SUGAR

A Sweet Introduction to Language Sampling

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- Stacey Pavelko is the co-owner of SUGARLanguage, LLC and is receiving an honorarium for this presentation
- Stacey Pavelko is an employee of Binghamton University and receives a salary
- Stacey Pavelko has no relevant non-financial relationships to disclose
- Stacey Pavelko will be presenting the SUGAR method of language sampling and will not be discussing other methods

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Language sampling is the heart and soul of language assessment, reflecting language as it is used in the fluid give and take of conversation and representing, as best we can, a child's typical usage.
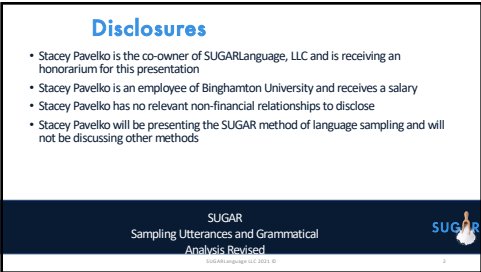
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Advance Organizer

- LSA Background and Use
- What is SUGAR?
- Robust Sampling
- Transcription

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Components of a Comprehensive Language Assessment

- Referral
- Questionnaire and Interview
- Case History
- Observation
- Standardized Testing
- Dynamic Assessment
- Language Sample Analysis (LSA)
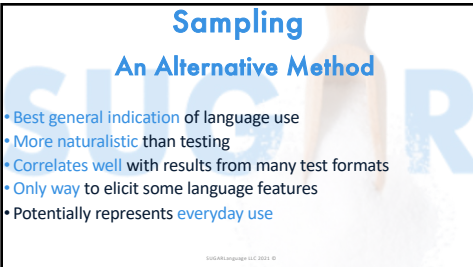- Recommendations

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Sampling
An Alternative Method

- Best general indication of language use
- More naturalistic than testing
- Correlates well with results from many test formats
- Only way to elicit some language features
- Potentially represents everyday use

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Where did LSA come from?

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Roger Brown

- Seminal study of early language development, entitled *A First Language* (1973) *
- Revolutionized the study of child language development studies
- Changed the assessment of communication abilities of children with language impairment (LI).
- SLP's have changed the basic methodology very little in the intervening four decades.

*Taken from: Brown, R. (1973). *A first language the early stages*. Cambridge, MA: Harvard University Press.

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Brown's Work

- Collected extensive language samples
- Each sample consisted of at least **700** utterances per month
- Sample size only included 3 children
- Documented information on early language form between ages 2 - 4
- Different grammatical stages described by mean length of utterance (MLU)

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Brown's Participants

- Three typically developing (TD) children
  - Adam: 27 months old; parent's education level- *college*
  - Eve: 18 months old; father's education- *college*; mother's education- *high school*
  - Sarah: 27 months old; parent's education level- *high school*
- Children were typically developing (TD)
- All from Cambridge, Massachusetts
- Parent occupations: Minister, Harvard graduate student, and clerk

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Brown's Methods

- Transcriptions of the mother and child were collected
- Samples were collected in the home
- A minimum of **two hours** of transcription per month
- **Two examiners** per language sample
- Examiners used a video recorder to collect the samples

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How do SLPs conduct LSA?

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Research Questions

- Do school-based SLPs use LSA in their clinical practice
- What are the characteristics of the language samples SLPs collect?
- What are the methods of analysis?
- What are the barriers that school-based SLPs identify in using LSA?

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Pavelko, Owens, Ireland, & Hahs Vaughn (2016)

1,399 school-based SLPs

- 88% were ASHA certified
- 95% held a master's degree in CSD

- Over 75% had caseloads of 21 or larger
  - 21-40 students   29%
  - 41-60 students   44%
  - 61-80 students   16%

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Do SLPs use LSA?

