

https://youtu.be/6cacw_U_MNk?t=19



Hyter & Salas-Provance (2023)
Langdon & Saenz (2015)

How to Brief an Interpreter



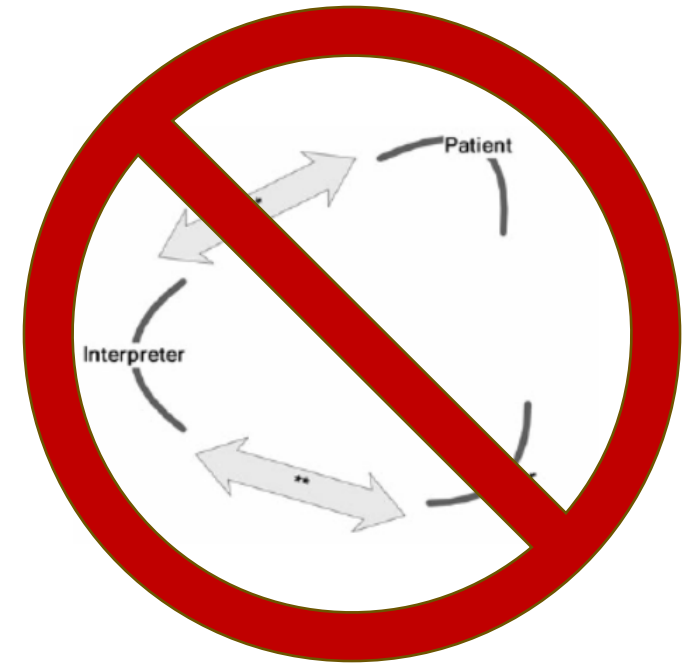
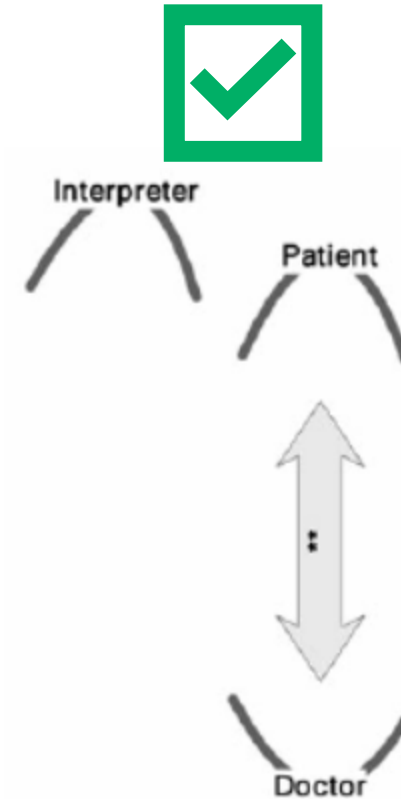
SLP IMPACT

Working with Interpreters: Briefing

- **Interpreter is a part of the health care team** (Li et al., 2017)
- Explain the purpose of the session, expected outcomes
- Describe participants and relevant session procedures
- Establish your role vs. interpreter's role
 - **For assessment/intervention**, establish and prepare for any client interaction, data collection or analysis assistance and debriefing
- Discuss dialect and culturally relevant aspects of communication
- Explain jargon/vocabulary you expect to use
- Bonus:
 - Establish controlling pace, such as pauses and sentence length
 - Plan a signal for when there is a misunderstanding during the processes
 - Introduce yourself in the language of the individual. Learn how to pronounce names

Working with Interpreters: Interaction

- Create an optimal setup
- Monitor pace. Chunk in 1-2 sentences.
- Remember: **three** languages are involved: *English, Family Language, Language of your Profession*
- Check in frequently for understanding and invite questions
- Speak directly to caregiver or child
- Paralanguage and proxemics



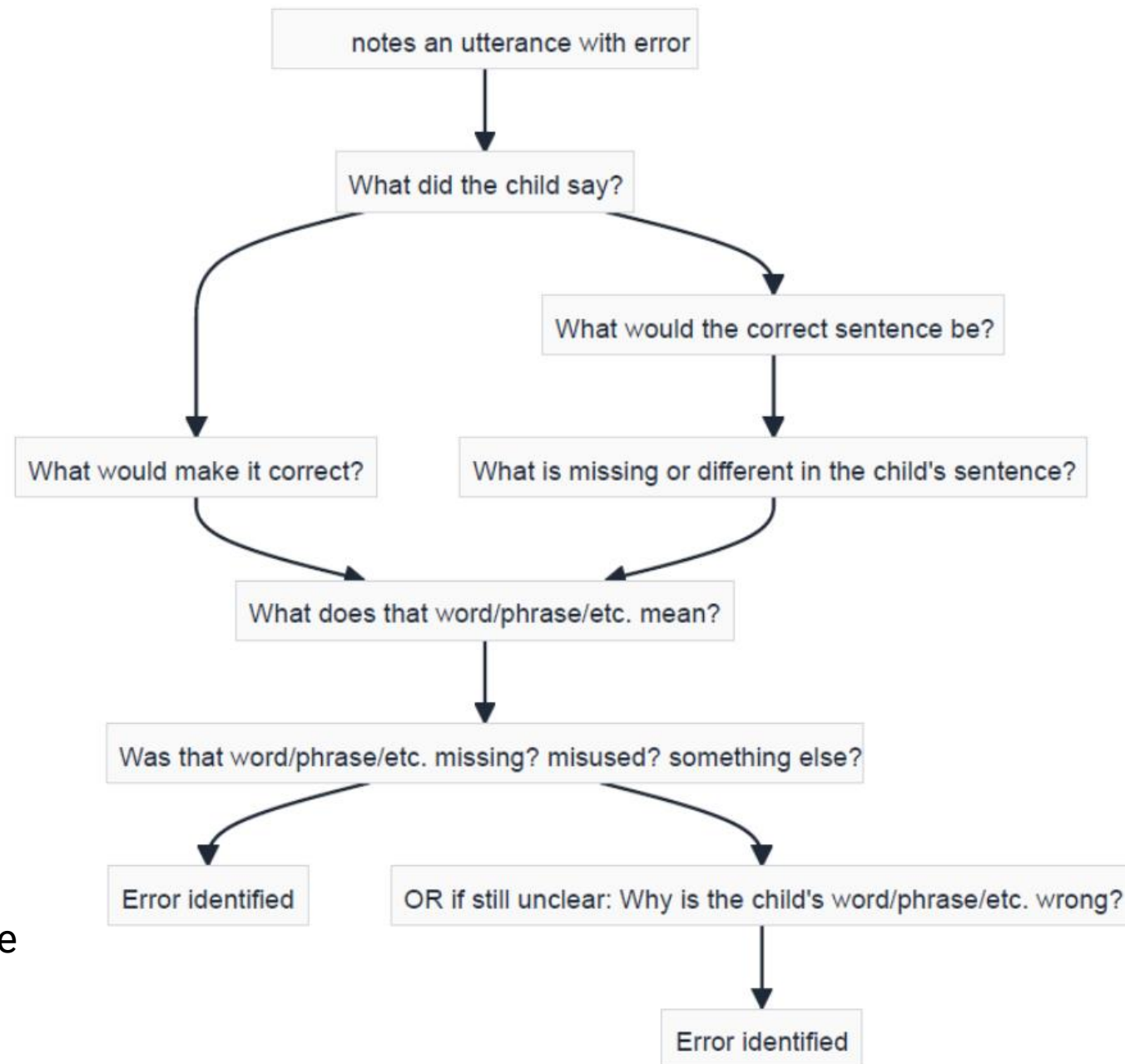
Working with Interpreters: Debriefing

- Ask about culturally relevant aspects of the interaction
- Review notes and discuss child responses
 - The better the prep/briefing, the more useful these notes can be
- Collect or shred any notes made by interpreter
- Later, in any reports, describe how interpreters were used, especially for assessment

Interpreter Debrief

Example: Language Sampling

- Check for language/dialect mismatch
- What did you notice about this child's communication?
- Were there any cultural aspects of communication we could discuss?
- How would you compare the way this child talks to other children of their age in the community?
- Estimated child mean length of utterance in # of words: _____
- Estimated percent of intelligible utterances: _____
- Estimated percent of utterances with one or more errors: _____



Take Action

To provide better language access for my families, I will...



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Up Next

Assessment with Multilingual Learners



Know Your Multilingual Learners

A Guide for SLPs

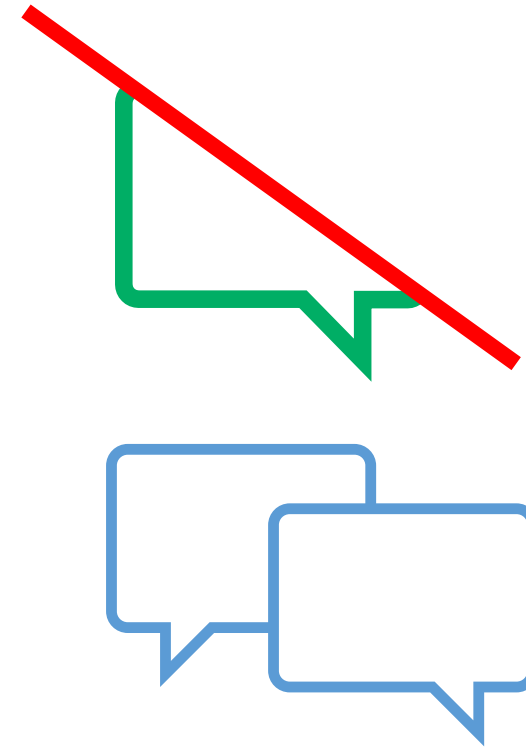
One Truth One Myth



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Best Practice for Bilingual Children

- Bilingual $\neq$ Language A + Language B!
- Assessment must measure skills in both languages
 - Otherwise, you may not distinguish typical bilingual development from a disorder
- Intervention/treatment must address both languages
 - Strong L1 = Strong L2 development



*Cummins, 1991; Gutiérrez-Clellen, 1996, 1999;
Kohnert et al., 2005; Yavas & Goldstein, 1998*

What Do We Do?

We Address Some Questions:

- What is unique about multilingual language development?
- How can we accurately identify speech or language impairment in multilingual learners?
- How can we provide culturally and linguistically responsive intervention for multilingual learners?

