

Application of Dynamic Assessment of Narratives to identify DLD in EAL

Elizabeth D. Peña
University of California, Irvine



Disclosures

Financial — Co-author of the BESA
— received honorarium



MANUAL

Elizabeth D. Peña
Vera F. Gutiérrez-Clellen
Aquiles Iglesias
Brian A. Goldstein
Lisa M. Bedore

Tools



Poll
Everywhere

[PollEv.com/elizabeth
pen895](https://pollev.com/elizabethpen895)

OR Text:
elizabethpen895 to
22333



<https://tinyurl.com/HABLALab>

Principles of
DA

DA of
Narratives

MLE

Modifiability

B-MAS

Principles of DA

DA of Narratives

MLE

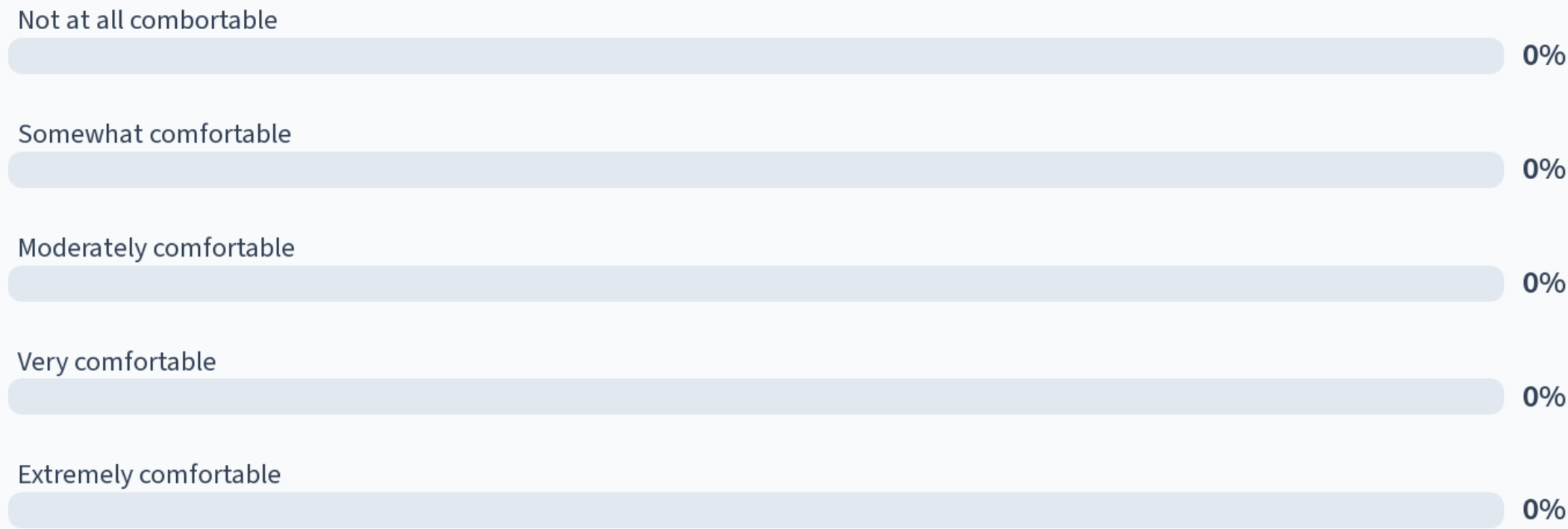
Modifiability

B-MAS



Principles of Dynamic assessment

How comfortable are you conducting dynamic assessment?



What is dynamic assessment?

- Test-Teach-Retest procedure
 - Combines assessment and teaching processes
 - Observation of learning processes and strategies
 - Latent capacities for change

Dynamic assessment

- Based on Vygotsky's ZPD
- Difference between independent and assisted functioning
 - Scaffolding
 - Using strategic questions and cues to support language learning within meaningful events
 - Mediation
 - Facilitating the construction of new meanings as children move from other-regulated to self-regulated functioning

MLE (Mediated Learning Experience)

Component	Definition
<i>Intentionality</i>	<i>Engage child for teaching</i>
<i>Meaning</i>	<i>Help child understand relevance, value</i>
<i>Transcendence</i>	<i>Bridge concepts & events beyond task</i>
<i>Competence</i>	<i>Strategic, planful problem solving</i>

Modifiability

- How we describe CHILD'S response to MLE
- Observation of child during teaching session

Modifiability

- Examiner Effort
- Child Responsivity

Logic of DA

Children with DLD have difficulty learning language

DA enables observation of children in the process of learning language within a functional context

Outcomes of DA

- Help distinguish between language difference and language disorder
- Observe ability to learn
 - Even in L2
- MLE results assist in planning intervention

Difference and Disorder

- Clinician's role
 - Transform initial, independent failures into successes by varying the task structure
 - Assess the degree and nature of support to optimize performance
 - Assess student learning
 - processes and amount of change

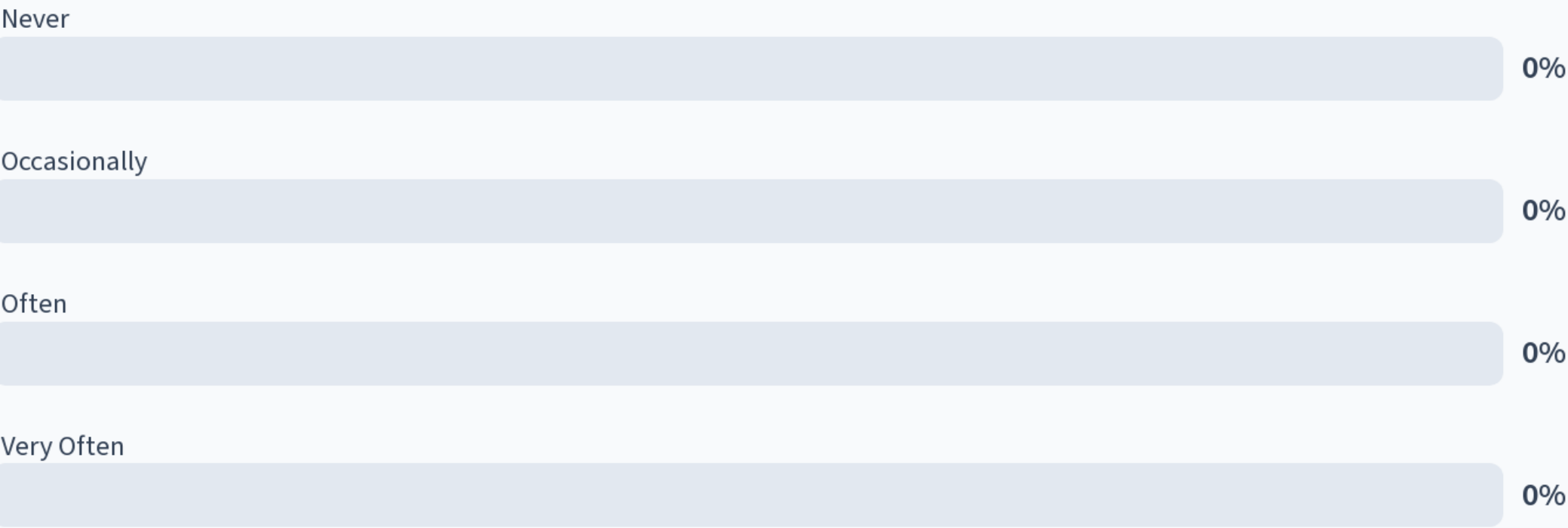
DA findings

Authors	Population	Target	Results
Peña, Gillam, et al (2006)	LI & TD, 1 st & 2 nd grade African American, Latino, & White	Narratives	Mod + NDW + TNW + Story Components 100% correct classification
Kramer, Mallett, Scheidner, & Hayward, 2009	LI & TD, 3 rd grade First Nations	Narratives	Mod (effort & respon) + change on targets & non-target components, 94%

DA findings

Authors	Population	Target	Results
Kapantzoglou, Restrepo, & Thompson, 2012	Spanish speaking, PK LI & TD	Novel word learning	Mod + word learning score 79% correct classification
Peña, Gillam, & Bedore (2014)	Spanish dominant ELL	Narratives	Mod (orientation, metacog, compliance) + complex vocab + dialog + setting + gramm

How often do you conduct dynamic assessment?





Application of DA to Narrative Assessment

Principles of DA

DA of Narratives

MLE

Modifiability

B-MAS

Basic DA Framework

- Pretest
- Teach (MLE)
 - targets child strategies
 - observe modifiability
- Posttest
 - same as pretest

Test and Retest

Have child look through book and ask them to generate story after they've looked at all the pictures

- Pretest
 - Elicit a narrative using: “Two Friends”
- Posttest
 - Elicit a narrative using: “Bird & His Ring”



Pretest

- Collect a narrative sample using “Two Friends”



Dog and cat are talking



Dog falls asleep, cat is sad.