- Not so much…
  - 33% did not use LSA AT ALL in the previous school year…

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Frequency of Sampling

10 or fewer Samples	55%
11-20 Samples	23%
21-30 Samples	9%
> 30 Samples	11%

* Of the 67% who reported using LSA during the previous school year

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Sample Length

1-5 Minutes	27%
6-10 Minutes	46%
11 minutes or longer	27%

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Number of Utterances

Less than 25 utterances	11%
26-50 utterances	42%
51-100 utterances	35%
More than 100 utterances	12%

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Elicitation Task

	Birth to 3	Preschool (ages 3-5)	Elementary School	Middle School	High School
Conversation	**96%**	**96%**	**96%**	**93%**	**94%**
Narrative (e.g., "tell me a story")	63%	69%	74%	75%	75%
Expository (e.g. "Explain how you...")	40%	39%	41%	42%	42%
Picture description	73%	74%	76%	71%	74%
Observation of child communication in school setting	76%	77%	70%	72%	73%
Other	14%	8%	7%	6%	5%

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Recording the Sample

Audio	43%
Video	17%
Neither*	52%

Transcribe what the child is saying while the child is talking*

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Methods of Analysis

Method/Protocol	Frequency (%)
Assigning structural stage	3%
Lahey's content/form analysis	10%
Computerized language analysis	0%
Developmental sentence scoring	9%
Index of productive syntax	0%
Local/district language sample protocol	14%
Systematic analysis of language transcripts	24%
State language sample protocol	5%
Self-designed protocol	**45%**
Other	23%

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Barriers to LSA

Too Time Consuming	79%
Limited Resources	35%
Limited Training/Expertise	20%
Limited Recognition as a Valid Assessment Measure	17%

Pavelko, S.L, Owens, R., Ireland, M., & Hahs-Vaughn, D.L. (2016). Use of language sample analysis by school based SLPs: Results of a nationwide survey. *Journal of Speech, Language, and Hearing Services in Schools, 47*, 246-258. doi:10.1044/2016_LSHSS-15-0044

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How do we make LSA more clinician friendly?

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What is SUGAR?

- A valid…
  - Accurate…
    - Free…
      - Time Efficient
- Way to language sample

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Lessons Learned

How SLPs Sample

- 50 Utterances
- 10 minutes or less to collect sample
- Conversation

Barriers to Overcome

- Time Consuming
- Limited Training/Expertise
- Limited Recognition as a Valid Assessment Measure

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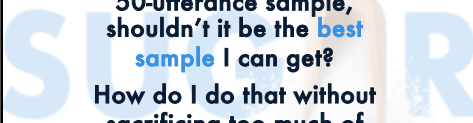SUGAR

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If I only have one
50-utterance sample,
shouldn't it be the best
sample I can get?

How do I do that without
sacrificing too much of
a sample's representative
conversational nature?

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SUGAR changes to LSA

- Robust Sample
- Transcription Rules
- Analysis Rules

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What is a Robust Sample?

- THE MOST IMPORTANT PART!!

- Engages the child in a conversation that gives the child the opportunity to produce complex language

- Allows the child to control the interaction
  - Children are more communicative and use more complex language

(Lapadat,1982; Norris & Hoffman, 1993)

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Collecting a Robust Sample

- Offer the child every opportunity to produce complex language
  - Turnabouts
  - Process Questions
 - Narrative Elicitations

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SUGAR Conversational Strategies

- Turnabouts = Comment + Cue for child to talk
- Process Questions
  - *How did…*
  - *I wonder what you…*
  - *Why did…*
    - More than one-word "why" questions
    - Not appropriate for kids below 4.5 yrs

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SUGAR Conversational Strategies

- Use narrative elicitations instead of yes/no questions
  - Build on what the child says or on what you know
  - Begin with…
    - *Your mom says you…. That sounds like fun. Tell me what happened.*
    - *I know that you…. Tell me what happened.*
    - *Did you ever…. Tell me what you did.*
    - *What happened…*
    - *Tell Me*

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Some Examples

- What does the EXAMINER do?
  - Verbal
  - Non Verbal
- Suggestions for improvement?

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Determining A Robust Sample

- In your sample…
  - Are there 10 child utterances that are one-word?
    - Were these utterances prompted by the examiner?
      - If yes… NOT a robust sample
- An Example.
- What did the examiner say?

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If at first you don't succeed…

- Remember, you need a robust sample!

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Recording Samples

- Most children, even those with language disorders, will produce 50 utterances in about 7 minutes
- Record on a SECURE device
  - Remember HIPAA

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SUGAR changes to LSA

- Robust Sample
- Transcription Rules
- Analysis Rules

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Deciding Utterance Boundaries

SUGAR Method Handout

- An utterance is a sentence or less
- Utterances are separated by a pause (2 seconds), drop in voice, inhalation or combination of these
  - Even if the pause occurs in the middle

    "I want a [2 second pause] cookie" = 2 utterances

  - Even if the pause is filled:

    "I want a uh-h-h [2 second filled pause] cookie" = 2

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Deciding Utterance Boundaries

- If an utterance contains more than two clauses joined with *and*, consider it a run-on sentence and divide as follows:

  We went to the circus and I saw clowns and there were elephants and I got this sweet sticky stuff.