Disorder Within Diversity

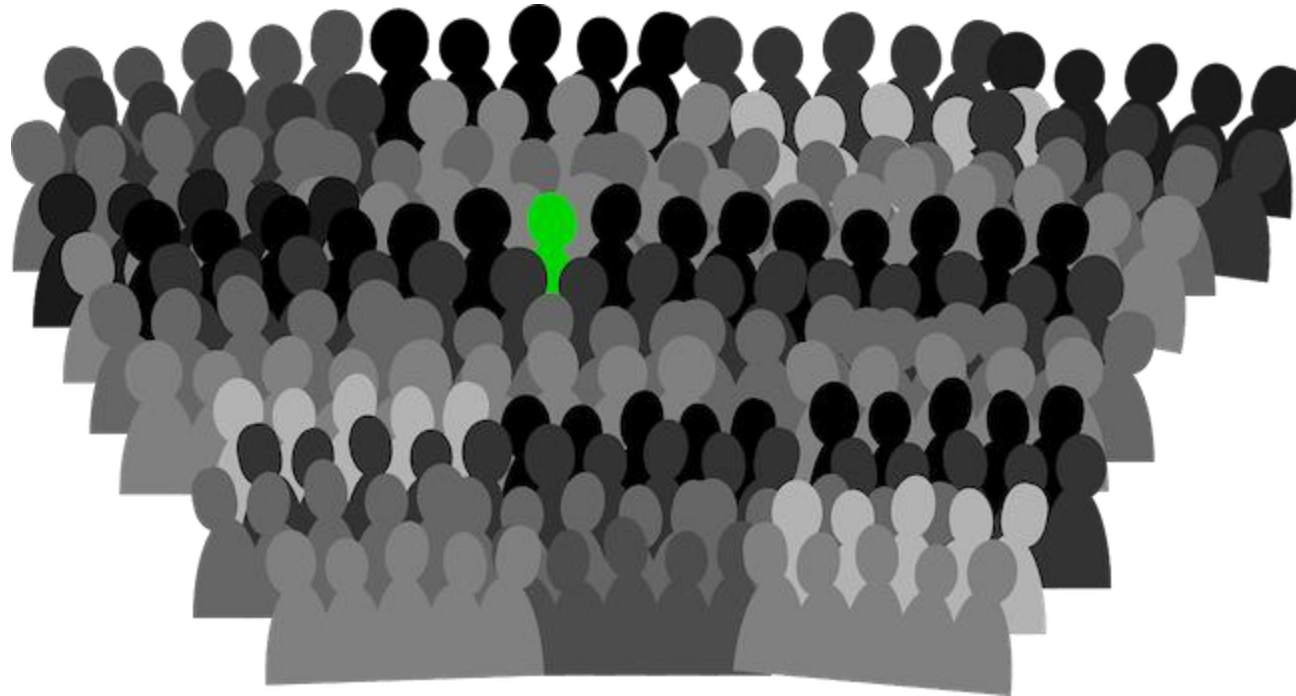


Image from:
Anna Mendoza
<https://annamend.com/>

Oetting (2018)

How Does Language Work Inside a Bilingual Brain?

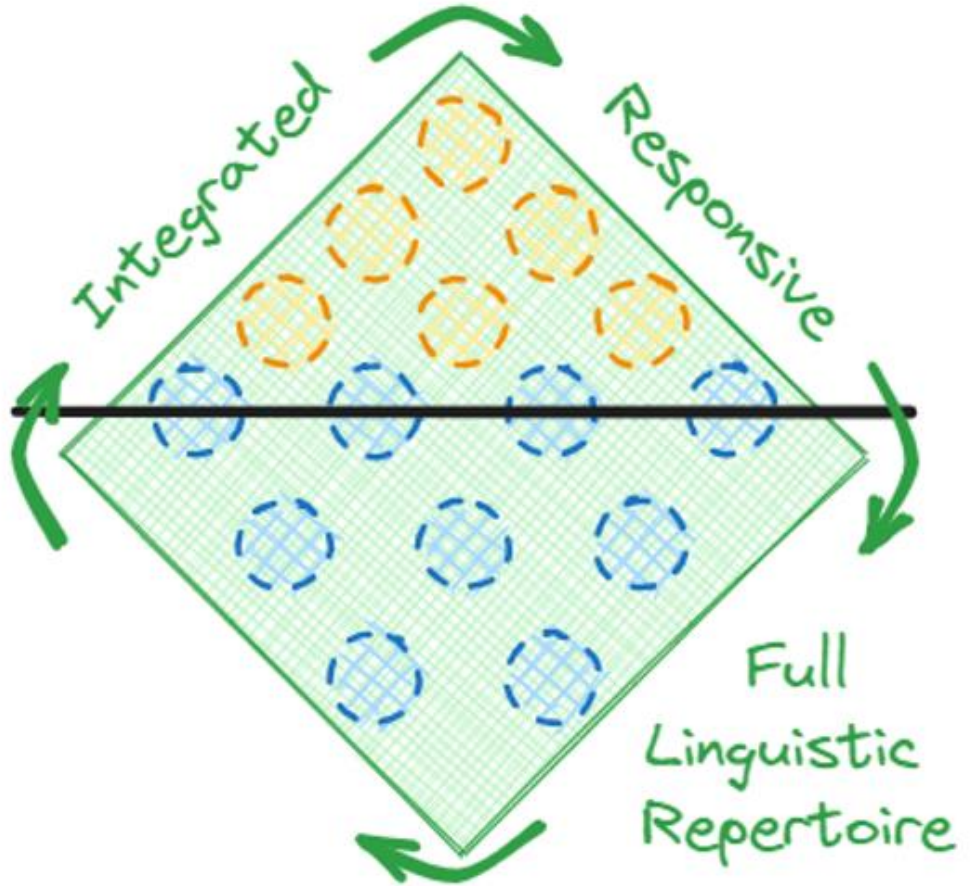


Did You Know?

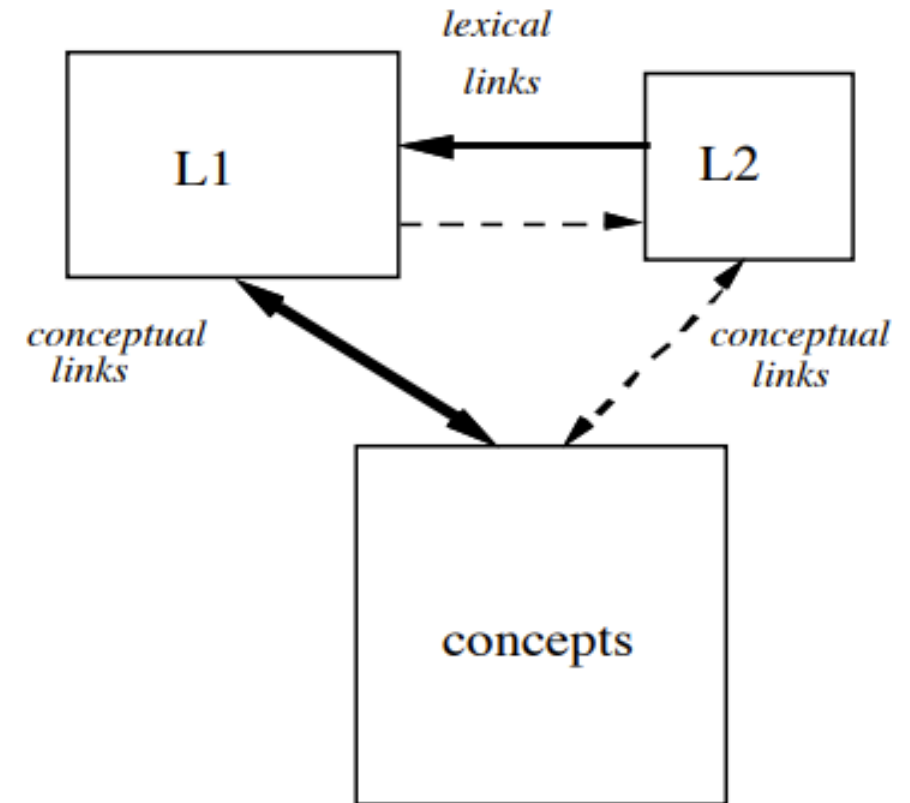
- When babies are <6 months old, they recognized phonetic differences for sounds of languages around the world!
- Between 6-12 months old, babies specialize to notice only the phonemes of the language(s) they are learning
- For multilingual individuals who have a first language (L1) and a second language (L2) that they begin to acquire later, aspects of the L1 can be used to support development of the L2.



Translanguaging (García, 2011)



Revised Hierarchical Model (Kroll & Stewart, 1994)



Cross-Linguistic Transfer

"I will eat tomorrow chicken nuggets."

Comeré mañana nuggets de pollo

Cross-Linguistic Transfer

The interaction between languages within a multilingual learner's complete language system

What Prompts Transfer?

- Degree of separation in the child's developing languages
- Features and patterns that **do** or **do not** overlap across L1 and L2
- Overlapping structures can facilitate L2 acquisition
- Non-overlapping L2 structures must be learned.
 - Until this occurs, the closest available L1 structure may be used instead
- Over time, as L2 proficiency and dominance develops, unique L2 language representations are created, and less transfer occurs

L1 → L2 Transfer in Development

- Direct transfer of L1 to L2
- Preference for a structure in the L2 that is similar to L1
- Avoidance of an L2 structure that contrasts with L1 structure for the same concept
- L1 transfer is most common at earlier stages of L2 acquisition

Examples from Phonology

Major source of transfer, especially L1 → L2

- example: Spanish-English bilinguals and /s/-clusters in English
 - In Spanish, /s/C or /s/CC onset clusters like /sp-/ or /stɹ-/ are not permitted
 - In English, /s/C or /s/CC onset clusters *are* permitted
 - You might note L1-influenced pattern in production of English:
 - “Spanish” /spæniʃ/ → [espæniʃ]

Spanish vs. English Phonology



Spanish

	Bilabial	Labio-dental	Dental	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Stops	p (b)		t (d)				k (g)	
Fricatives		f		s			x	
Affricates					tʃ			
Nasals	m			n		ɲ		
Rhotics				r ɾ				
Approximants	w β		ð	l		j	y	

English

Stops	p b			t d			k g	
Fricatives		f v	θ ð	s z	ʃ ʒ			
Affricates					tʃ dʒ			
Nasals	m			n			ŋ	
Liquids				l		ɹ		
Glides	w					j		h

Spanish vs. English Phonology

Red =
Does not occur in
other language

Blue =
Partial overlap

Green =
Overlap

		Bilabial	Labio-dental	Dental	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Spanish	Stops	p (b)		t (d)				k (g)	
	Fricatives		f		s			x	
	Affricates					tʃ			
	Nasals	m			n		ɲ		
	Rhotics				ɾ ʀ				
	Approximants	w β		ð	l		j	y	
English	Stops	p b			t d			k ɡ	
	Fricatives		f v	θ ð	s z	ʃ ʒ			
	Affricates					tʃ dʒ			
	Nasals	m			n			ŋ	
	Liquids				l		ɹ		
	Glides	w					j		h

Key Points

- Some language learning benefits may be cumulative.
- Language environments are crucial for understand the complete communication picture for multilingual learners
- Language exposure and dominance change over time and result in differences in language development across two languages.
- Strong home language = optimal outcomes
 - But home language is also the most vulnerable to attrition
 - Children with severe communication disorders can and should grow up multilingual, when that is their environment

Learning Check



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Innovations in Multilingual Assessment

Which Multilingual Learner is it Anyway?



Home Language Questionnaire

Child's name: _____ Sex: _____ Date of birth: _____ Age of child: _____

First name of informant: _____ Relation to child: _____

Daycare/Preschool/School: _____ Grade/Class: _____

Age at entry to daycare/preschool/school: _____ Number of days attended per week (*circle*): 1 2 3 4 5 6 7

Hours per day at daycare/preschool/school (*circle*): 1-2 2-3 3-4 4-5 5-6 6-7 7-8 9+

In the table below, list all languages your child currently speaks or understands. List in order of dominance.

