Language Sample Techniques

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Language Sample Techniques

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University of Northern Iowa

Session Overview

- Introduction
- Language Sampling techniques
  - Settings
  - Materials
  - Types of interactions
  - Sample size
- Transcription and coding
- Description of Analysis types
- Practice language transcription analysis by hand
- Preview of electronic programs for analysis
- Conclusion
## Language Sampling

### Importance
- Representative of language abilities and needs of the child
- One assessment tool
- Used to show growth or change across time
- Used to document therapy outcomes in natural settings

### Setting (Miller, 1981; Retherford, 2000)
- Home
- School
  - Classroom
  - Cafeteria/Playground
  - Therapy Room
- Clinic/Hospital (therapeutic setting)
- Use of more than 1 setting
Language Sampling

- **Materials** (Retherford, 2000)
  - Single-object pictures
  - Multi-object pictures or scenes
  - Toys or Games
  - Books (stories with words versus wordless picture books)
  - Collect sample for both “structured” and “unstructured” tasks
  - Not using materials

Materials, cont.

- **Use of a variety of materials**
  - Difference in communication demands
  - Differences in language frequency and complexity
  - Differences not predictable for children (Retherford, 2000)
Language Sampling

○ Type & Nature of Interaction (Retherford, 2000)
  • Allow a period of warm-up conversation/play before collecting language sample
  • Client-Clinician, Client-Peer, Client-Sibling, and Client-Caregiver or Client-Teacher interactions may influence language sample
  • Again, consider using multiple types of interaction

Language Sampling

○ Sample Size (Miller, 1981; Retherford, 2000)
  • Number of utterances vs. length of time
    ○ Suggestions range from 15-30 minutes or 50-200 utterances
    ○ 100 utterances realistic/efficient, especially if a variety of settings, materials and types of interactions are utilized
**Additional Tips/Suggestions**

- Watch the type and number of questions
  - Consider using 1 question for every 4 terms
  - Limit “Tell me about this” or “Tell me more”
- Repeating some utterances and/or keeping utterances at the same length or slightly longer than client
- Use pauses

**Methods of Recording**

- On-line (real time)
- Audio
- Video

- Specification of Context
  - Co-participants’ utterances, interactions & situations
- Take brief notes of initial thoughts, context, etc.
- *Note: Use of electronic language analysis programs should aid but not have any impact on language sampling results*
Language Sampling Format

**Youngchild**
- Free play
- Play: doll house, kitchen, castle
- Tell story using wordless picture book (e.g., *Tuesday* by David Wiesner)

**Otherchild**
- “Get to know you” conversation
- Explain favorite game and how to play
- Retell story or event
- Favorite and least favorite subjects in school and why

Additional “structured” activities to assess specific types of communication

General Types of Analysis

- **Descriptive:** total number of utterances, number of responses, repetitions, incomplete, unanalyzed
- **Example Measures of Syntax:** Mean Length Utterance-MLU, Brown’s Grammatical Morphemes (Brown, 1973), Developmental Sentence Score-DSS (Lee & Canter, 1971), Assigning Structural Stage (Miller, 1981)
- **Example Measures of Semantics/Vocabulary:** Bloom’s One-Word Utterance Types (1973), Nelson’s One-Word Utterance Types (1973), Number of Different Words-NDW (Klee, 1992), Total Number of Words-TNW (Klee, 1992), Type-Token Ratio-TTR (Templin, 1957; Klee & Stickler)
General Types of Analysis, Cont.

