



## DYNAMIC ASSESSMENT

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## Definition of Language

Language is a dynamic system that is embedded in and influenced by the biological, social, cultural, cognitive, and affective domains and contexts we face daily (ASHA Committee on Language, 1983).

Language involves the ability to **integrate** knowledge of phonology, morphology, syntax, semantics, and pragmatics to create sentences and texts.

## Language Assessment

- Language assessments should be consistent with our definition of language.
  - Dynamic system
  - Integration of form, content, use
  - Create and express meaning

## Assessment should result in:

- Diagnosis of a communication disorder,
- Identification of a difference related to cultural and linguistic factors,
- Prognosis for change (in the individual or relevant contexts),
- Referral for other assessments or services as needed.

## Cultural Considerations

- Language is, by its very nature, inseparable from cultural norms, perspectives and values
- To judge whether a child presents a temporary or permanent deviation from generally accepted language standards, it is necessary to understand the norms and expectations of the cultural environment in which the child is developing.

## Differentiating Language Difference from Language Disorder

- Standardized tests are nearly useless for differential diagnosis when culture or experience is an issue.
- Observation may not readily reveal whether problems are related to lack of experience or lack of language learning abilities.
- “Watch and See?”
- Interactive assessment procedures such as dynamic assessment are useful.

## Difference vs. Disorder

- Poor performance on standardized measures of language
- Children who respond quickly and learn well during short teaching sessions - language differences
- Inefficient learners who are unable to make changes - language impairments

## What is Dynamic Assessment?

### Test-Teach-Retest procedure

- Combines assessment and teaching processes
- Observation of learning processes and strategies
- Latent capacities for change

### Tasks

- Cognitive Problem-solving (Grigorenko, Sternberg, and colleagues)
- Vocabulary (Peña and colleagues)
- Narration (Gillam, Peña, and colleagues)
- Reading (Petersen, Gillam)

## Characteristics of DA

### Test-Teach-Retest model

- focus on child modifiability
- observation of learning styles
- interaction between teacher effort and learner responsiveness
- determine which teaching strategies are helpful

## Outcomes of DA

- Helps us distinguish between language difference and language disorder
- Process-oriented approach to assessment and intervention
- Informs intervention procedures
- Helps predict change

## Narratives

- Narratives can reflect language ability
- Narratives play critical roles in literacy learning
- Narrative discourse is prevalent in thinking, in socialization, and in instruction
- Literate, Decontextualized Language

## Reasons for Atypical Narrative Ability

- Home cultures may value different types of narrative and expository texts than the ones used in school.
- Children may have less experiences listening to and telling stories or with formulating detailed explanations.
- Children may be poor language learners

## Dynamic Assessment of Narratives

- Test and Retest
  - Short wordless picture books that yield similar levels of stories
  - Assessment of story elements and productivity
- Mediation Sessions
  - Clinicians demonstrate the critical components of a story
  - Guided practice in producing stories that contain critical components

## 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" or a wordless picture book such as "Frog Where Are You" (John, Lui, and Tannock, 2003).
- Posttest
  - Elicit a narrative using: "Bird & His Ring" or an equivalent wordless picture book such as "One Frog Too Many"

## Narrative Analysis

- Story Components
- Story Ideas & Language
- Episode Structure

## Story Components

- Index of Narrative Complexity

## Index of Narrative Complexity

- Character
  - Ambiguous Pronouns: 0 (he)
  - Non-specific label: 1 (the dog)
  - One specific name: 2 (David)
  - More than one specific name: 3

## Index of Narrative Complexity

- Setting
  - No reference: 0
  - General Reference: 1 (outside)
  - One+ specific references: 2 (Central Park)

## Index of Narrative Complexity

- Initiating Event (Problem)
  - None: 0
  - One problem but no related action: 1
  - One problem with related action: 2
  - Two or more problems: 3