  Becomes…

  We went to the circus and I saw clowns.

  There were elephants and I got this sweet sticky stuff.

- Do <u>NOT</u> do this with other conjunctions.

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Unintelligible Words & Utterances

- If the entire utterance is unintelligible, omit it.
- If a word is unintelligible, type nonsense, such as "XXX" in place of the word.
- You can have two unintelligible words in an utterance. If an utterance has 3 or more unintelligible words, omit the utterance.

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SUGAR Transcription

- Transcribe the sample directly into your computer.
- Only type the student's utterances, NOT yours.
- Turn the "Numbering" function on to ensure you only type 50 utterances.
- Type in plain English as spoken.
- Omit punctuation to save time.

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SUGAR Transcription

- Do NOT embellish the student's utterance. In other words, don't add morphemes that are missing.
- Type words in full even when pronunciation omits portions as follows:
  - *Talkin'* should be transcribed as "Talking"
  - *Gonna, wanna, gotta, hafta* should be transcribed as "going to, want to, got to, have to".
- Type contractions as is. In other words, *don't* should be typed as "don't" and *I'm* as "I'm"

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SUGAR Transcription

- Do NOT include fillers (uhhhh, ummm, like, you know).
- Do NOT include disfluences. **Only include the fullest form of what the student actually said**. Example: "He said…he says…he tell me secrets" becomes "He tell me secrets."
- Do NOT include repeated words unless it is for emphasis, as in "He went down down down in the cave."
- Highlight elliptical and imperative utterances

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SUGAR Method

- Robust Sample
- Transcription Rules
- **Analysis Rules**

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SUGAR Metrics

- **Total Number of Words (TNW)**
- **Mean length of Utterance – SUGAR (MLUSUGAR or MLUs)**
- **Words per Sentence (WPS)**
- **Clauses per Sentence (CPS)**

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TNW

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MLUSUGAR

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SUGAR Considerations

- We hoped to develop a tool that could be used from preschool through early elementary school
  - Rice et al (2010) had reported little change in MLU through age 10
- We had data on additional morpheme use from the pilot study
  - We decided to include the most frequently used bound morphemes from the pilot study
  - Reviewers told us we couldn't still call it MLU, so we modified it to
    MLUSUGAR

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MLUSUGAR

Morpheme	Example
-ing	
adjective	Smiling girl
gerund	I love hiking
progressive verb	He is jumping
-s	
plural	Cats
possessive	Mommy's shirt
third person singular	He walks
-ed	
adjective	I am married
regular past tense	He scared me
dis-	Dislike

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MLUSUGAR

Morpheme	Example
-er	
comparative	Bigger
-est	
superlative	Biggest
-ful	Thoughtful
-ish	Foolish
-ly	Really
-ment	Entertainment
re-	Reteach
-sion	Discussion
-tion	Education
un-	Unhappy
-y	
adjective	Bumpy

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MLUSUGAR

- 2 Morphemes
  - Wanna, gotta, hafta

- 3 Morphemes
  - gonna

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WPS

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Words per Sentence (WPS)

Both a sentence and a clause contain a subject and the accompanying verb, as in *Mommy walked*

Sentence = Noun/pronoun subject + Accompanying verb

A sentence can have more than one clause, as in "*Mommy walked* but *I ran*"

The critical element in determining a sentence is the presence of a **VERB**

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When is a Sentence a Sentence?

• **Common questions**

• What about *wh-* words that in writing we set off as sentences? *Why? When? How?*   NOT sentences

• What if the subject and verb are there but the thought is incomplete?

We went to… YES, a sentence because of a subject and a verb

These are children, not adults and thoughts are often incomplete.

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When is a Sentence a Sentence?

- Common questions

  - So imperatives would count as a sentence?
    - YES, because the verb is present. The verb is key

  - Is it a sentence if the child omits the subject and verb but they're understood, as in *"Me."*
    - Nope. No subject, no verb

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CPS

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Clauses per Sentence (CPS)

A clause contains a subject and the accompanying verb

The critical element in determining a clause is the presence of a VERB and a unique subject

Two clauses:
I walked to the store while my mom cleaned the house

One Clause
I walked to the store and cleaned the house

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