Dog wakes up and the cat is gone.



Dog asks the armadillo if he's seen the cat.



The dog finds the cat.



Narrative Analysis

- Story Components
- Story Ideas & Language
- Episode Structure

Observation of modifiability

<u>Social Emotional</u>	<u>Cognitive</u>
Anxiety	Task Orientation
Motivation	Metacognition
Non-Verbal Persistence	Non-Verbal Self Reward
Responsiveness to Feedback	Problem Solving
Attention	Verbal Mediation
Compliance	Flexibility

Posttest

- Story Components
- Story Ideas & Language
- Episode Structure



Narrative Analysis

- Story Components
- Story Ideas & Language
- Episode Structure

Story Components

Setting: Time and Place

None	2	Time OR Place	4	Time AND Place
------	---	---------------	---	----------------

Character Information

None	2	Some Information	4	Described in detail
------	---	------------------	---	---------------------

Temporal Order of Events

None	2	Some Order Stated	4	Well Specified
------	---	-------------------	---	----------------

Causal Relationships

None	2	Some Relationships Stated	4	Well Specified
------	---	---------------------------	---	----------------

Story Ideas & Language

Complexity of Ideas

Literal

2

Some non-literal

4

Extensive use of figurative language

Complexity of Vocabulary

Literal

2

Some use of tier 2 words

4

Extensive use tier 2 and 3 words

Grammatical Complexity

Simple

2

Some complex

4

Complex and embedded sentence

Knowledge of Dialogue

None

2

Some Dialogue

4

Extensive use

Creativity

Predictable

2

Some interesting elements

4

Use of surprise, plot twists

Principles of DA

DA of Narratives

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Episode Structure

- Initiating Event*
- Attempt*
- Consequence*
- Internal Response
- Plan
- Reaction/Ending

1	2	3	4	5	6	7
none	Incomplete (1 or 2 elements)	Basic Episode (IE, A, C)	Basic Episode +1 element (IR, P, R/E)	Basic Episode +2 elements (IR, P, or R/E)	Complete episode (all elements)	Multiple episode story

Productivity Measures

- MLUw
- Total number of words
- Number of different words
- Subordination Index

Mediated Learning Experience

MLE: Mediated Learning Experience

Component

Intentionality

Meaning

Transcendence

Competence

Definition

WHAT

WHY

WHEN & IF

HOW

MLE 1 Script	
Component	Script
Intentionality	[Show the child the “Two Friends” book.] Do you think the story you told was a good story? Why or why not? [Let child answer. Tell the child what components and episode structures they included/excluded in a way they can understand.]

MLE 1 Script	
Component	Script
Intentionality	Today we're going to talk about telling good stories. Good stories have lots of parts. At the beginning, you should say the names the people or animals and where they are. There's usually a problem in a story. Something bad happens. You should say how the people or animals feel about the problem, what they do about it, and how the problem gets fixed. The people or animals are usually happy that the problem got fixed. As you tell the story, you should use time words like "then", and you should say why things happen.

MLE 1 Script	
Component	Script
Meaning	It's important to be able to tell good stories. Children tell each other stories all the time, and you read and write stories in school. So, learning to tell good stories helps you make friends and do better in school. Now, why is it important to tell good stories? [Help the child explain that stories are important for communication, relationships, and school success.]
Intentionality	Let's talk about the different parts that need to be in a story.
Meaning	Story tellers start their stories by telling us when and where something happened because it helps the listener understand about the world the characters live in. So, what do we need to think about? [Setting/When & Where]

MLE 1 Script	
Component	Script
Competence	[refer to p. 1] How does this story start? [pause, wait for response] Where do you think they are? [pause, wait for response] What time do you think it is? [pause, wait for response] So, to say when and where, you could say... [pause, wait for response; if they don't, give an example "One morning the dog and cat stood by the river."] That tells us when and where (setting). Now you tell me how to start the story.
Meaning	We also need to know about the people or animals. They're called the characters. Good story tellers name the people or animals and say what they look like. So, what should you say about the people or animals? [what their names are and what they look like]

MLE 1 Script	
Component	Script
Competence	Let's think about the characters in this story. What do they look like? [pause, wait for response] What shall we name the dog and cat? [pause, wait for response] So you could say, "Bill the dog and Sally the cat were talking." You can also tell what they look like. For example, you could say , "Sally looked like a triangle. Who would that describe? [pause, wait for response] Yes, the cat. What could you say about the dog? [let child name and describe characters]
Meaning	When we tell stories, we also want to talk about what happened first, second, and last (Order) and why things happened (Causal Relationships). This is important because it helps people understand the order of the story (Order) and the reasons the characters did what they did (Causal Relationships).

MLE 1 Script	
Component	Script
Transcendence	What would happen if you told the story backwards or out of order? [help the child state that it would be hard to know what happened] So, at the beginning of the story, first they were...[help the child describe], then... So we use words like first, next, and then to describe what happened (order) and why it happened (causal relationships). [Help the child explain and use order and causal relationships]
Competence	So, let's tell a story that has the parts that we just talked about. [help the child with setting, characters, temporal order, and causality by asking questions] [Example HERE] In this story you remembered to tell me... [the animals names, what they looked like, what the problem was, how Sally felt about it, what happened, and why it happened]

Can you think of other applications of MLE?

Nobody has responded yet.

Hang tight! Responses are coming in.

Modifiability

Modifiability

How we describe
CHILD'S response to MLE

Observation of child
during teaching session

Modifiability

Examiner
Effort

The diagram consists of two identical sets of overlapping rounded rectangles. Each set has a light blue rectangle in the background and a white rectangle in the foreground. The left set contains the text 'Examiner Effort' and the right set contains 'Child Responsivity'. Above these is the title 'Modifiability'. At the bottom is a navigation bar with five items: 'Principles of DA', 'DA of Narratives', 'MLE', 'Modifiability' (highlighted with a red arrow), and 'B-MAS'.

Child
Responsivity

Observation of Modifiability

Social
Emotional

Internal

Anxiety

Motivation

Non-Verbal Persistence

External

**Responsiveness to
Feedback**

Attention

Compliance

Observation of Modifiability

Cognitive

Arousal

Task Orientation

Metacognition

Non-Verbal Self Reward

Elaboration

Problem Solving

Verbal Mediation

Flexibility

MLE observation scale

Internal Social-Emotional					
	1	2	3	4	5
<i>Anxiety</i>	Calm, little to no soothing required	Fidgety, but can be soothed	Uncomfortable, eakeaks needed to sooth	Distressed, much soothing required	Distraught, crying, cannot be soothed
<i>Motiva-tion</i>	Enthusiastic, engages in tasks readily	Curious, shows interest	Ambivalent, unsure about tasks	Guarded, seems fearful of tasks	Avoidant, does not want to engage
<i>Non-verbal persis-tence</i>	Persistent, wants to continue despite difficulty	Indicates difficulty non-verbally, but continues	Tentative, appears unsure about continuing	Demonstrates non-verbal frustration, continues under protest	Non-verbal rejecting, cannot continue

Principles of DA

DA of Narratives

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MLE observation scale

External Social-Emotional					
	1	2	3	4	5
<i>Responsiveness to feedback</i>	Very positive, maintains enthusiasm	Positive, but hesitant; requires some feedback	No response to feedback	Negative, disheartened; requires much feedback	Very negative, rejects feedback
<i>Attention</i>	Attentive and focused	Focused, but distractible at times	Distractible, but can be refocused, needs prompting	Distracted, and difficult to refocus	Distracted and off task
<i>Compliance</i>	Cooperative	Insecure	Hesitant	Uncooperative	Refusing

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MLE observation scale

Cognitive Arousal					
	1	2	3	4	5
<i>Task orienta-tion</i>	Completely understands tasks	Mostly understands tasks (75%)	Understands tasks some of the time (50%)	Often does not understand tasks (25% of the time)	Doesn't understand tasks
<i>Meta-cognition</i>	Aware of all errors	Aware of most errors (75%)	Aware of some errors (50%)	Unaware of most errors (25%)	Unaware of any errors
<i>Non-verbal self reward</i>	Positive response to task regardless of difficulty	Positive response related to task difficulty	Demonstrates insecurity, positive & negative responses related to	Negative response related to task difficulty	Negative response regardless of task difficulty

Principles of DA

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MLE observation scale

Cognitive Elaboration					
	1	2	3	4	5
<i>Problem-solving</i>	Systematic and efficient, used forethought, reflection	Organized, but somewhat inefficient, (less than 25% off task)	Sketchy plan, trail & error	Disorganized, haphazard plan	No plan; unsystematic guessing
<i>Verbal mediation</i>	Elaborates plan clearly	Talks through problem	Talks occasionally	1-2 word utterances only	No verbal mediation
<i>Flexibility</i>	Uses multiple strategies readily	Has preferred strategies, but can change when necessary	Some evidence of more than 1 strategy; occasionally utilizes them	Recognizes limitations of strategy, but cannot see alternatives	Persists with one strategy, regardless of outcome

Principles of DA

DA of Narratives

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Case Studies

Principles of DA

DA of Narratives

MLE

Modifiability

B-MAS

Case Study

457

C (The) the dog will not chase the cat .