## Index of Narrative Complexity

- Internal Response (Feelings)
  - None: 0
  - One feeling but not related to IE: 1
  - One+ feeling related to IE: 2

## Index of Narrative Complexity

- Plan
  - None: 0
  - One overt statement: 1
  - Two overt statements: 2
  - Three + overt statements: 3

## Index of Narrative Complexity

- Action/Attempt
  - None: 0
  - One not related to IE: 1
  - One+ related to IE: 2

## Index of Narrative Complexity

- Consequence
  - None: 0
  - One: 1
  - Two: 2
  - Three+: 3

## Index of Narrative Complexity

- Formulaic Marker (the end)
  - None: 0
  - One: 1
  - Two +: 2

## **Index of Narrative Complexity**

- Temporal Marker (then)
  - None: 0
  - One: 1
  - Two +: 2

## **Index of Narrative Complexity**

- Causal Adverbial Clauses (because)
  - None: 0
  - One: 1
  - Two +: 2

## Index of Narrative Complexity

- Dialogue
  - None: 0
  - One: 1
  - Two +: 2

## Mediation Session 1

- Focus on elements of a complete episode
  - Problems,
  - the way people feel about them,
  - what they do to solve the problem,
  - what happens,
  - how they feel at the end
- Review and co-construct *Two Friends*

## Mediation Session 2

- Review critical elements
- Co-construct "*One Frog Too Many*"

## Mediation strategies

- |                      |                             |
|----------------------|-----------------------------|
| • Intention to teach | goal statements             |
| • Meaning            | why it's important          |
| • Example            | demonstrations              |
| • Transcendence      | metacognitive awareness     |
| • Planning           | What will you do next time? |
| • Self-evaluation    | What did you do?            |
| • Transfer           | Generalization to new story |

## Examiner Supports

- Give shorter directions
- Provide models
- Provide concrete explanations
- Help the child work through examples
- Give extra time for solving problems
- Give cues
- Ask elaboration questions
- Ask the child to restate the learning goal

## Clinician Judgments

### Modifiability

#### Clinician Effort

- Extent of scaffolding
- Repetition
- Redirection

#### Child Responsiveness

- Level of Engagement
- Ability to stay on task
- Self-correction or redirection
- Increase in awareness of their own learning
- ease of transfer

## Shelly's Two Friends Story

Uh, a cat. I know that is a cat. And I know this a dog.  
 And and them X. And they'll say, "meow." and I know  
 cats say meow. And dogs bark. And really, cat is  
 scared of the dog (IR). And and her cat leaves him.  
 And dog is bark. And then a bigger dog. That dog  
 and that dog don't like this dog. And the dog thinks  
 that is a cat. Then dog that do think um that is a cat  
 X. And it and they don't like each other. And then X.  
 And then um I don't know.

## Story Productivity: Two Friends

# Words	89
# C-units	17
MLC-unit	5.24
# Clauses	17
Clauses/C-unit	1.0

## Shelly Pretest INC

- Character: 1 (a cat)
- Setting: 0
- Initiating Event: 0
- Internal Response: 1 (cat is scared)
- Plan: 0
- Action: 1 (and dog is bark)
- Consequence: 0

## Shelly Pretest INC continued

- Formulatic Marker: 0
- Temporal: 1 (count "then" only once)
- Causal: 0
- Dialogue: 1 (meow)
  
- INC SCORE: 5

## Assessment Mediation

- Two, 20-minute mediation sessions
- Review and scaffold, *Two Friends* story
- Scaffold story for *One Frog Too Many*

## Shelly: Bird and His Ring

The bird saw the ring on the cactus. And this dog said that was the ring there X. The bird thought this founded the ring. So it gave it to the baby bird. Then the baby bird got X. And the baby bird thought that was the ring on that lizard. But it wasn't. It was crying. And then it thought that was the one that got the ring. And this one said, "do you saw a ring?" And then it said to then it thought the ring was there. But it wasn't. And then the bird thought> and then the bird got the ring.