- ❖ *Some languages are spoken in many countries or regions. Indicate the country or region of origin for each language.*
- ❖ *Indicate how well you believe your child uses each language, **compared to other children their age**.*

	Language	Country or region of origin	Your child's use of this language is...			
1			☐ Very Good	☐ Good	☐ Fair	☐ Poor
2			☐ Very Good	☐ Good	☐ Fair	☐ Poor
3			☐ Very Good	☐ Good	☐ Fair	☐ Poor
4			☐ Very Good	☐ Good	☐ Fair	☐ Poor

In the table below, list the members of the household by their relation to your child.

- ❖ Indicate the person's age.
- ❖ Indicate the languages the person uses with the child.
- ❖ Indicate how frequently the person spends time with the child each week.

[illegible]

In your child’s primary environments, indicate the languages they used or heard for each year of their life.

Ages	Language(s) At Home	Language(s) At School/Daycare	Language(s) At (fill in): _____
0–1			
1–2			
2–3			
3–4			
4–5			
5–6			
6–7			
7+			

Currently, how often does your child use each language **at home**? Please estimate using percentages (total of 100%):

List language(s) :				
List percentage(s) :				

Example:

<i>Korean</i>	<i>English</i>
80%	20%

How old was your child when they first started speaking words?

How old was your child when they were first consistently exposed to English?

Do you have any concerns about your child’s hearing?

How does your child express their needs? ☐sentences ☐phrases ☐one or two words ☐sounds ☐gestures

Does your child talk like other kids in your community or in your family of the same age? ☐Yes ☐No

Do you have any concerns about your child’s speech or language? ☐Yes ☐No

If yes, please explain:

Do you have any concerns about your child’s health or development? ☐Yes ☐No

If yes, please explain:

Has your child received speech or language therapy? ☐Yes ☐No

If yes, please describe when:

Is there anything else you’d liked us to know about your child?

Which Multilingual Learner is it Anyway?



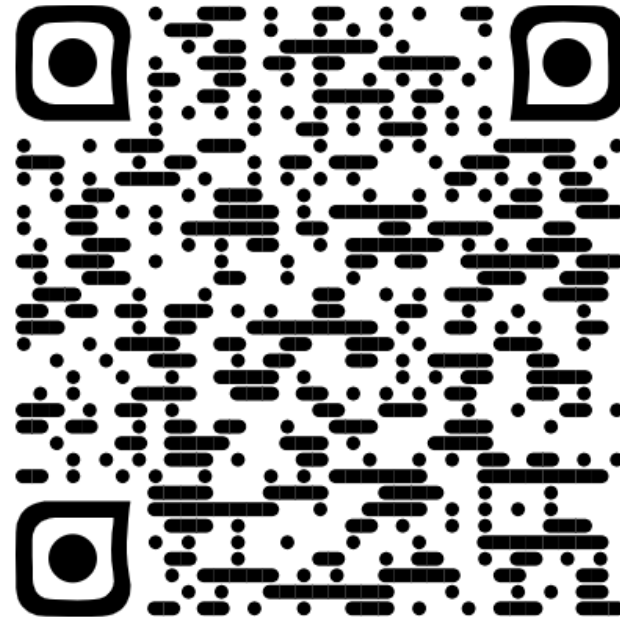
Principles of Assessment

- Acknowledge the child as an individual with an identity; learn from the child and their family
- Consider the impact of the child's unique **cultural** and **linguistic** profile on their communication
- Understand and document the child's multilingual **language environment**
- Assess each of the child's languages (**yes you can do this!**)
- Evaluate results according to the child's multilingual language development (i.e., **not monolingual norms**)
- Distinguish typical multilingual development from **multilingual development in the context of a disorder**

Language-Culture

- When someone learns a language, they also learn a system of customs, values, ways of thinking, feeling, and acting:
 - AKA Culture
- There is a bidirectional relationship between language and culture
- A **multilingual** child is a **multicultural** child

Culture and Language Resources



Collect a multilingual language profile

Part of intake or case history

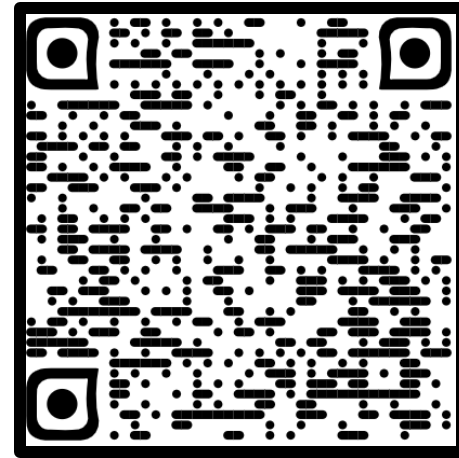
Meeting with Caregivers

- **Provide language access.** Whenever possible, use the language that is the most comfortable for the family
 - “We will be talking about X, Y, Z. What language would be most comfortable for us to talk about these topics?”
- Check in with and prepare interpreters when possible
- **Parental report is a tremendously valuable diagnostic indicator for multilingual learners**

Are you concerned about your child's speech or language?
How does your child's language compare to other children of their age in your community? **OR** to an older sibling at their age?

Surveys and Questionnaires

- [Alberta Language Development/Environment Questionnaire \(ALDeQ/ALEQ\)](#)
- [Language Experience and Proficiency Questionnaire LEAP-Q](#)
- [Intelligibility in Context Scale](#) (McLeod, Harrison, & McCormack (2012))
- [Home Language Questionnaire](#)
- Bilingual Input-Output Survey (BIOS) and ITALK of Bilingual English-Spanish Assessment (BESA)



Home Language Questionnaire

Child's name:_____ Sex:_____ Date of birth:_____ Age of child:_____

First name of informant: _____ Relation to child: _____

Daycare/Preschool/School: _____ Grade/Class: _____

Age at entry to daycare/preschool/school: _____ Number of days attended per week (*circle*): 1 2 3 4 5 6 7

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[illegible]

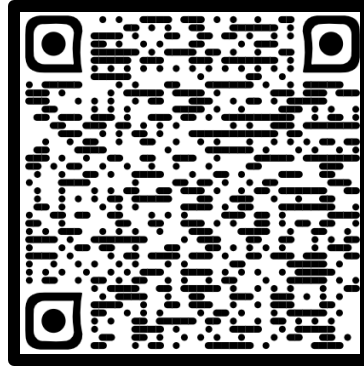
Use standardized and performance-based tools to obtain a comprehensive view of abilities in both languages

Norms and Multilingual Children

- Most information for English is based on **English monolinguals**
 - We know that bilingual children (especially those in an earlier stage of English acquisition) have a different rate of English speech-language acquisition
 - We know that **transfer** from the child's L1 can impact their productions in English (L2)—and this is **not** a cause for concern
- Acquisition times vary across languages
 - Just because a phoneme or language feature occurs in English and the child's L2 doesn't mean that will be acquired at the same time across both languages

Assessment Planning: Standardized Tools

- Consider **criterion-referenced** rather than **norm-referenced** tools
- Confirm the norming/reference sample or see existing test reviews (see resources for these!)
 - Report norms that are valid for bilingual children of a similar profile
 - Consider **alternative** or **local** norm referencing: See an [alternate norm referencing calculator](#) here
- Determine if modification would reduce bias
 - Report all modifications of standardized procedures
 - Use a variety of elicitation procedures
- Code switching or transfer patterns should **not** be treated as errors



Assessment Planning: Non-Standardized

Use **performance-based**, and **caregiver/teacher report** tools to obtain a comprehensive view of language ability

- Use structured parent report to obtain information about language ability in the home language
 - Intelligibility in Context Scale, ALDeQ, MCDI, Rosetti, ITALK (BESA), etc.
- Include elicited speech probes, in both languages
- Include language sampling, in both languages
- Include dynamic assessment

Assessment Tools for Bilingual Children

- Use existing assessment tools **appropriately**
 - Many existing assessments will require **modification** in their content, administration, and interpretation of results
 - Any single test will need to be accompanied by **supplemental measures** (*Dollaghan & Horner, 2011*)

Important Measures:

- Caregiver/parent report measures
- Language sample measures
- Dynamic assessment

Broader Measures Across Contexts

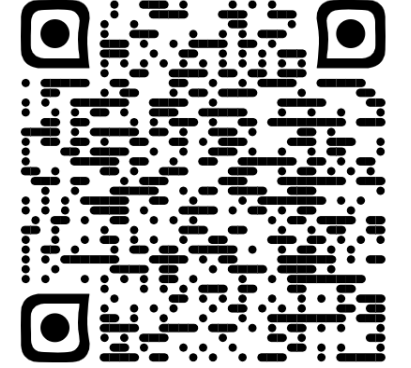
Every measure is only an **estimate** of language

Granularity of measurement should reflect the precision of the access you have to a given language construct

الأسئلة التالية تتعلق بمدى فهم كلام طفلك من قبل مختلف الأشخاص. الرجاء أن تفكر في كلام طفلك خلال الشهر الماضي عندما تجيب على كل سؤال. ضع دائرة حول أحد الأرقام لكل سؤال

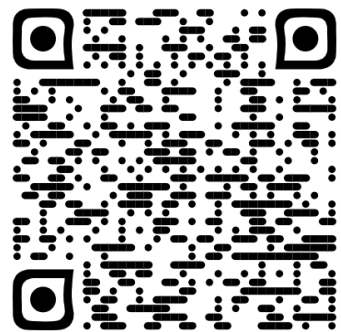
(The following questions are about how much of your child's speech is understood by different people. Please think about your child's speech over the past month when answering each question. Circle one number for each question.)

	أبداً (Never)	نادراً (Rarely)	بعض الأحيان (Sometimes)	عادةً (Usually)	دائماً (Always)
1. هل تفهم طفلك؟ ¹ (Do you understand your child?)	1	2	3	4	5
2. هل يفهم أفراد أسرتك المباشرون طفلك؟ (Do immediate members of your family understand your child?)	1	2	3	4	5
3. هل يفهم أفراد أسرتك غير المباشرين طفلك؟ (Do extended members of your family understand your child?)	1	2	3	4	5
4. هل يفهم أصدقاء طفلك كلام طفلك؟ (Do your child's friends understand your child?)	1	2	3	4	5
5. هل يفهم المعارف الآخرون طفلك؟ (Do other acquaintances understand your child?)	1	2	3	4	5
6. هل يفهم أستاذة طفلك كلام طفلك؟ (Do your child's teachers understand your child?)	1	2	3	4	5
7. هل يفهم الغرباء ² طفلك؟ (Do strangers ² understand your child?)	1	2	3	4	5
الدرجة الكلية (TOTAL SCORE) =	/35				
معدل الدرجة الكلية (AVERAGE TOTAL SCORE) =	/5				



Access ICS Here

	Happy	In the middle	Sad	Another feeling	Don't know
1. Con cảm thấy thế nào về cách con nói?					?
2. Con cảm thấy thế nào khi con nói với người bạn thân nhất của mình?					?
3. Con cảm thấy thế nào khi con nói với anh chị em của mình?					?
4. Con cảm thấy thế nào khi con nói với bố mẹ con?					?
5. Con cảm thấy thế nào khi con nói với các thầy cô giáo ở trường [mẫu giáo] của con?					?
6. Con cảm thấy thế nào khi thầy cô giáo đặt câu hỏi cho con?					?
7. Con cảm thấy thế nào khi con nói trước lớp?					?
8. Con cảm thấy thế nào khi con chơi với các bạn ở trường [mẫu giáo]?					?
TỔNG ĐIỂM 😊 =	TOTAL 😊 SCORE = /8				
9. Con cảm thấy thế nào khi con chơi một mình?					?
10. Con cảm thấy thế nào khi mọi người không hiểu con nói gì?					?