C And then the cat has to run .

E Good.

E Go ahead and turn the page when your ready.

C He has to go to sleep .

C ((And)) (he and) the cat get mad .

C ((And)) he went away .

C ((And)) the dog was <sleeping> .

E <And what>?

C The dog was sleeping .

C One day (he was he he was) he was taking a sleep .

C (The cat was) the cat (it was) it was go and to find him sleeping .

C ((Then)) one day (he he he) think the cat (is) is about to find it .

C (The dog and) the dog said need to find the cat ?

C ((And)) (the and) the dog saw it .

C ((and)) (And the and) the dog going X.

C ((And)) (the dog) he think the cat it was dead .

C But it was not dead .

C He swim on the water .

C He found it .

C He found the tail .

C ((And)) he found it after he found it .

Case Study

457

E order words let us know when things happen in the story.

E because what would happen if I told the story backwards?

E would that be right?

E no so we need to make sure and tell our story in order.

E and use words like then and next so people know when something is gonna happen.

E so you started your story out by saying one day at the ocean jason was fishing with jumpy and barky.

E we could say then~

C he fell down.

E good so you could tell me then jason fell down.

E so what could you say?

C then jason fell down.

E excellent.

E so now you've used an order word.

E {coughs} excuse me.

E the next thing we're gonna talk about is the cause.

E and the cause helps us to understand why the characters do what they do.

E it gives us the reason.

E so what is jason doing over here?

C yelling.

E why do you think he's yelling?

C because he's mad at the turtle.

E alright so you could tell me jason was yelling because he was mad at shelly.

E so what could you tell me?

Case Study

457

C (jason was mad because) jason was yelling because he was mad at shelly.

E excellent.

E so now you've given me a cause.

E alright do you think you can include those parts when you tell the story?

E alright go ahead and give it a shot.

C one day at the ocean jason was fishing with jumpy and barky.

C then jason fell down.

C jason was (yelling be*) yelling because he was mad at shelly.

C and barky was mad at shelly.

C then shelly bit barky.

C then jason (took) took barky home.

C and jason was happy.

Case Study

457

C The bird taking (um) his son .

E Can you speak up for me?

C The chicken (he was um) he saw | a ring .

C And it was the ring .

C ((And)) (and) he take out the ring .

C ((And)) (and and) he saw it through that bird .

C He lost the ring .

C ((And)) (he and he he) he lost the ring .

C ((And)) then he think he was on the nest .

C ((And then)) he not think it on the nest .

C He was looking and looking to the ring .

C Until the people came.

C ((And)) (he he) he found.

C (He he) he did not found the ring where it was .

C ((And)) he threw in the floor by the nest .

C ((And)) then he found it .

Observations about case 457

Nobody has responded yet.

Hang tight! Responses are coming in.

Case Study

679

C (She was talking to him).

C She was talking to him .

C He was upset .

C He was talking and (he was) saying (he was) he was mad .

E Good.

E Turn the page when you're ready.

E You can turn the page when you're ready.

E Go ahead.

C He was asleep .

C And he *verb (um) over here .

C ((And)) (and) he was here one time .

C ((And)) he was like that .

C ((And)) he point *at thing .

C ((And)) there were a boy *and girl .

C ((And)) he not saw | see him .

C (He wa*) he saw | see a dragon .

C ((And)) he was like dude .

C ((And)) he was X.

C ((And)) he was talking to him .

C ((And)) he's like that .

C ((And)) he (um) XX.

C ((And)) put water on it .

C (Um) ((and)) he is a big boy saying .

C ((And)) no one was here .

C ((And)) (he) he put his tail here .

Case Study

679

E so we last time you talked about lots of parts that you have to tell put into stories.
E that you have to talk about the characters.
E do you remember that?
E and tell where and when things are happening.
E and>
C and the first at the night.
E oh you remember the story.
E okay so this is the book that you practiced last time right?
E do you remember what what did you name the characters?
C uh red and blue.
E their names were red and blue?
E was this character named triangles?
E or it was red and blue?
C I'm just gonna call it triangle and>
E did you maybe name this character boots?

...

E so let's look at the beginning of our story.
E when does this story happen?
C when the boy his net he's trying to a turtle.
C he's trying to get a friend.
E okay that's right.
E is this happening at the at day or at night?
C the day.
E at the day.
E so when you start your story you could say one day.

E can you say that?
C one day.
E mhm.
E okay I want you to put your feet down.
E we're gonna sit up so that we can do our best job at learning how to tell good stories okay?

Case Study

679

E alright so one day.

E and then where are they?

C at the>

E do you think they're at a pond <> or a river?

C pond.

E <pond>?

C <a river>.

E which one?

C pond.

E a pond.

E so I want you to tell me that.

E you could start your story by saying one day at the>

E what'd you say?

E pond?

E or river?

E okay.

E one day at the pond the boy was fishing.

E can you try that?

C one day the boy was at the pond.

E what's he doing?

C and one day at the pond the boy he was trying to get a friend.

E okay good job.

E so you told me when and where.

Case Study

679

E and I want you to remember all the things we've practiced. Okay, so I need you to>

E how should you sit when we're telling stories?

E you're ready okay.

E here we go.

C (mmm).

C one day (um) richy was trying to get a friend.

C ((and)) jumpy and the puppy (was) was happy.

C (then) then (pu*) the puppy and jumpy jumped to the water.

C ((and)) (and) the boy falled into the water on his head.

E don't forget to tell me where they are.

E where are they?

C (then) then the puppy and jumpy jumped into the water.

E where are they?

C on the pond.

C ((and)) the boy hit his head (on the) on the ground.

C (then) then richy was mad (at the) at the friend.

C ((and)) the puppy was mad.

C ((and)) the frog was kinda mad.

E because~

C because the turtle got his net.

C for the fishing net.

C ((and)) the dog was asking (give me my) give me my net back.

C ((and)) the mean way the puppy said.

C ((and)) because the turtle let it go.

C then the turtle bited his hand.

C ((and)) the puppy was sad was screaming.

C ((and)) (the pu* and) the jumpy they didn't want it to.

C ((and)) (and) jumpy ran away because (the l) jumpy didn't

Case Study

679

C If it was something .

C *verb in peek_a_boo .

C He put it on the ground .

C (And) and birds saw him .

C ((And)) he put it with him .

C ((And)) (there was there was) there was a guy
XX.

C ((And)) there was (ok) X.

C ((And)) he forgot to thank .

C ((And)) he go back into the zoo .

C (He can) he wanna kick him .

C What he would do is he would in the back
of his bike put it in there .

C ((And)) say "%ahh_ahh" like that .

C ((And)) (he) he grew now .

C ((And and)) he found him .

C ((and)) he put it back in his cage .

C ((And)) he was a thing .

C ((and)) he was a even (he) he a thing .

C ((And)) he find X.

C He saw him .

C ((And and)) he X.

C He was telling them .

C ((And)) then he was got su mouth .

C ((And)) here *the cat say that he trying to look .

C ((And)) we were .

C ((And)) he found him .

C ((And)) he smell .

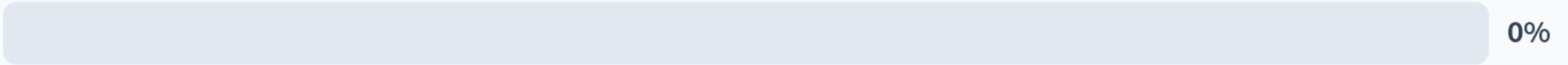
Observations about case 679

Nobody has responded yet.

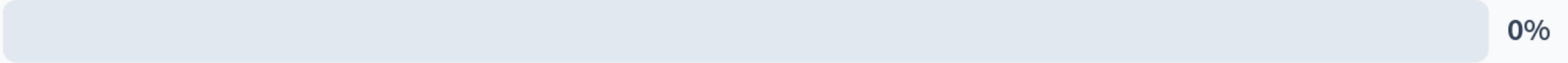
Hang tight! Responses are coming in.