## Story Productivity Comparisons

	Story 1	Story 2	Change
# Words	89	98	10%
# C-units	17	14	-18%
MLC-unit	5.24	7.0	33%
# Clauses	17	21	7%
Clauses/C-unit	1.0	1.5	50%

## Shelly Posttest INC

- Character: 1 (The bird)
- Setting: 1 (on the cactus)
- Initiating Event: 2 (but it wasn't)
- Internal Response: 0
- Plan: 0
- Action: 2 (and then it said)
- Consequence: 1 (bird got the ring)

## Shelly Posttest INC continued

- Formulaic Marker: 0
- Temporal: 1 (only counted one “then”)
- Causal: 0
- Dialogue: 1 (do you saw a ring)
  
- INC SCORE 9

## Listener Effort and Student Modifiability

- Less listener effort required to understand story 3
- Moderate degree of teaching effort
  - Examples and redirection needed
- Moderate degree of student responsiveness
  - Needed support and practice to attend and talk about story task

## Conclusions

- Moderate teaching effort and moderate responsiveness within mediation sessions; some change from pre- to post-testing.
- Shelly showed some improvement after mediation.
- Shelly exhibits language-learning difficulties.
- She appears to be ready to benefit from mediated teaching in the area of narration

## Recommendations

- Support in the regular classroom
- Individualized mini-lessons to jump-start the learning process.
- Progress Monitoring
  - (Spencer, T.D., & Petersen, D.B) Leveled Stories

## Intervention

- Select targets in which child showed some awareness, but below expectations
- Select goals in developmental order
- Select goals that will help child in classroom setting

Magali: Pretest  
"Two Friends"

## Magali's Two Friends Story

He was thinks about the cat. He was thinking. He was talking to him. Next, he was telling something to him and him too. Next, (he's) she's telling bye. And he's sad. And he was going thinking and he think right here too.

He was thinks about the cat. He went and he saw a dinosaur (he was still) he was thinks he didn't look like a cat. And that (little and that he) he was thinks to that cat and he's not the cat either. He was swimming . He saw some fish (they were not the cat) it's not the cat. And he saw a tail like the cat. And, he (pound) found it in his.

The End

## Pretest Analysis

- Story Productivity
 

– # words	104
– #C-units	18
– MLC-unit	5.77
– # clauses	20
– clauses/c-unit	1.11

## **Magali Pretest INC**

- Character: 1
- Setting: 0
- Initiating Event: 1
- Internal Response: 2
- Plan: 0
- Action: 1
- Consequence: 0

## **Magali Pretest INC continued**

- Formulaic Marker: 1
- Temporal: 2 (next 2x)
- Causal: 0
- Dialogue: 0
  
- INC SCORE 8

## Magali: Posttest "Bird & His Ring"

## Posttest Story

He got his ring out it, where he got its.  
And, next he give it to the bird.  
He take off there.  
He give it to the bird.  
Next, he was thinks about his ring.  
And (um, he was looking the animal) he was looking the animal.  
Next, (he) the ring he was thinks about the ring.  
He went walking to tell the bird (he now) he gets the ring  
He should know.  
He said, "have you got my ring?"  
He said, "no" too.  
He talked to a other animal.  
And he said if he got his ring?"

continued

And he said, "no"  
 And he was thinks (a lot) a lot for his ring.  
 (And he told a other animal) he was looking at this ring fall.  
 And he was saying"(bird had it) bird had it"  
 And he was saying, "he's not giving it to me"  
 "He's keeping it"  
 And he said, "you can't have my ring"  
 "You didn't want to give it to me back"  
 (And bird) the bird got mad at him.  
 And the animal who had the ring, he got happy for finding his ring.  
 The end.