Access the Speech
Participation and
Activity Assessment
of Children
(SPAA-C)

Best Practice: Parent Report

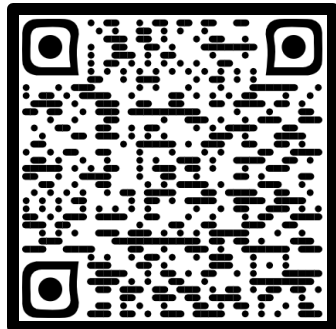
- *MacArthur-Bates Communicative Development Inventories (CDI; Fenson et al., 2007)*
<https://mb-cdi.stanford.edu/adaptations.html>
- *Inventory to Assess Language Knowledge (BESA; Peña et al., 2018)*
- *Intelligibility in Context Scale (McLeod et al., 2012)*
<http://www.csu.edu.au/research/multilingual-speech/ics>
- *Alberta Language Development/Environment Questionnaire (ALDeQ/ALEQ; Paradis et al., 2010)*
<https://www.ualberta.ca/linguistics/cheslcentre/questionnaires>

Best Practice: Non-English Assessment

- Collaborate with a language-cultural broker, interpreter, community or family member
 - Get reported information from caregivers
 - Get broad measures or estimates of broad measures:
 - whole word measures and sentence measures, intelligibility, utterance length, grammatical and pragmatic errors
- Speech-sound probes available in multiple languages
 - <https://cld.lab.uiowa.edu/multilingual-speech-assessment-resources>
- Language sample elicitation audio in Spanish and English
 - <https://cld.lab.uiowa.edu/multilingual-language-assessment-resources>



SPEECH
RESOURCES



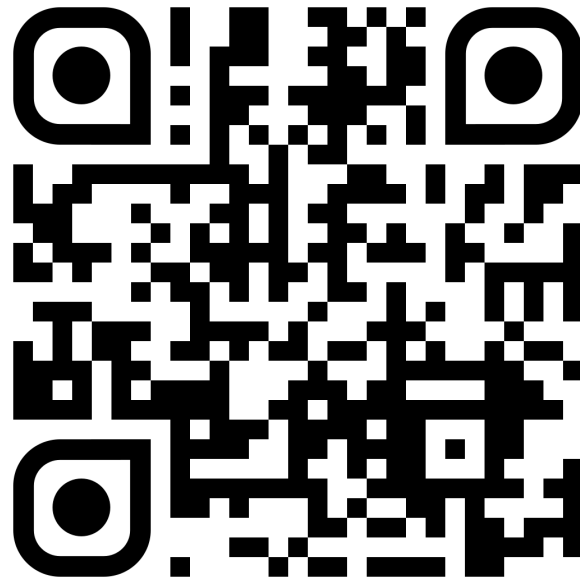
LANGUAGE
RESOURCES

Best Practice: Language Sample Analysis

- Measures are preferable to those provided by standardized tests
 - Broad language sample measures are less likely to be influenced by language transfer patterns. Samples can be **shorter**.
 - Mean Length of Utterance (MLU) **in Words**
 - Percent Grammatical Utterances
 - Number of Different Words (NDW)
 - Intelligibility

Ramos et al. (2022)

Best Practice: Language Sample Analysis



Multilingual Assessment Instrument for Narratives (MAIN)



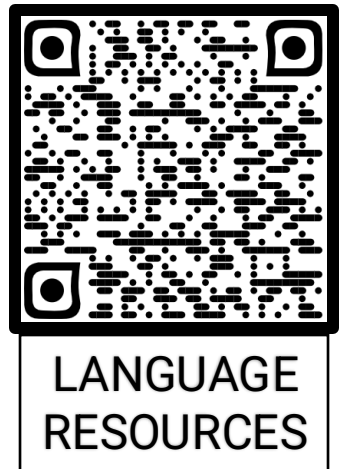
- Assesses narrative skills in children acquiring one or more languages from preschool to school age.
- Components: Four parallel stories with six-picture sequences.
- Available in 92 languages, used in over 60 countries
- Stories designed for cognitive and linguistic complexity, cultural relevance.
- **It's free**



<https://main.leibniz-zas.de/>

Best Practice: Dynamic Assessment

- Assess a child's **modifiability** with a language assessment or task
 - modifiability = how much a child is able to learn and improve after focused, adaptive instruction in a task or skill
 - *test* → *teach* → *re-test*
- Typically developing children demonstrate greater modifiability than children with language impairment
(Gutiérrez-Clellen & Peña, 2008)



Interpreting Multilingual Data

- Compare multilingual speech and language to that of other children with a similar profile, rather than to monolinguals
- Consider rate and amount of L2 development to inform speech and language development expectations
- Speech or language disorder will be **apparent in all language systems**, not just one
- Interpreters, proficient speakers, acquired comparisons (e.g., samples of parents, siblings or peers) can assist in interpretation

Evaluating Multilingual Language

Typical Multilingual Development

- Expectations for each language may differ based on:
 - Age of acquisition, exposure, dominance, social/environmental/schooling context
 - Cannot expect L2 proficiency when L2 is in early state of acquisition...
- Developmental patterns
 - Remember: these account for **most** of the patterns
- Transfer patterns
 - Remember: these may account for *some* of the patterns

A **language disorder** means difficulty with language cannot be explained by these factors alone

More Resources

Culture

- [Country and Culture Guides](#)
- [Culture Crossing Guide](#)
- <https://www.thatshunheardof.org/>

Standardized Tests

- [Test reviews](#)
- [Alternative norm referencing calculator](#)

More (From LEADERS Project)

- [Nonword Repetition](#)
- [School-Age Language Measures](#)
- [Sample evaluations](#)



All these
resources
and more
posted here



Consider

An assessment you conducted with a multilingual learner.

What is one thing you could reasonably adjust to make that assessment more reflective of their complete language system?

Exit Ticket



Post or like one question, tool, or topic, you'd like to learn more about



Up Next

**Intervention with
Multilingual
Learners**

I 
LUNCH BREAK

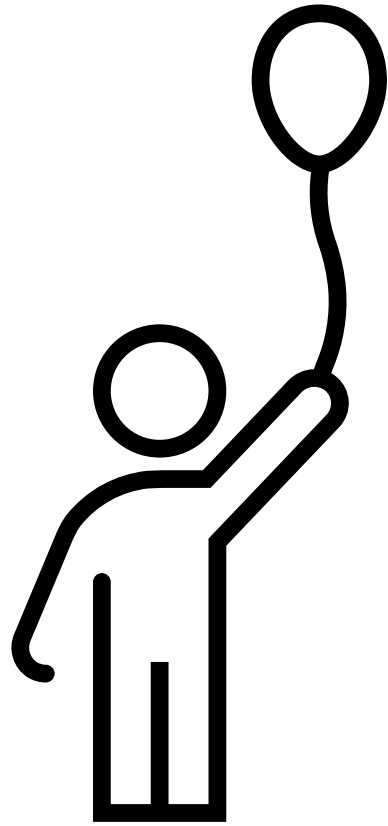
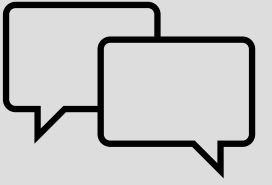
Welcome Back!

Post or like one question, tool, or topic, you'd like to learn more about



Intervention with Multilingual Learners





Principles of Intervention

1. Identify communication needs in the child's different languages and communication contexts
2. Choose appropriate treatment goals and targets to address each of their language contexts
3. Create an intervention *and* intervention environment plan
4. Monitor progress across languages and contexts and change your plan accordingly

Selecting Intervention Targets

1. Consider and identify targets:
 - Language-specific skills (L1 & English)
 - Overlapping language skills (English)
 - Language-general skills (English)
 - Targets that may induce changes across their complete language system (English)
2. Consider available resources for models of L1 targets
3. Consider available allies for L1 support goals

Generalization of Skills

Consider **generalization** or **transfer** across languages

- L1 → L2 is more likely than L2 → L1
- **Literacy** and **narrative macro-structure** skills are more likely to generalize across languages
- **Non-language-specific** skills are more likely to generalize across languages
- **Overlapping** features *may* be more likely to generalize across languages
- **More complex** areas of language may be more likely to affect the entire language system

Examples of Shared L1/L2 Targets

English/Spanish Targets

- Tense as a construct
- Cognates
- Plural /s/ morphemes
- Subject pronouns

Examples of Separate L1 and L2 Targets

Spanish Targets

- Gender (**la** niña / **el** niño)
- Plural agreement between articles, nouns, and adjectives (**las** manzanas **rojas**)
- Number and tense verb agreement (los niños escuch**aron**)
- Clitics (lo, los, le, les, la, las)

English Targets

- Past tense –ed morpheme (the boy walk**ed** home)
- Direct and indirect object pronouns (he/him, she/her)

An Spanish-English Bilingual Kindergartner

- Intelligibility issues in both languages
- Limited cluster inventories
- Targeted /fl-/ in both languages
 - Targeted /fl-/ in English, incidental inclusion of Spanish
- Met with parent
 - Taught recasts
 - Taught easy games, like memory
- /fl-/ accurate in Spanish first
- Added singletons and clusters in both languages

Jorge

- Age 7;4
- Spanish-English bilingual
- Identified challenges in:
 - Learning rate
 - Intelligibility
 - Expressive language and morphosyntax

Jorge was raised and continues to live in a Spanish-English bilingual home. His parents are Spanish-dominant, and he has six siblings who speak Spanish and English at home. Per parent report, Jorge uses Spanish and English nearly equally at home (58% input and output in Spanish). At his bilingual school, Jorge also uses both English and Spanish.



Separate Goals

Jorge will produce complex embedded causal phrases in untrained sentences with 80% accuracy in a 10-item sentence repetition task **in English**.

“He went to the store to get milk.”

“I like school because I get to see friends.”

Jorge will produce verbs in untrained sentences with present subjunctive inflection with 80% accuracy in a 10-item sentence repetition task **in Spanish**.