Which of the two cases presents a profile consistent with DLD?

Case 457 (first case)



Case 679 (second case)



Comparison of Cases

457

679

<i>Social Emotional</i>	Anxiety	Motivation	Persistence		Anxiety	Motivation	Persistence
	1	2	1		2	3	3
	Responsiveness	Attention	Compliance		Responsiveness	Attention	Compliance
	1	1	1		2	1	2
<i>Cognitive</i>	Orientation	Meta-cognition	Self reward		Orientation	Meta-cognition	Self reward
	1	2	1		3	3	2
	Problem-solving	Verbal mediation	Flexibility		Problem-solving	Verbal mediation	Flexibility
	1	2	2		3	3	3

Comparison of Cases

457= 16

<i>Social Emotional</i>	Anxiety	Motivation	Persistence
	1	2	1
	Responsiveness	Attention	Compliance
	1	1	1
<i>Cognitive</i>	Orientation	Meta-cognition	Self reward
	1	2	1
	Problem-solving	Verbal mediation	Flexibility
	1	2	2

679 = 30

	Anxiety	Motivation	Persistence
	2	3	3
	Responsiveness	Attention	Compliance
	2	1	2
	Orientation	Meta-cognition	Self reward
	3	3	2
	Problem-solving	Verbal mediation	Flexibility
	3	3	3

Comparison of Cases

457

	English	Spanish
BIOS	72-Home, 100-School	28-Home 0-School
TNL	76	
Lang Sample	MLU-6.17 ungram-30%	MLU-4.5 ungram-53%
DA	16-mod 26-post	

679

	English	Spanish
BIOS	67-Home, 100-School	33-Home, 0-School
TNL	67	
Lang Sample	MLU 4.1, ungram-59%	MLU-3.76 ungram-76%
DA	30-mod 23-post	

Compare cases

- Story telling is hard
 - Harder in a second language
- 457 rated as having typical development
- 679 rated as having DLD

Implications for Practice



Break down the
task to understand
child success

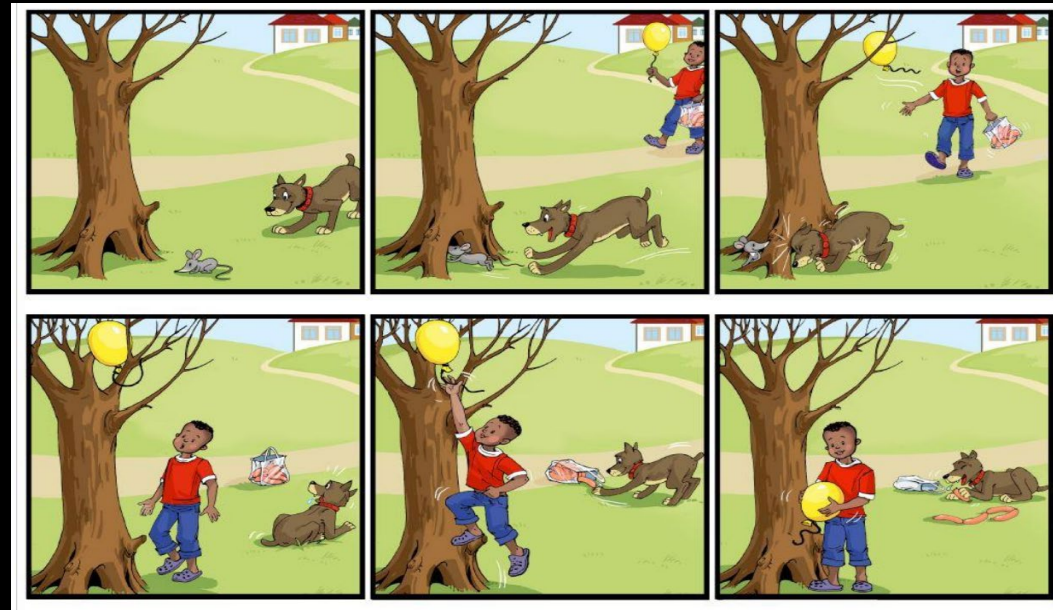
Focus on
modifiability

What are ways you can apply this information in your setting?

Nobody has responded yet.

Hang tight! Responses are coming in.

Multilingual Assessment Instrument for Narratives (MAIN)





Z A S

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MAIN 63 Download

MAIN materials

MAIN-DA: Adapted protocols for Dynamic Assessment

Contact for inquiries: Wendy Meyer (wmeyer_slp@hotmail.com)

[MAIN-DA Baby Goats & Baby Birds stories \(English version\)](#)

[MAIN-DA Dog & Cat stories \(English version\)](#)

Further modifications

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

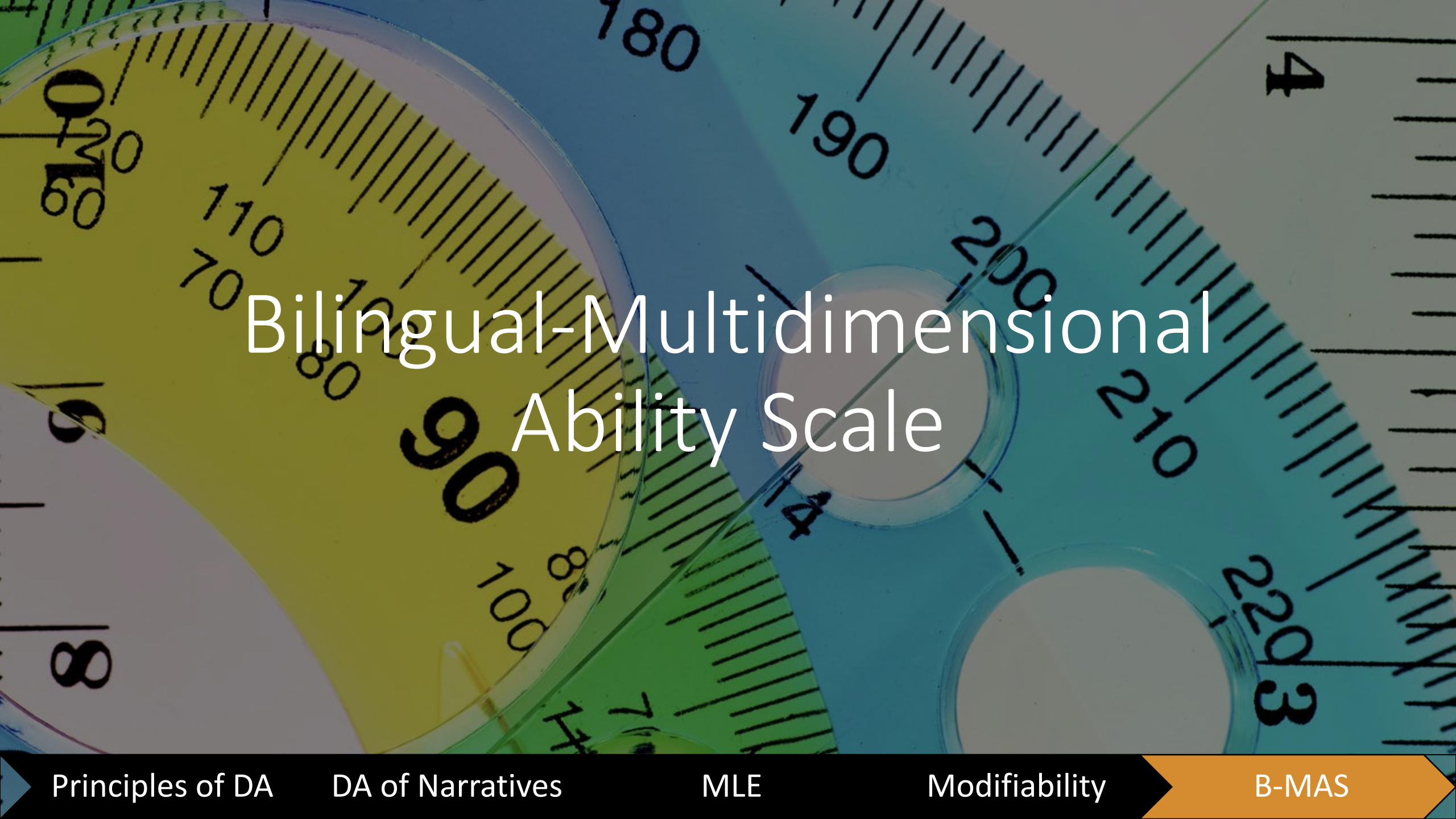
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Bilingual-Multidimensional Ability Scale

Principles of DA

DA of Narratives

MLE

Modifiability

B-MAS

Where to Start?