## Posttest Analysis

- Story Productivity
  - # words                    167    60% improvement
  - #C-units                    23     28% improvement
  - MLC-unit                   7.26   26% improvement
  - # clauses                   34     70% improvement
  - clauses/C-unit            1.48   33% improvement

## Posttest Analysis

- Story Components
  - Temporal Order- **some-well specified**
  - Setting- none given
  - Character Information- none given
  - Causal Relationships- none given

## Magali Posttest INC

- Character: 1
- Setting: 0
- Initiating Event: 2
- Internal Response: 2
- Plan: 1
- Action: 2
- Consequence: 1

## Magali Posttest INC continued

- Formulaic Marker: 1
- Temporal: 2
- Causal: 0
- Dialogue: 2
- INC SCORE 14

## Shelly & Magali at pretest

	Shelly	Magali
# Words	89	104
# C-units	17	18
MLC-unit	5.24	5.77
# Clauses	17	20
Clauses/C-unit	1.0	1.11

## Shelly and Magali at posttest

• Story Productivity	<u>Shelly</u>	<u>Magali</u>
– # words	10%	60%
– #C-units	-18%	28%
– MLC-unit	33%	26%
– # clauses	7%	70%
– clauses/c-unit	50%	33%

## Improvements

Shelly

Magali

- |                   |                    |
|-------------------|--------------------|
| • Pretest INC: 5  | • Pretest INC: 8   |
| • Posttest INC: 9 | • Posttest INC: 14 |



## Using Dynamic Assessment to Estimate Reading Difficulty

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## Overrepresentation: Hispanics and Reading Difficulty

- Nearly 50% of all 4th grade Hispanic students read below grade level (NAEP, 2007).
- 75% of first grade readers at risk for reading problems will continue having difficulty reading into adulthood.
- Reading difficulty, once it has manifested, is not easy to remediate. It usually lasts a lifetime.

## Early Identification = First Step

- Literacy screening for all children, including Hispanic children is needed.
  - Sensitivity (Accurately identifies those at risk)
  - Specificity (Accurately identifies those not at risk)
  - Validity (Results are interpretable and lead to appropriate action)

## Poor Sensitivity and Specificity

- Previous research has resulted in poor classification of children (especially Hispanic children).
  - Poor Sensitivity: Ranging from 20% to 60% errors.
  - Poor Specificity: Ranging from 10% to 50% errors.

## Methods

- Participants
  - 63 kindergarten Hispanic children
  - Low SES
  - Language exposure and use data from birth to just before kindergarten collected



## Dynamic Assessment Pretest

### BASIC PRE-TEST

tad

zad

nad

kad

## Dynamic Assessment Mediation

Round 1: I'm going to show you how to read these words.

This letters says 't' say 't'

These letters together say 'ad' say 'ad'

Put them together and you get the word 't-ad' 'tad'

What is this word (point to the word 'tad')

Round 2: With minimal instruction, the child imitates the following pattern for each word:

Examiner: 't' - Child 't'

Examiner 'ad' - Child 'ad'

Examiner 't-ad' - Child 't-ad'

Examiner 'tad' - Child 'tad'

### BASIC INSTRUCTION

t - ad

z - ad

n - ad

k - ad

tad

zad

nad

kad

## Dynamic Assessment Posttest

### BASIC POST-TEST

nad

kad

tad

zad

## Scoring The Dynamic Assessment

- Gain Scores (Posttest - Pretest)
- Gain Score Residuum (Percentage of possible gain after accounting for pretest performance)
- Strategy Scoring (Response to instruction of onset-rhyme strategy: no whole-word guessing)

## Measures: First Grade

- Winter First Grade:
  - Measures of Reading (Narrowly Defined)
    - - DIBELS Oral Reading Fluency
    - - DIBELS Nonsense Word Fluency

## Results

- Phonological Awareness, Letter Identification and Dynamic Assessment
- Combined Scores:
  - Sensitivity/Specificity = 71%/85%
- Dynamic Assessment Strategy Score:
  - Sensitivity/Specificity = 100%/74%
  - Identified 100% of the children having difficulty with reading.

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