“Espero que nieva mañana.” (I hope it snows tomorrow)

“Dudo que llegue a tiempo.” (I doubt he’ll make it on time)

A Shared Goal

Jorge will independently produce a narrative from a picture prompt with five narrative macro-structure components (Setting, Initiating Event, Internal Response, Conflict, Attempt, Resolution/Ending) and at least three higher-level narrative components (e.g., transitions, character motivations, character self-reflection) in English **or** Spanish

Sam

- 6 year old dual language learner in an elementary school
- Parents immigrated from China before Sam was born
- Reportedly, English and Mandarin Chinese are spoken at home
- Teacher reported concerns with Sam's intelligibility





1

Consider and investigate
the impact of Sam's
unique **cultural** and
linguistic profile on their
communication

Chinese/Mandarin Language-Culture

- Less direct communication (e.g., euphemistic)
- Power distance is high (and highly respected)
- Disability and mental health are often associated with shame, especially toward the parents

From Burk, Coleman, Wimberly, & Zapata (2008)



Tonal language

No consonant clusters

Limited word-final consonants: /n/ and /ŋ/

English phonemes not found in Mandarin:

/v/, /z/, /ʃ/, /ʒ/, /tʃ/, /dʒ/, /θ/, /ð/

MANDARIN PHONEMIC INVENTORY¹

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Alveopalatal	Postalveolar	Retroflex	Palatal	Velar	Uvular	Glottal
Plosive	p p ^h			t t ^h					k k ^h		
Nasal	m			n					ŋ		
Trill											
Tap or Flap											
Fricative		f		s	ʃ		ʂ		x		
Affricate				ts ts ^h	tʃ tʃ ^h		tʂ tʂ ^h				
Glides (Approximant)							ɻ				
Liquid (Lateral Approximant)				l							

¹ Chart based on information gathered from the following:

Cheng, L. (1991). *Assessing Asian language performance: Guidelines for evaluating limited-English proficient students* (2nd ed.). Oceanside, CA: Academic Communication Associates.

Fang, X., & Ping-an, H.. (1992). Articulation disorders among speakers of Mandarin Chinese. *American Journal of Speech-Language Pathology*, 1(4), 15–16.



2

Describe the dimensions
of Sam's multilingualism

Sam: Cultural-Linguistic Profile



- Parent report / questionnaire
 - Parents are “somewhat proficient” in English
 - No siblings, interacts mostly with parents at home
 - Birth – 3 years: 90% Mandarin / 10% English exposure at home
 - 3 – 5 years: 40% Mandarin / 60% English in bilingual pre-school
 - 5 – 6 years: 100% English at school, 50/50 English and Mandarin at home
 - Parents report: “trying to use more English at home to help with his schooling”

Sam: Cultural-Linguistic Profile



- Substantial English exposure beginning at age 3
- Several years of academic English exposure
- Diminishing Mandarin exposure
 - Susceptible to first language (L1) attrition?
- Mandarin and English proficiency could both be moderate-to-high but requires further investigation



3

Assess both of Sam's
languages

Sam: Assessment



Mandarin Assessment

- Mandarin speech-sound probe
- Play/conversation sample
- Parent intelligibility questionnaire

English Assessment

- English speech-sound probe
- Play/conversation sample
- Teacher intelligibility questionnaire



4

Evaluate results
according to **his**
multilingual language
development

Sam: Assessment Results



Mandarin Results

- No consonant clusters
- Limited final consonants
- PCC: 80%
- Missing phonemes:
/tʂ, tʂʰ, ʅ, ʂ, kʰ/

English Results

- Consonant clusters: [tw]
- Final consonants: [n, ŋ, t, p, k]
- PCC: 65%
- Missing phonemes:
/θ, ð, v, l, ɹ, z, dʒ, ʃ, ʒ/

Sam: Assessment Results



Mandarin Results

- **No consonant clusters**
- **Limited final consonants**
- PCC: 80%
- Missing phonemes:
/ʈʂ, ʈʂʰ, ɹ, ʂ, kʰ/

English Results

- Consonant clusters: /tw/
- Final consonants: /n, ŋ, t, p, k/
- PCC: 65%
- Missing phonemes:
/θ, ð, v, l, ɹ, z, dʒ, ʃ, ʒ/

Sam: Assessment Results



Mandarin Results

- **No consonant clusters**
- **Limited final consonants**
- **PCC: 80%**
- Missing phonemes:
/tʂ, tʂ^h, ʈ, ʂ, k^h/

English Results

- Consonant clusters: **/tw/**
- Final consonants: **/n, ŋ, t, p, k/**
- **PCC: 65%**
- Missing phonemes:
/θ, ð, v, l, ɹ, z, dʒ, ʃ, ʒ/



5

Distinguish typical
multilingual development
from multilingual
development in the
context of a disorder

Speech Sound Disorder Within Multilingualism

- Significant phonological delay/errors were identified not attributable to Sam's status as a multilingual learner
 - Significant errors were identified in **both languages**
 - Sam has had strong English exposure for three years
 - Transfer patterns should account for only a small portion of his English errors, if any
 - Identified errors **not attributable to multilingual influence/transfer alone**



Consider

Your multilingual learner.

How could you support their home language...

In an English session	With an Interpreter	With the Family

Up Next

Complexity Approach



Success Stories

What are your success stories for helping kids with speech?

An approach you've used

An activity, cue, or strategy

An example of great client progress



Jack

- Age 5;2
- Talkative and great sense of humor
- No previous treatment
- Did not attend preschool
- Group treatment 2/week



October 2016

IOWA



June 2017

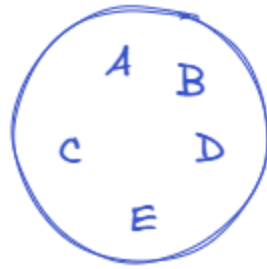


A large pile of colorful LEGO bricks in various shapes and sizes, including yellow, blue, red, green, and white. The bricks are scattered and overlapping, creating a dense, textured appearance. The colors are vibrant and the bricks are in different orientations, showing various studs and connectors.

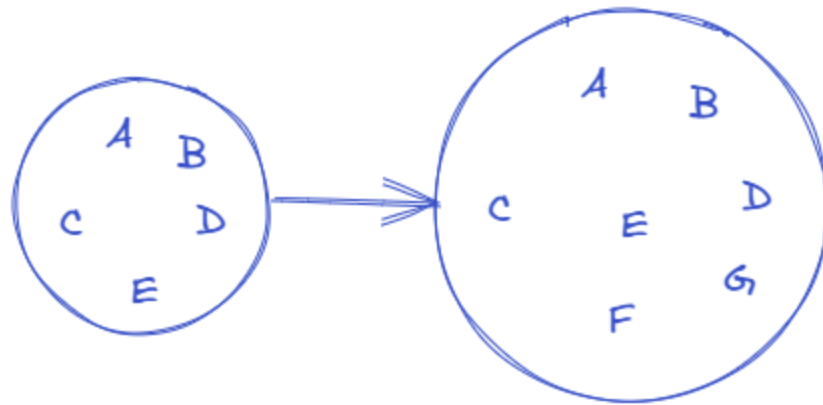
[illegible]

A large pile of colorful LEGO bricks in various shapes and sizes, including red, yellow, blue, green, and white. The bricks are scattered and overlapping, creating a dense, textured appearance. The colors are vibrant and the lighting is bright, highlighting the different shapes and sizes of the bricks.

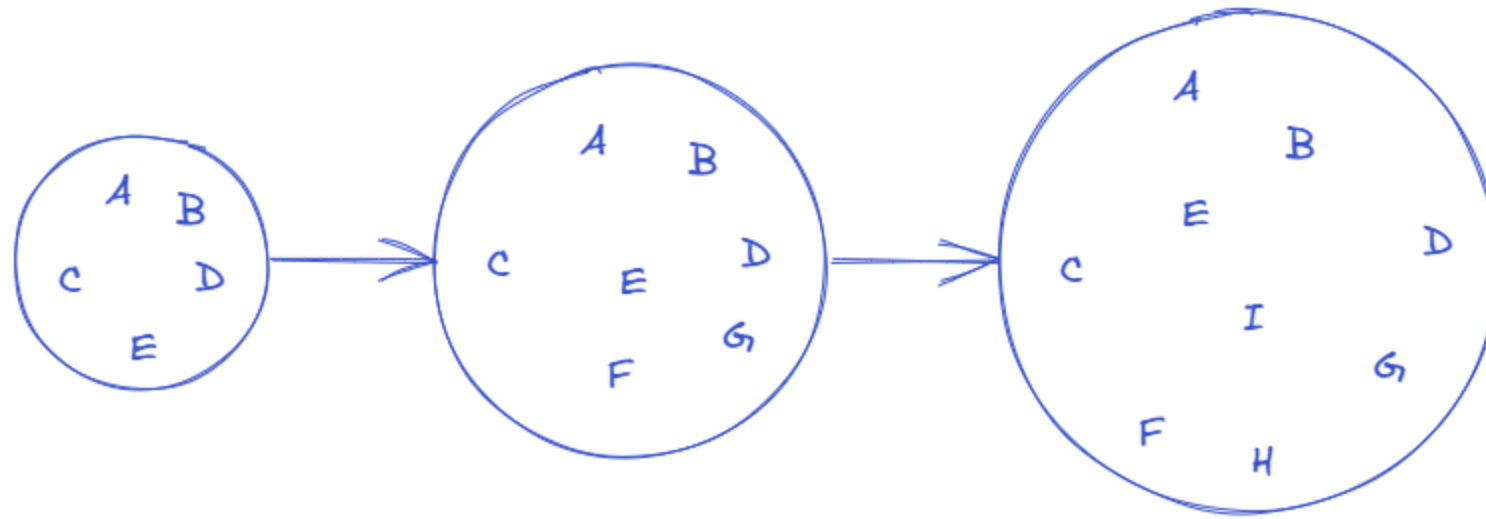
Developing a Complex Speech System



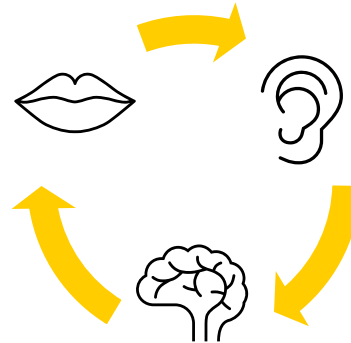
Developing a Complex Speech System



Developing a Complex Speech System



Developing a Complex Speech System



Speech Sound and Phonological Disorders

Phonological disorder is the most common form of speech sound disorder (SSD)