**Bilingual
Multidimensional
Ability Scale
(B-MAS)**

- Collaborators:
- Danyang Wang
- University of California, Irvine
- Alexander Choi-Tucci
- University of California, Irvine
- Ronald B. Gillam
- Utah State University
- Lisa M. Bedore
- Temple University

Challenges in Assessment

- Second language learning looks like DLD
- First language loss looks like DLD
- Language Dominance
 - Age of first English exposure
 - Percent of current exposure
- Test domain (by language experience)

Considerations



What is DLD?

Conventional definitions



Comprehensiveness of measures

Domains, context, language(s)



Judgements from SLPs familiar with the target population

vs. “by the numbers”

What is DLD?

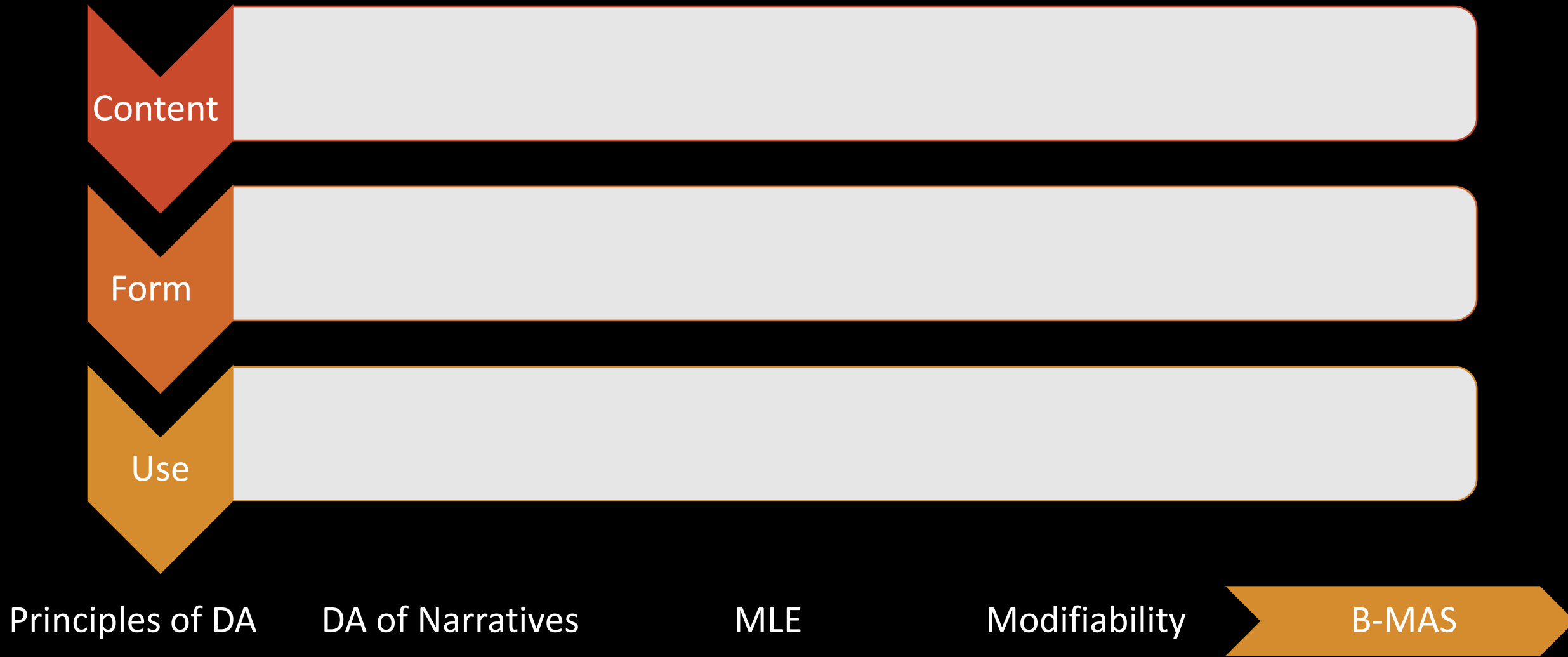
- DLD is a language disorder that delays the mastery of language skills in children who have no hearing loss or other developmental delays

Bilingual

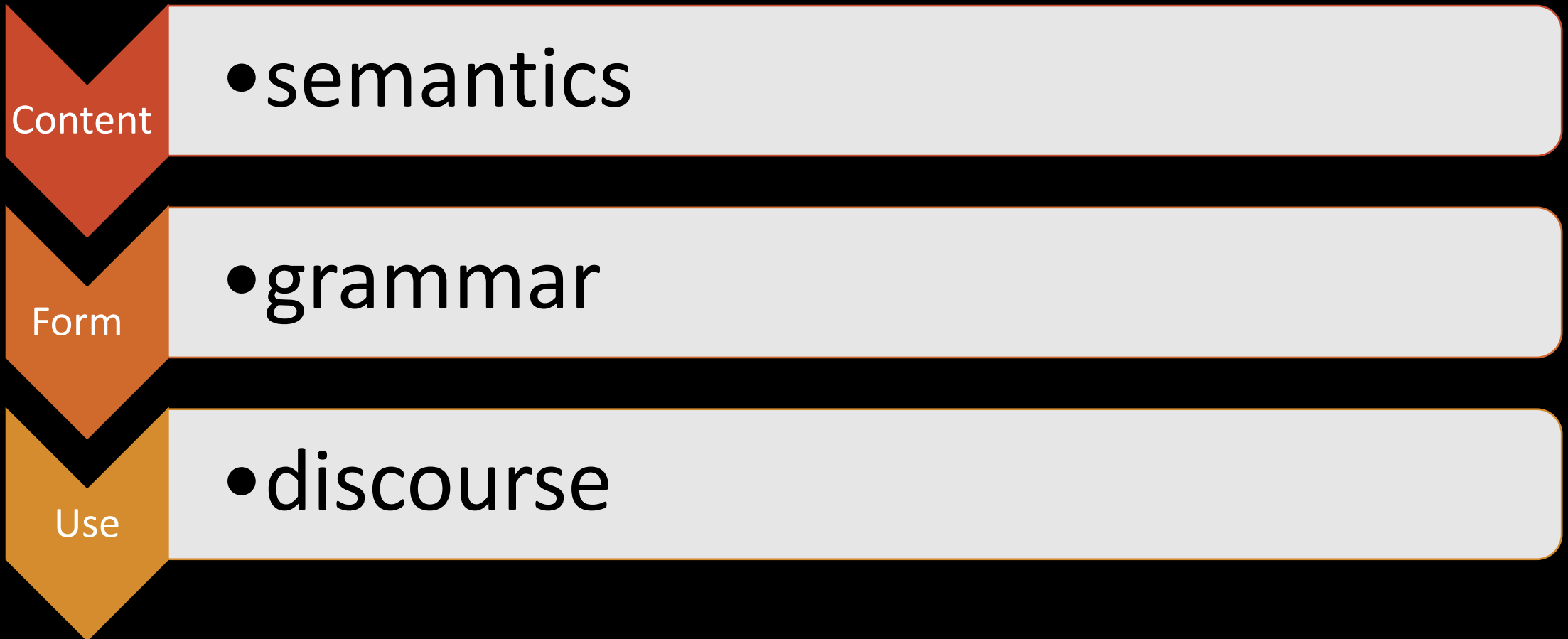
What is DLD?