- **Example Measure of Phonology:**
  Percentage Consonant Correct-PCC (Shriberg & Kwiatkowski, 1982)
  Percentage of Phonemes Correct (Masterson & Kahmi, 1992)

- **Example Measure of Pragmatics:**

Language Transcription

- Include all speakers and context (i.e., adult/clinician, child/client)
- Use form or type transcript
- Listen/Watch sample (unless doing on-line/real time collection)
- Make decisions about segmenting utterances
  - Consider using communication units (c-units)
- Make decisions about transcribing words and coding morphemes
- Star/highlight preliminary areas of concern
- Include information from transcript into evaluation reports
Word Segmentation

- **Transcript Conventions Part One: Word Segmentation**
  1. A ‘word’ is consistently used by the child, and is consistently interpreted by the listener.
  2. If a production is consistently treated as a word by a parent or person familiar with the child, then you should also treat it as a separate word or form; e.g., wawa for water.
  3. Babbling is transcribed as a vocalization using the convention for comments; e.g., C {ba ba ba ba}.
  4. When names/titles are used, underscore character to link words together; e.g., Winnie_the_Pooh.

Information modified from SALT website; Cochran & Pahl, 1996; Kent 1994; Retherford 2000

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### Example

<table>
<thead>
<tr>
<th>Mom</th>
<th>Context</th>
<th>Toddler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you want milk or water?</td>
<td>At dinner</td>
<td>Moo moo.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wa wa icky.</td>
</tr>
<tr>
<td>Ok I’ll put juice in your cup.</td>
<td></td>
<td>Princess Sofia cup.</td>
</tr>
</tbody>
</table>

---
M: Do you want milk or water?
T: Moo_Moo.
T: Wawa icky.
M: Ok I’ll put juice in your cup.
T: Princess_Sofia cup.

Morphemes

1. Mark the use of plurals, possessives, verb inflections, and contractions with a slash.
2. Types of Plurals and Possessives:
   - Regular Plural Inflection: boat/s (Not used on words without singular form; e.g., scissors, pants)
   - Possession: bird/z nest (Not used on possessive pronouns; e.g., his, hers, theirs)
   - Plural Possessives: the cat/s/z food

Information modified from SALT website; Cochran & Pahl, 1996; Kent 1994; Retherford 2000
Morphemes

3. Verb Inflections and Contractions

- **Regular Past Tense**: laugh/ed (Do not change the spelling of the word stem; e.g., use cry/ed not cri/ed)
  - (Not used on irregular past tense verbs; e.g., had or made)
- **Progressive Inflection**: skip/ing (Not used on participles, e.g., flying bird; gerunds, e.g., I like dancing; concatenatives, e.g., gonna, hafta, wanna)
- **Third Person Singular Verb Inflection**: jump/3s (Not used on irregular verbs; e.g., does or has)
- **Contracted Verbs**: he’ll go, he’s going
- **Contracted Negatives**: did/n’t, was/n’t (Do not use slash for won’t, don’t, ain’t, let’s)

Information modified from SALT website; Cochran & Pahl, 1996; Kent 1994; Retherford 2000

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Example

<table>
<thead>
<tr>
<th>Clinician</th>
<th>Context</th>
<th>Preschooler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have any pets?</td>
<td>Playing with the dollhouse</td>
<td>Yeah two cats.</td>
</tr>
<tr>
<td>Tell me about them.</td>
<td></td>
<td>Snowball’s white and Simba jumps on everything.</td>
</tr>
<tr>
<td>Really?</td>
<td></td>
<td>Them crazy cats jumped on my mom’s head.</td>
</tr>
</tbody>
</table>
C  Do you have any pet/s?
P  Yeah two cat/s.
C  Tell me about them.
P  Snowball/’s white and Simba jump/3s on everything.
C  Really?
P  Them crazy cat/s jump/ed on my mom/z head.

Additional Tips

- Numbers can be written out or entered as digits; e.g., twentyone OR 21.