Mean referral age for SSDs (in US): 4 years; 3 months

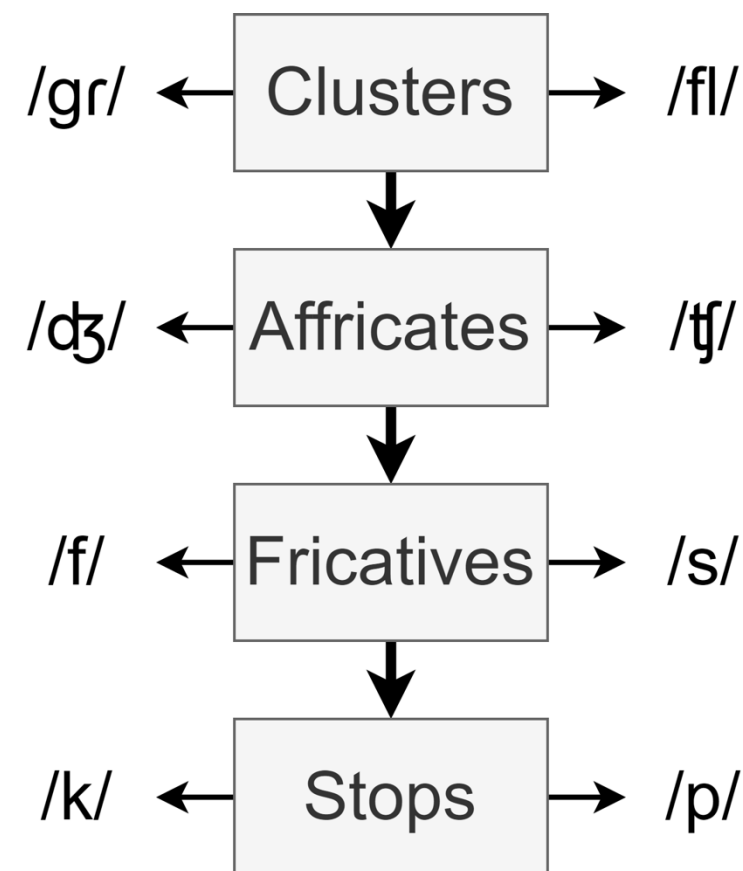
Mean speech normalization for SSDs (in US): **8 years; 6 months**

Baker & McLeod (2011), Baker et al. (2018), Black et al. (2015), Hoffman et al. (1990), Law et al. (2000, 2003, 2004), Mullen & Schooling (2010), Powell et al. (1998), Shriberg et al. (1999), Sommers (1992), Tyler et al. (1987), Ward & Bankson (1989), Weston & Bain (2003), Wren et al. (2016, 2018)

Efficient Treatment Targets

Teach **complex phonology**

Greater **complexity** of the treatment target can stimulate system-wide phonological growth

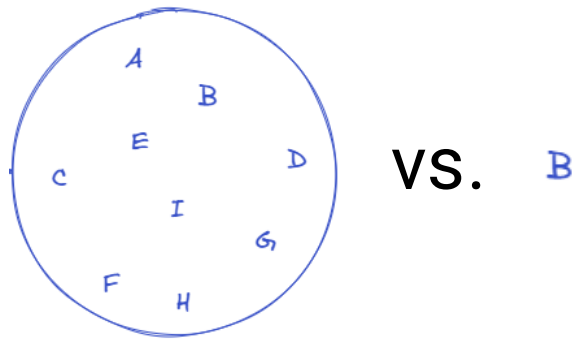


Allen (2013); Cummings et al. (2019; 2020), Elbert et al. (1984), Gierut (1990, 1998, 1999), Gierut et al. (1994, 1996), Gierut & Champion (2001), Gierut & Morrisette (2012), Gierut & O'Connor (2002), Dinnsen et al. (1990), Dinnsen & Elbert (1984), cf. Rvachew & Bernhardt (2010)

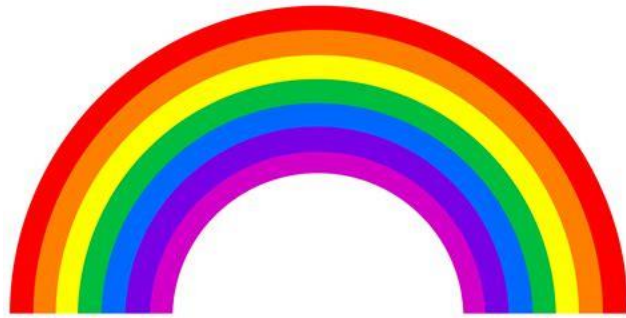
Target the System, Not the Sound

Greater **complexity** of the treatment target can stimulate system-wide phonological growth

Decisions about treatment targets (i.e., goals) impact the efficiency of treatment



Allen (2013); Cummings et al. (2019; 2020), Elbert et al. (1984), Gierut (1990, 1998, 1999), Gierut et al. (1994, 1996), Gierut & Champion (2001), Gierut & Morrisette (2012), Gierut & O'Connor (2002), Dinnsen et al. (1990), Dinnsen & Elbert (1984), cf. Rvachew & Bernhardt (2010)



But you don't have to take my word for it

Research in Schools: Complex Clusters

- Age range = 3;2 - 6;8
- 24 boys, 8 girls
- 7 with co-occurring LI
- 4 bilingual (Spanish-English)



PHONT *[fãnt]*
PHONOLOGICAL TYPOLOGIES PROJECT

Group Results: PCC-R

Percent Consonants Correct-Revised

Calculation:

$\# \text{ correct C} / (\# \text{ correct} + \text{incorrect C}) \times 100$

Example:

'splash' /splæʃ/ → [pæʃ]

2/4 = 50%

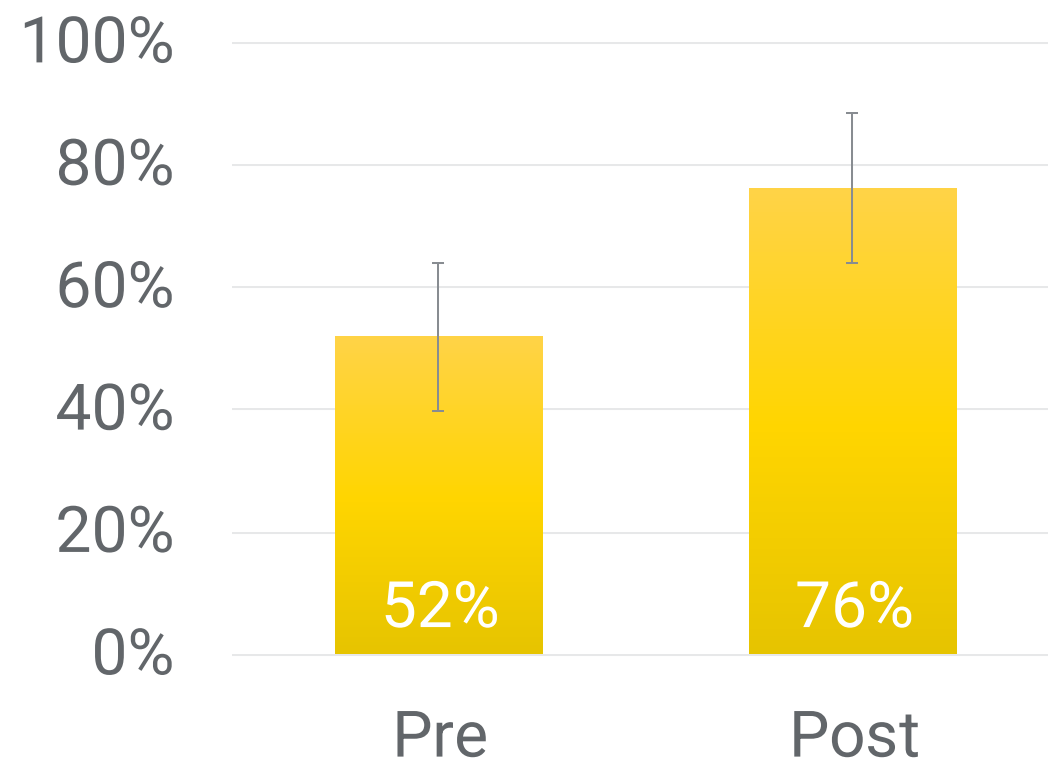
'wagon' /wægən/ → [wædən]

2/3 = 67%

Average improvement: 24%

a large effect, per Gierut et al. 2015
(range: 3%-50%)

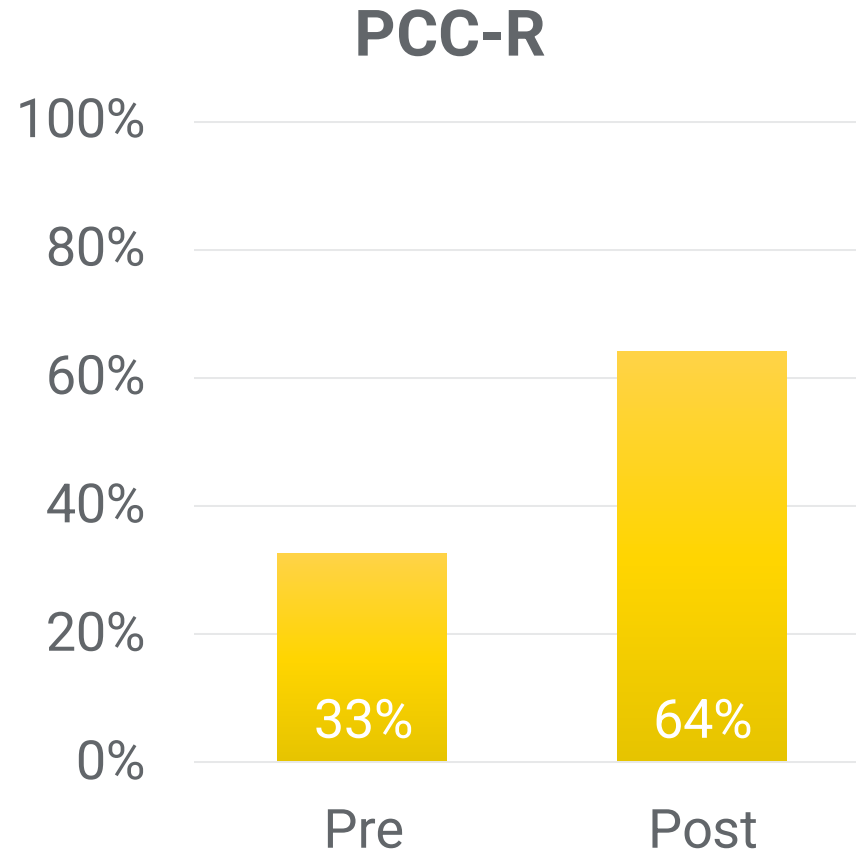
PCC-R



Case Study: Oliver

- Age 5;10
- Kind and sociable
- 2 years previous treatment (inconsistent)
- Family history of learning disabilities
- Concomitant LI
- Group treatment: 3x/week for 30 minutes
- Treatment targets: **Consonant Clusters**

Oliver: PCC-R



Oliver: Phonetic and Cluster Inventories

Pretreatment: Phonetic inventory

pb td
f s
 ts
m n
 l

w j h

Pretreatment: Cluster inventory

pl-

Posttreatment: Phonetic inventory

pb td **k ?**
f**v** s**z** **ʃ**
 ts**dz**
m n **ŋ**
 l **ɹ**

w j h

Posttreatment: Cluster inventory

sp- st- spl- sn- sm- sl- fl- fw-
fj- bl- dj- pl- bw- tj- pj-

	Target	9/15/14	1/8/15	6/1/15
★	snake	neɪs	sneɪt	sneɪk
	slug	hʌ	swʌ	slʌd
	dragon	dæhɪʒ	dæzɪn	dæzɪn
	flag	hæs	flæd	flæd
	crayons	tæs	tæn	tjænz
	glue	du:	du	dju
	glasses	dæhɪz	dæsɪz	dæsɪz
	square	tɛoʊ	tɛoʊ	tɛoʊ
★	french fries	fai haɪ	fwɛnt fwai	fwɛnt fwaɪz
	shredded	wɛhɪ	ʃɛdɪd	ʃɛdɪd
	pretzel	pɛtə	pɹɛtʒɛ	pjɛtʒəl
	swing	wɪn	swɪŋ	swɪ̃n
★	splashing	pæhɪn	pæʃɪŋ	splæsiŋ
	swimming	hɪmɪ	sɪmɪŋ	sɪmɪŋ

To Summarize...