- DLD is a language disorder that delays the mastery of language skills in children who have no hearing loss or other developmental delays
- Not an effect of second language acquisition
- Affects BOTH languages

Comprehensiveness of Measures



Comprehensiveness of Measures



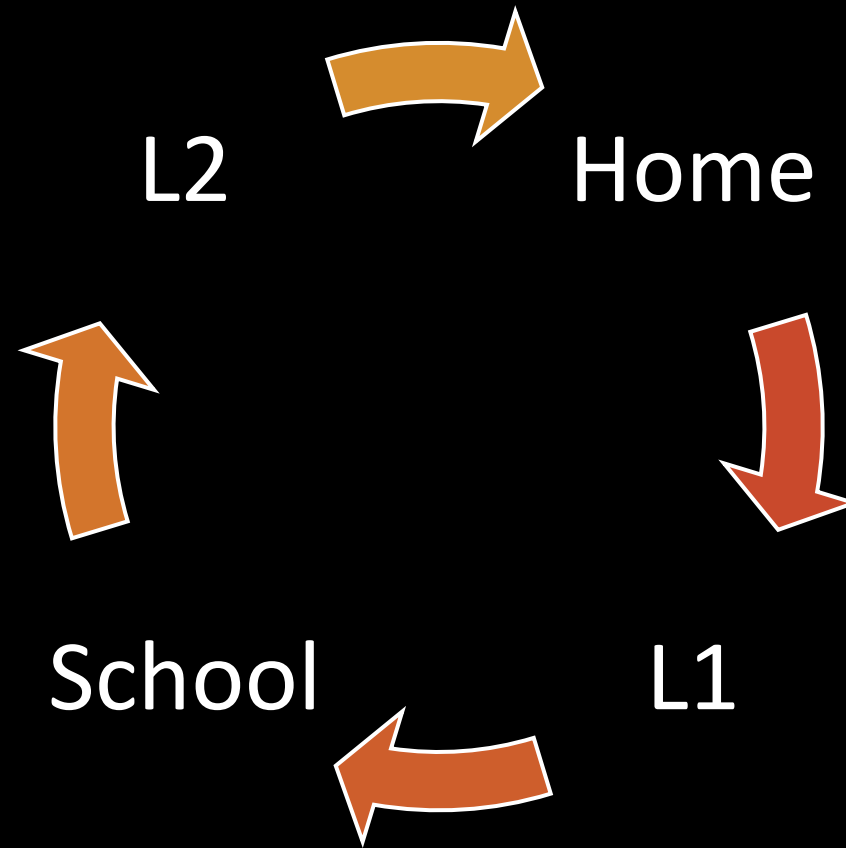
Context

	Home	School
High Context		
Low Context		

Language

	Home		School	
High Context	L1	L2	L1	L2
Low Context	L1	L2	L1	L2

Language x Context Interactions



Clinical Judgements

- Neutralist approach
- Normativist approach

- Tomblin (2006)

Neutralist

- Deviation from the statistical average
- Can be objectively established
- An inherent trait of the person
 - should therefore be the same across cultures

But, what constitutes average?

Normativist

- Notion of norm refers to cultural values
- Culturally defined condition
 - Based on what is valued within the cultural context



Complicated!

- Bilingual profile depends on
 - Age of acquisition
 - Relative exposure
 - Context
 - Motivation
 - Prestige

Lack of validated measures

- For bilinguals
- So, what's out there?
 - Standardized normed measures
 - Language sampling
 - Dynamic assessment
 - Parent & teacher report

Standardized measures

- Not many for bilinguals
- Some are translated
 - But, may over- or under-identify DLD
- Markers approach is better

LSA

- Non-biased
- Ecologically valid
- What to focus on?
 - Depends on age
 - Depends on the language (markers)

Dynamic assessment

- Flexible approach
 - Vocabulary & word learning
 - Sentence structure
 - Phonology
 - Grammar
- Focus on metacognitive strategy use

Parent & Teacher report

- Ecologically valid
- High sensitivity
 - Identify DLD as DLD
- Low specificity
 - Identify TD as TD
 - Over-identification of TD as DLD

Test development

- Identify the domain
 - Phonology
 - Morphosyntax
 - Semantics
 - Narratives

Develop items that:

- Are challenging for children with DLD (sensitive items)

BUT

- Appropriate for TD children

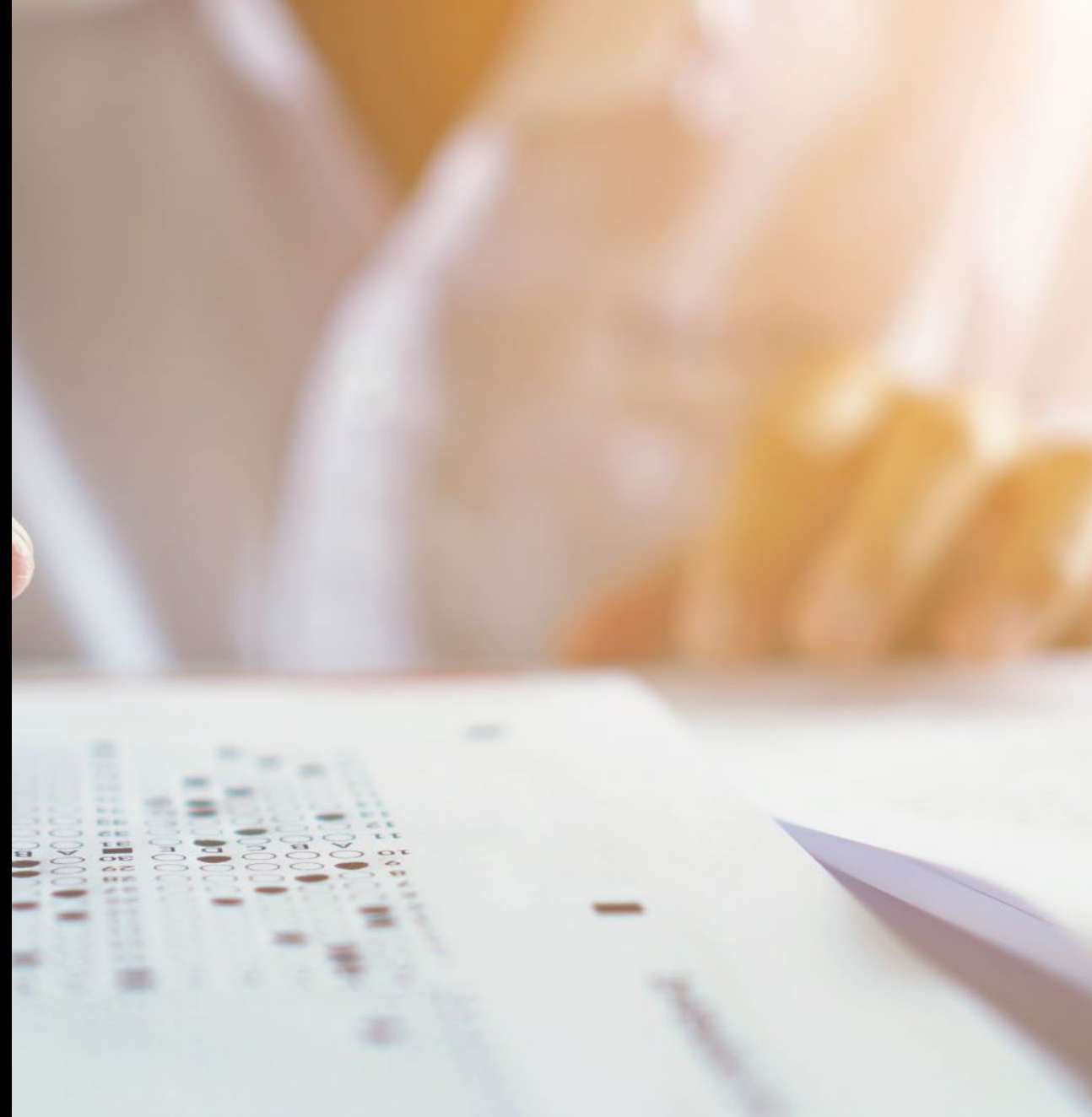
Test development

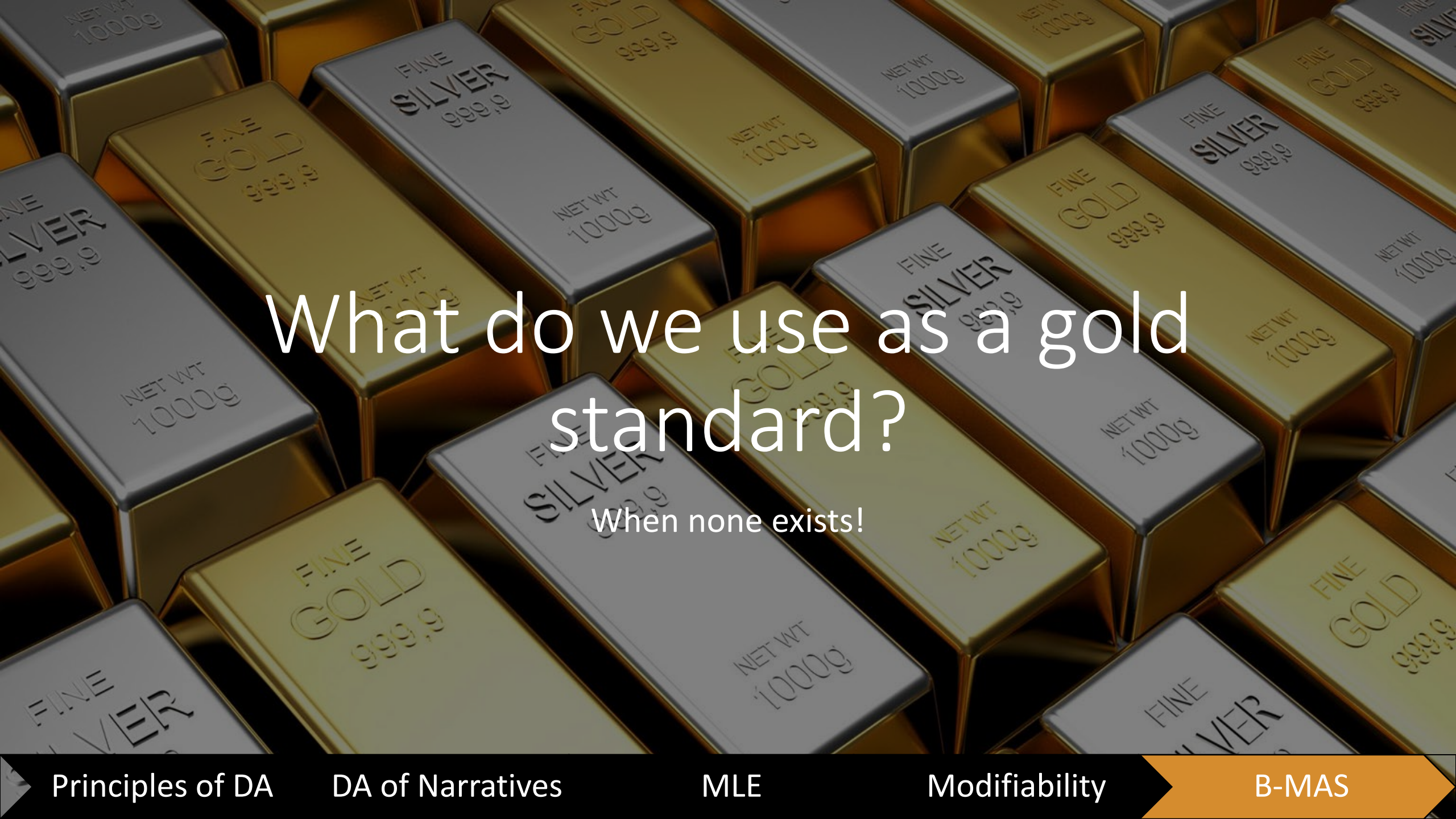
- Administer reference (gold standard) test to broad sample of participants
- Administer index (new) test to same sample

	Classification on Reference Measure		
Classification on Index Measure		DLD	TD
	DLD	sensitivity	
	TD		specificity

Test Development

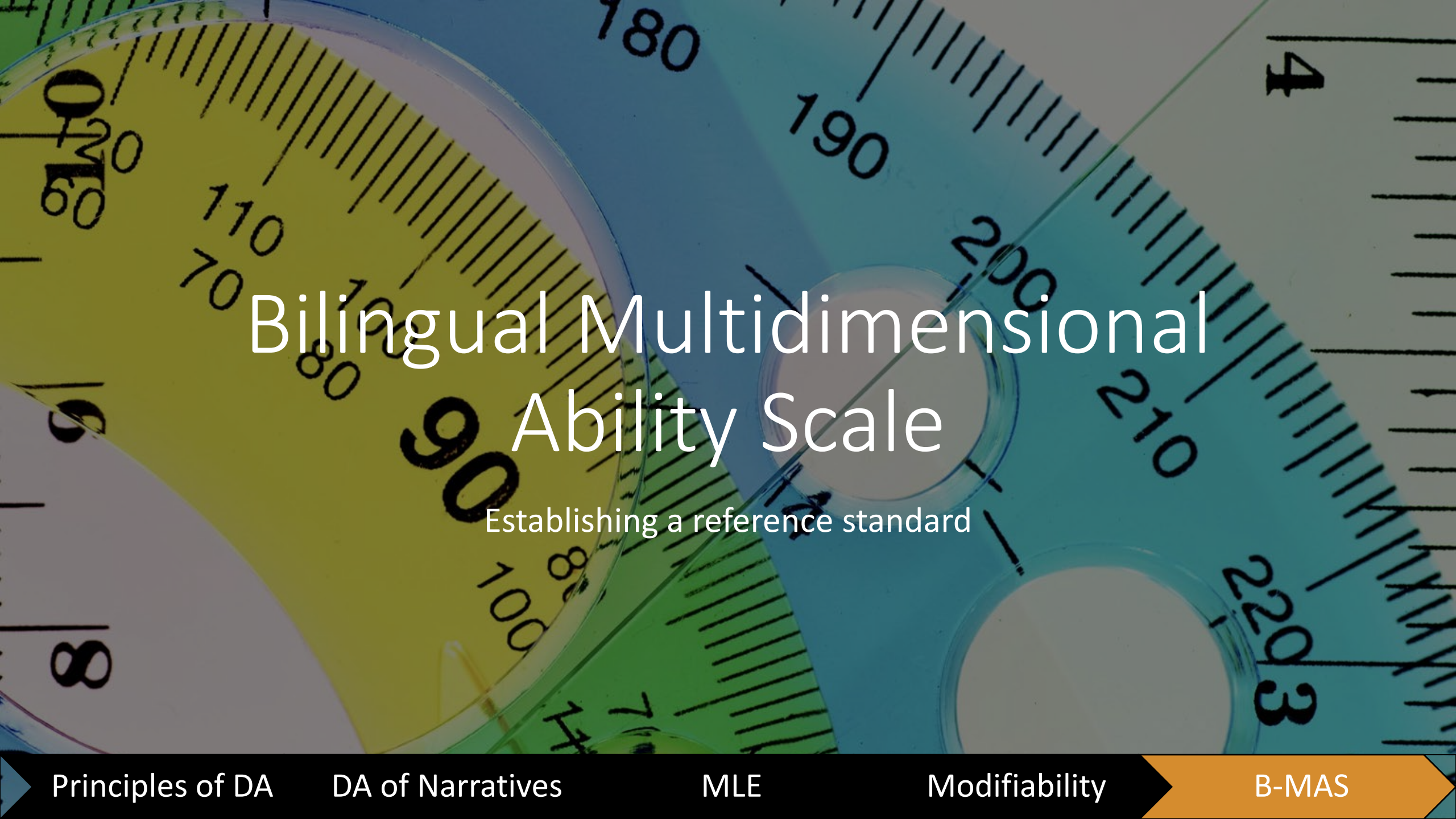
- Reference test (gold standard)
- Index test (new test or measure)





What do we use as a gold standard?

When none exists!



Bilingual Multidimensional Ability Scale

Establishing a reference standard

Converging evidence approach

- Builds on
 - existing evidence of available assessment methods for bilingual children
 - incorporates multiple sources of information (e.g., standardized tests, LSA, parent report).
- Diagnostic decisions are made based on converging judgments from SLPs
- B-MAS then can be used as a REFERENCE measure to evaluate new measures

B-MAS

Measure	Domain	Language	Specific Tool
Direct	Morphosyntax	L1	
		L2	
	Semantics	L1	
		L2	
	Narratives	L1	
		L2	
Indirect	Parent ratings of language proficiency in L1 & L2		

B-MAS

Measure	Domain	Language	Specific Tool
Direct	Morphosyntax	Spanish	Spanish morphosyntax subtest of the pilot version of BESA
		English	English morphosyntax subtest of the pilot version of BESA TOLD sentence usage subtests
	Semantics	Spanish	Spanish semantics subtest of the pilot version of BESA
		English	English semantics subtest of the pilot version of BESA TOLD receptive and expressive vocabulary subtests
	Narratives	Spanish	Spanish frog stories
		English	English frog stories TNL
Indirect	Parent ratings of language proficiency in English and Spanish		

Principles of DA

DA of Narratives

MLE

Modifiability

B-MAS

Procedure

- 167 Spanish-English bilingual 1st grade children
- 3 experienced bilingual SLPs
- Independently rated all 167 cases
 - Transcriptions of LS
 - Responses to tests
 - TOLD
 - BESA
 - TNL
 - Parent & teacher report
 - Discussed every 10 cases

B-MAS Rating

Domain	DLD			TD		
Rating	Severe- Profound Impairment	Moderate Impairment	Mild Impairment	Low average	Average	Above Average
	0	1	2	3	4	5