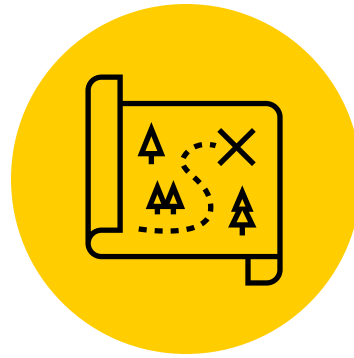
Treatment on complex clusters is effective for:

- causing widespread change in children's sound systems
- school-based services
- group settings
- children with diverse needs and severities of involvement
- multilingual learners

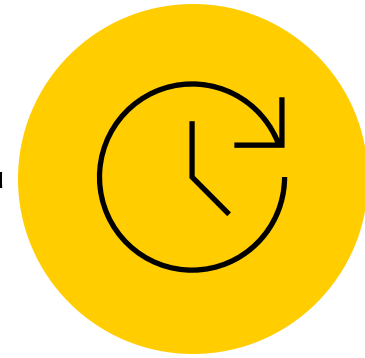
Three Steps to Speech Intervention



Characterize



**Set Course for
Change**



Treat and Monitor

Characterize

- In phonology and articulation, what are the student's:
 - areas of strength?
 - room for growth?
 - functional needs?
- What are the student's characteristics in other areas?

Characterize

1. Collect a speech sample
2. Characterize the speech system
 - Phonetic/phonemic inventories
 - Word position information: onsets, codas, clusters
 - Accuracy and intelligibility
 - Stimulability

Tools to Help

Assessment: Independent probes available online

- Clusters Probe (McLeod & Hand, 1991)
- Little PEEP (Barlow, 2012)
- In-Depth Phonological Assessment (Taps Richard, 2012)
- EFE [Spanish Probe] (Barlow & Combiths, 2021)

Intervention: Consonant Clusters

- Numerous cluster resources (Taps Richard, 2007-2017): <http://slpath.com/>
- Clusters worksheets (Bowen, n.d.): <https://www.speech-language-therapy.com/>
- Clusters activities (Carl, n.d.): <http://www.carlscorner.us.com/BlendsBonanza.htm>

PATT 2.0: Phonological Assessment and Treatment Targets

- Step-by-step guidelines for treatment target selection (*originally adapted from Gierut, 2004; Morrisette, Farris, & Gierut, 2006*)
- Overview of approach:
 - Identify gaps in phonological knowledge
 - Target 3-element clusters
 - If not feasible, target complex 2-element clusters
 - Otherwise, teach complex phonemes in cluster and singleton contexts

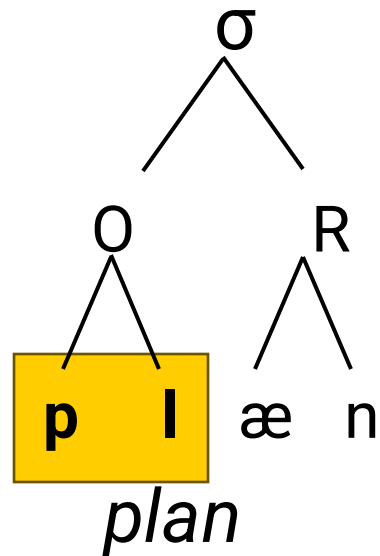
Target Selection Guidelines

- Target more complex phonology to increase the complexity of the speech system
 - 3-element CCC > 2-element CC > later-acquired > earlier-acquired
 - /spl-/ > /pl-/ > /tw-/ > /θ/ > /f/ > /b/
- Target gaps in phonological knowledge
 - Not in inventory, low accuracy, non-stimulable

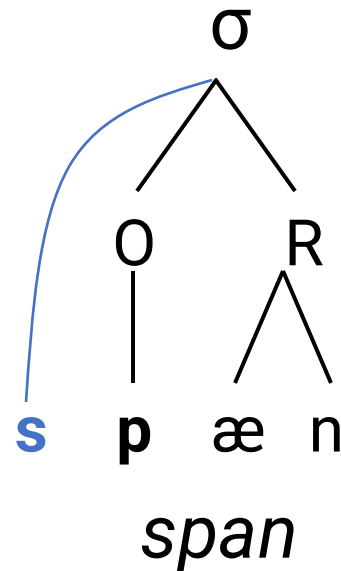
Target Selection Guidelines

- 3-element CCC if the child has phoneme knowledge of **C2 and C3**

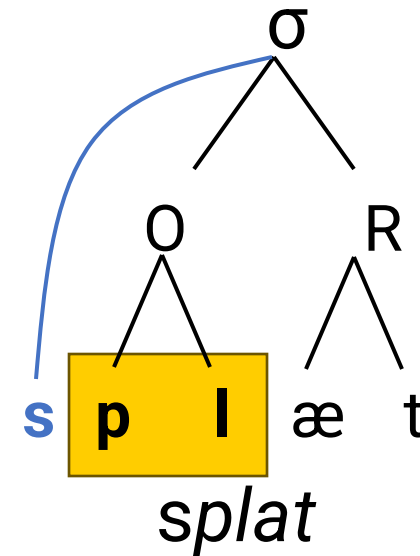
/pl-/ in English



/sp-/ in English



/spl-/ in English



Target Selection Guidelines

- Or else, 2-element CC if **absent from inventory**
- **Gray shaded clusters** may not generalize as much (avoid these)

SD=6	SD=5	SD=4	SD=3	SD=2	SD=-2
tw- kw- pj- kj-	bj- pr- tr- kr- pl- kl-	br- dr- gr- bl- gl- fj- sw-	fr- θr- jr- fl- sl- vj-	mj- sm- sn-	sp- st- sk-

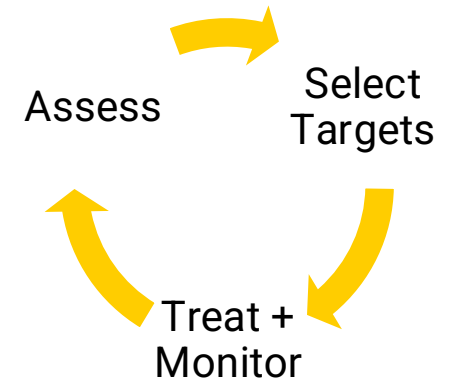
Target Selection Guidelines

- Or else, a relatively complex singleton C **if absent from inventory**

	Bilabial	Labio-dental	Inter-dental	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Stops	p b			t d			k g	
Fricatives		f v	θ ð	s z	ʃ ʒ			
Affricates					tʃ dʒ			
Nasals	m			n			ŋ	
Liquids				l		r		
Glides	w					j		h

What's Next?

- Monitor progress
 - Frequent monitoring of target productions
 - Weekly/biweekly
 - Periodic monitoring of system-wide generalization
 - e.g., monitored/missing/late-acquired consonants or clusters
 - Quarterly/biannually or when target is mastered
- After treatment, repeat process:
 - determine phonetic, phonemic, and cluster inventories
 - determine whether clusters or singletons are appropriate targets
 - etc.

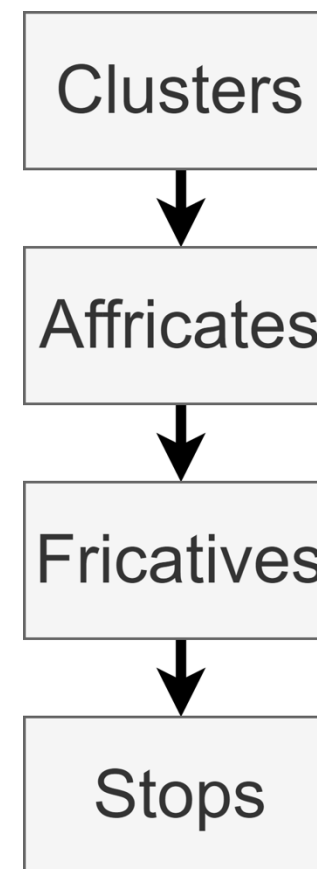




But Wait, There's More!

Supporting the Whole [L]anguage System

System-wide change in a multilingual learner means **system-wide** (*across their languages*)



Allen (2013); Cummings et al. (2019; 2020), Elbert et al. (1984), Gierut (1990, 1998, 1999), Gierut et al. (1994, 1996), Gierut & Champion (2001), Gierut & Morrisette (2012), Gierut & O'Connor (2002), Dinnsen et al. (1990), Dinnsen & Elbert (1984), Combiths et al. (2021, 2023)

Participants

N = 6 / Ages 4;1–6;6

Phonological disorder

L1 Mexican Spanish speakers in the US

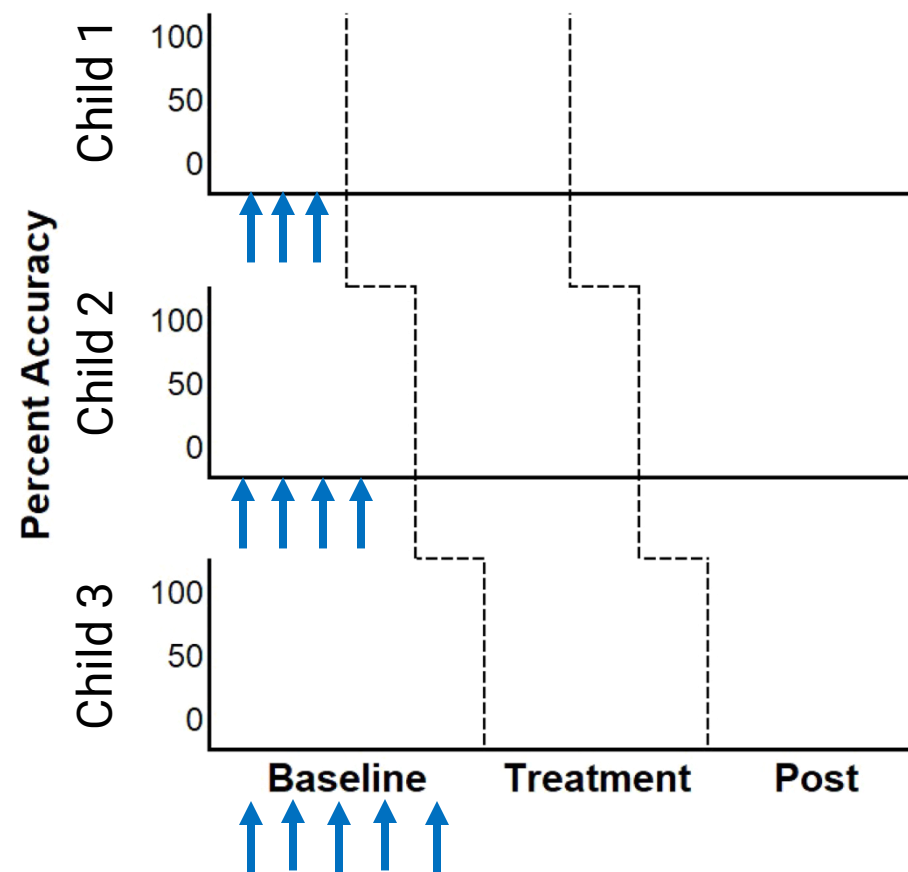


PHONT *[fãnt]*
PHONOLOGICAL TYPOLOGIES PROJECT



Multiple Baseline

Single Case Experimental Design



Treatment Protocol

Treatment Targets:

/br/, /gr/, /tr/, /l/

6 treatment words

Treatment Activities:

Drill, play, and story-based

Imitation and spontaneous production



A Clinical Perspective

Key

No change
Less adult-like
Ambiguous change
More adult-like
Adult-like (accurate)

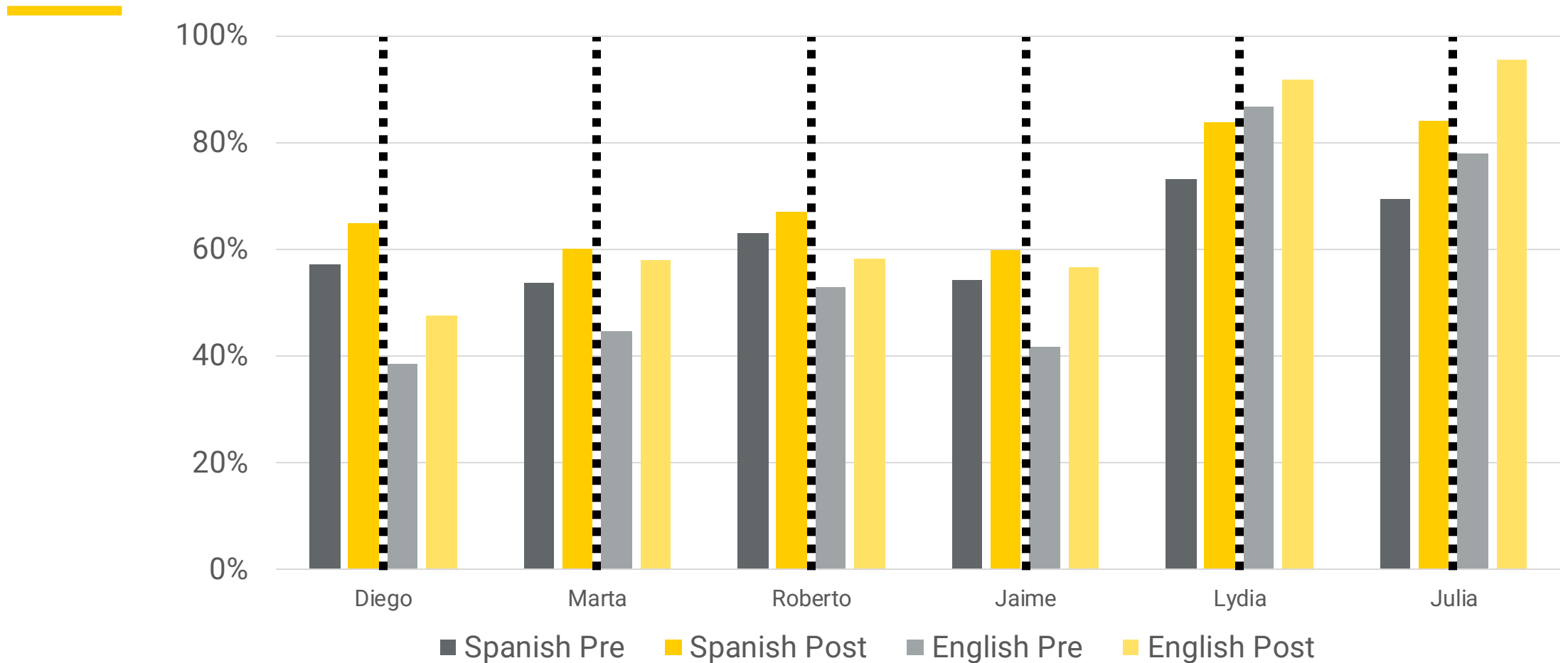
	Jaime			Diego			Roberto			Marta	
Word	Pre	Post		Pre	Post		Pre	Post		Pre	Post
caja	kaxa	kaxa		kaha	kaxa		kaxa	kaxa		kaxa	kaxa
fantasma	fatama	fatama		tapana	patama		pampasma	pantasma		sapanta	fatata
rueda	wela	r ^h wela		weda	weda		veda	weda		nena	weda
gasolina	la ^h oina	xasoina		gasododina	gasugina		gas ^h linina	gasonina		golesina	nosinina
jabón	xawon	xabon		xabo	xabon		xabon	xabon		xabon	xabon
gris	li:	klis		gis	gis		wis	gwis		jis	dis
mariposa	mapota	ma ^h itota		maneposa	maniposa		maniposa	meniposa		malaposa	ma ^h iposa
piano	pijano	pjano		pinon	pijano		pijano	pijano		pijano	pijano
ciudades	sudae	sjulales		sudades	sudades		sjudades	sjudades		sujade	sudades
rey	k ^h ej	lej		dej	ðej		wej	wej		jej	jej
sartenes	datene	satenets		satenes	saltenes		santenets	santene		satenes	satenes
mueca	weka	weka		mweka	mweka		wenka	meka		meka	mwekwa
delfín	defin	defin		difi	defin		defin	delfind		nafim	d ^h fin
espalda	epala	epala		pada	epala		espanda	espanda		abada	epada
nariz	nait	nais		nanis	nanis		nanis	nanis		nadis	na ^h dis
dieta	jeta	tjeta		djeta	djeta		djeta	djeta		djeta	djeta
cuatro	kwa ^h to	kwato		kwato	kwato		fato	fato		kako	kako
pintura	pitula	pi ^h tula		pitura	pitola		pituna	pintuda		patula	putuda
pulmón	julmon	pumon		pumon	pumon		pulmon	pulmon		mulmo	pu ^h don
cumpleaños	kumpliano	kuplea ^h ots		kupianos	kupea ^h ots		kumenanos	kumpianos		pijanos	pijanos
bandera	balela	fanela		badeda	badeda		bandera	bandera		manela	badeda
salmón	ɬamon	ɬamon		samo	samon		salmon	salmon		samon	samol
dragón	dalon	ta ^h jon		dago	dagon		wakon	wagon		nanon	dalon
camarones	kamalone	kamalonets		kama ^h odotes	kamalones		kamarones	kamanones		kamalones	kamalodes
tortuga	totuka	tutula		tutuda	totuda		tutura	tutuga		tatula	totuda
hoy	oj	oj		oj	oj		oj	oj		oj	oj
corriendo	kojeno	kwejeno		koledot	kodido		konendo	konjendo		koleno	kedeno
riesgo	liexo	djeko		gedo	gajgos		mwiesgo	wijesgo		seso	ijeso
muerde	mwele	mwele		vede:	wede		βene	mene		mede	mede
abrigo	abio	amio		abigo ^h	abigo		aningo	awigo		adido	amipo

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Combiths, Pruitt-Lord, Escobedo, & Barlow (2022), Combiths, Escobedo, Barlow, & Pruitt-Lord (2023)

Percentage of Consonants Correct-R

Pre/Post Spanish/English



Remember Oliver?

Pretreatment: Phonetic inventory

pb td
f s
 ts
m n
 l
w j h

Pretreatment: Cluster inventory

pl-

Posttreatment: Phonetic inventory

pb td k ?
fv sz ʃ
 tsdz
m n ŋ
 l ɹ
w j h

Posttreatment: Cluster inventory

sp- st- spl- sn- sm- sl- fl- fw-
fj- bl- dj- pl- bw- tj- pj-

Practice with Oliver

Phonetic inventory

pb td
f s
 ts
m n
 l
w j h

Initial Cluster inventory

pl-

Nonstimulable sounds

dʒ ɹ

PCC-R

33%

Select a complex
target for Oliver



	Bilabial	Labio-dental	Inter-dental	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Stops	p b			t d			k g	
Fricatives		f v	θ ð	s z	ʃ ʒ			
Affricates					tʃ dʒ			
Nasals	m			n			ŋ	
Liquids				l		r		
Glides	w					j		h

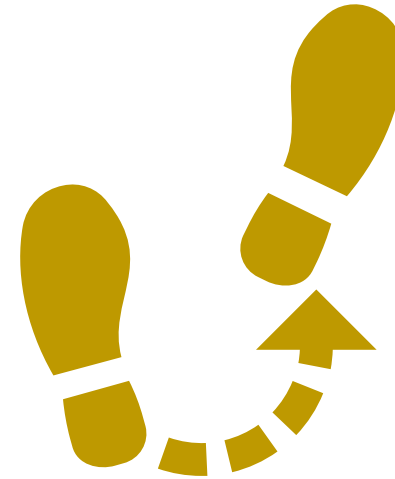
SD=6	SD=5	SD=4	SD=3	SD=2	SD=-2	/s/CC
tw-	bj-	br-	fr-	mj-	sp-	skw-
kw-	pr-	dr-	θr-	sm-	st-	spr-
pj-	tr-	gr-	ʃr-	sn-	sk-	str-
kj-	kr-	bl-	fl-			skr-
	pl-	gl-	sl-			spl-
	kl-	fj-	vj-			
		sw-				

Oliver: /fl-/ and /θr-/



How to get started

- Choose 1-2 students
- Implement the steps
- Teach any way you'd like!
- Celebrate incremental progress
- Watch for change across the speech system



Complexity Resources

Phonological Analysis and Treatment Targets (PATT 2.0)

Assessment: Independent probes available online

- Clusters Probe (McLeod & Hand, 1991)
- Little PEEP (Barlow, 2012)
- EFE [Spanish Probe] (Barlow & Combiths, 2021)

Intervention: Consonant Clusters

- Numerous cluster resources (Taps Richard, 2007-2017): <http://slpath.com/>
- Clusters worksheets (Bowen, n.d.): <https://www.speech-language-therapy.com/>
- Clusters activities (Carl, n.d.): <http://www.carlscorner.us.com/BlendsBonanza.htm>

PATT, Probes, and More:



Create an Action Plan

Write one next step you will take to implement what you have learned:

- Collaborating with Interpreters
- Multilingual Assessment
- Multilingual Intervention
- Children with moderate-to-severe SSDs
- Note down resources you will come back to

RESOURCES



Questions?

[View >> Header and Footer >> Add Unit Name](#)

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