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Tests -- Spanish	BESA Spanish Semantics 23/48 (2) X=35	BESA Spanish Morpho 23 (1) X=37 close 5/23 SR 18/51	Spanish Frog Stories (1)
Tests -- English	TOLD Picture Vocabulary 74/66 2-4 (2) Relational Vocabulary 5 Oral Vocabulary 5 BESA English Semantics 28/48 (2) X=39 TNL Questions (McDonald's, Shipwreck, Dragon Story) 59-5 557	TOLD Grammatical Understanding 7/39 (1) Sentence Imitation 3 Grammatical Completion 3 BESA English Morpho 38 (3) X=41 - past tense 17/32 - plurals SR 21/31	English Frog Stories (2)
Expressive & Receptive Rating (Spanish and English)	Notes: Expressive skills Errors due to ESL ____ Errors not due to ESL ____ Notes: Receptive skills	Notes: Expressive skills Errors due to ESL ____ Errors not due to ESL ____ Notes: Receptive skills	Notes: Expressive skills Errors due to ESL ____ Errors not due to ESL ____ Notes: Receptive skills
Questionnaires ✓ Regular ____ ESL ____ Bilingual	Teacher Questionnaire English 5 Spanish DK Parent Questionnaire English 4 Spanish 4	Teacher Questionnaire English 5 Spanish DK Parent Questionnaire English 5 Spanish 5 inconsistent ratings	
English Rating	0 1 (2) 3 4 5	0 1 (2) 3 4 5	0 1 (2) 3 4 5
Spanish Rating	0 1 (2) 3 4 5	0 1 (2) 3 4 5	0 1 (2) 3 4 5
Domain rating	0 1 (2) 3 4 5	0 1 (2) 3 4 5	0 1 (2) 3 4 5

Summary Rating	0 Severe-Profound impairment	1 Moderate impairment	2 Mild impairment	3 Low normal/borderline	4 Normal development	5 Above Average
Consensus Rating after Discussion	0 Severe-Profound impairment	1 Moderate impairment	2 Mild impairment	3 Low normal/borderline	4 Normal development	5 Above Average

Results

	Rating type	Intra-Class Correlation (ICC)
English rating	English semantics	.878
	English morphosyntax	.896
	English narratives	.843
Spanish rating	Spanish semantics	.904
	Spanish morphosyntax	.856
	Spanish narratives	.902
Domain rating	Semantics	.874
	Morphosyntax	.829
	Narratives	.854
Summary	Summary	.896

Results

- 21 of 167 children identified with DLD

Results

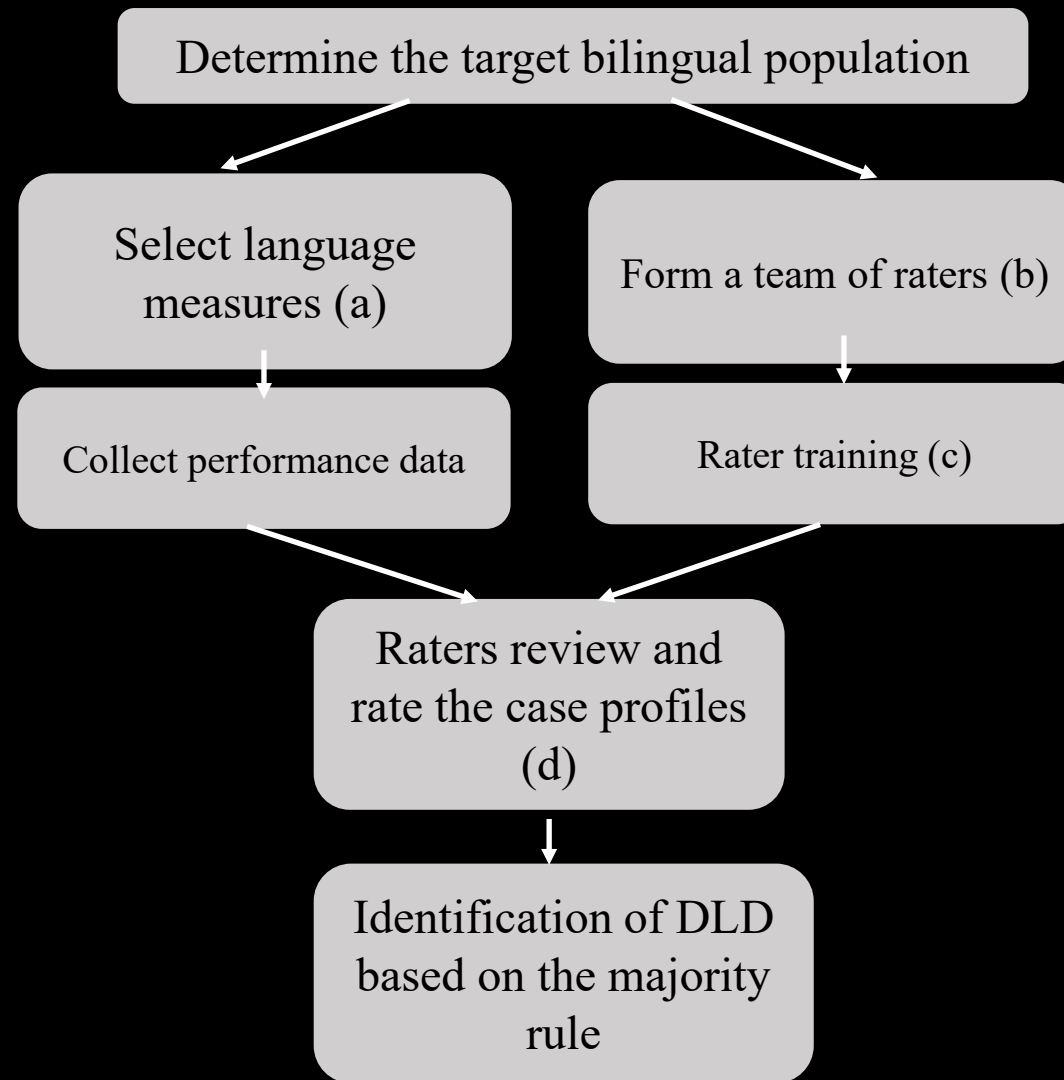
Test category	Test Name	Subtests/measures	TD (N=145)		DLD (N=21)		Group difference (t test or Mann-Whitney U test)
			Mean	SD	Mean	SD	
Spanish tests	BESA Spanish	Semantics	29.83	8.03	19.62	7.50	W=667, p=.000
		Morphosyntax	50.15	17.41	26.15	14.23	W=403, p=.000
	Spanish Frog stories	MLU	5.61	0.93	4.87	0.76	t=-3.29, p=.001
		NDW	69.75	20.14	51.50	18.72	W=790, p=.000
		TNW	198.29	77.44	135.37	70.68	t=-3.35, p=.001
		Subordination index	1.16	0.17	1.09	0.14	t=-1.88, p=.062

Results

Test category	Test Name	Subtests/measures	TD (N=145) Mean SD		DLD (N=21) Mean SD		Group difference (t test or Mann-Whitney U test)
English tests	TOLD	SL	39.92	11.82	28.43	8.10	t=-4.30, p=.000
		Li	16.02	3.59	13.62	2.87	W=1136, p=.003
		Or	10.85	5.63	6.48	3.19	t=-3.47, p=.001
		Sp	13.05	4.44	8.33	3.86	t=-4.62, p=.000
		Se	20.54	6.42	16.57	5.64	t=-2.69, p=.008
		Sy	19.32	6.51	12.62	4.01	W=836, p=.000
	TNL	Narrative comprehension	20.28	6.41	12.24	5.99	W=785, p=.000
		Oral narratives	25.79	8.28	17.29	8.34	W=942, p=.000
	BESA English	Semantics	32.48	5.92	24.38	7.19	t=-5.70, p=.000
		Morphosyntax	40.69	14.72	24.52	13.90	t=-4.73, p=.000
	English Frog stories	MLU	6.05	0.86	5.29	0.93	t=-3.37, p=.001
		NDW	69.82	19.50	59.91	17.29	t=-2.00, p=.047
		TNW	203.71	71.44	164.18	66.51	t=-2.17, p=.032
		Subordination index	1.18	0.14	1.07	0.14	t=-3.09, p=.001

Results

Test category	Test Name	Subtests/measures	TD (N=145)		DLD (N=21)		Group difference (t test or Mann-Whitney U test)
			Mean	SD	Mean	SD	
Questionnaires	English	Parent	4.07	0.67	3.57	1.01	W=546, p=.072
		Teacher	3.67	0.81	3.17	1.14	t=-2.32, p=.021
	Spanish	Parent	4.18	0.73	3.83	0.78	W=1107, p=.030
		Teacher	3.87	1.48	2.70	1.74	W=265, p=.003



Ideas for application of the B-MAS?

Nobody has responded yet.

Hang tight! Responses are coming in.

DA Principles
Apply to Many
Targets

Narratives
Word Learning
Grammar

MLE:
Intentional
Teaching

Modifiability:
Child
Strategies

B-MAS: When
you don't have
a gold standard

Gracias



Elizabeth D. Peña

University of California, Irvine

edpena@uci.edu



@HABLABlab

2languages2worlds.wordpress.com

HABLABlab.wordpress.com