- Unusual Spellings:

<table>
<thead>
<tr>
<th>Atta</th>
<th>Betcha</th>
<th>Gonna</th>
<th>Gotta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hafta</td>
<td>Hey</td>
<td>Hmm</td>
<td>Huh</td>
</tr>
<tr>
<td>Liketa</td>
<td>Lookit</td>
<td>Mhm</td>
<td>Nope</td>
</tr>
<tr>
<td>Opps, Oppsy</td>
<td>OK</td>
<td>Oughta</td>
<td>Psst</td>
</tr>
<tr>
<td>Sposta</td>
<td>Trynta</td>
<td>Uhhuh</td>
<td>Uhhuh</td>
</tr>
<tr>
<td>Wanna</td>
<td>Whatcha</td>
<td>Yeah</td>
<td>Yep</td>
</tr>
</tbody>
</table>

Information modified from SALT website; Cochran & Pahl, 1996; Kent 1994; Retherford 2000
Mazes

- Revisions, repetitions, false starts and pauses
- Use parentheses to mark mazes
- Filler words and vocalizations should be included in the maze
- Fillers include: ah, eh, er, hm, uh, um
- Examples:
  - M And then (he) he went to the game.
  - C He (um) went to school first.

Example

<table>
<thead>
<tr>
<th>Examiner</th>
<th>Context</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why are you so happy today?</td>
<td>Conversation</td>
<td>Because I um I just got I’m getting a hamster.</td>
</tr>
<tr>
<td>When?</td>
<td></td>
<td>Right after after school today.</td>
</tr>
<tr>
<td>That will be fun.</td>
<td></td>
<td>Ah yeah it’s really um really cool.</td>
</tr>
</tbody>
</table>
E Why are you so happy today?
C Because (I um I just got) I’m getting a hamster.
E When?
C Right (after) after school today.
E That will be fun.
C (Ah) yeah it’s (really um) really cool.

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**Omissions**

1. Omissions - when a word or bound morpheme that is necessary for grammatical correctness is omitted - may be an indication of utterance formulation problems.
2. Asterisk symbol used to indicate an omitted word.
3. Enter an asterisk and then type the omitted word with no spaces; e.g., She *is my mom.
4. For bound morphemes enter a slash and then the asterisk and omitted word; e.g., The boy walk/*ed home.
5. Omitted contractions can be entered as an omitted word or as an omitted bound morpheme.
6. When unable to determine the specific part of the word/words omitted, the utterance can be flagged with an error code; e.g., E What is Mommy do/ing? C She book [EU].

Information modified from SALT website; Cochran & Pahl, 1996; Kent 1994; Retherford 2000
Example

<table>
<thead>
<tr>
<th>Examiner</th>
<th>Context</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where’s the dog?</td>
<td>Playing with dollhouse</td>
<td>He not here.</td>
</tr>
<tr>
<td>I wonder where he’s at.</td>
<td></td>
<td>He’s play outside.</td>
</tr>
</tbody>
</table>

E Where’s the dog?
C He *is not here.
E I wonder where he’s at.
C He’s play/*ing outside.
Codes

1. Codes can be created to mark anything of interest in which there is no transcription convention.
2. Code consists of characters enclosed within square brackets [ ].
3. Avoid the usage of symbols such as @ or =.
4. Two types of codes in SALT: word-level errors [EW] and utterance-level errors [EU].
5. Word code: code attached to the end of the word with no spaces. [EW] used when words are used incorrectly. Correct word placed in the brackets if known; e.g., The boy falled[EWFell].
6. Utterance code: not attached to a word. Can occur anywhere within the utterance before the end-of-utterance punctuation mark; e.g., E What is Mommy do/ing? C She book [EU].
7. Can make your own codes. Be sure to begin error codes with the letter “E”; e.g., Verb errors [EV]. You can also create other types of codes. For example, you could code story grammar for a narrative or semantic roles in a child using 1 and 2 word utterances.
   - C Kitty jump [AA]. AA=Action-Agent
   - C Where’s kitty [LSE]. LSE=Locative-state-experiencer
8. Good idea to define any codes used at the beginning of the transcript, after the identification information.

Example

<table>
<thead>
<tr>
<th>Examiner</th>
<th>Context</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at that.</td>
<td>Looking at wordless picture book</td>
<td>He falled down.</td>
</tr>
<tr>
<td>I bet that hurt.</td>
<td></td>
<td>She help.</td>
</tr>
</tbody>
</table>
E Look at that.
C He falled[fell] down.
E I bet that hurt.
C She help [EU].

Types of Analysis

- Should vary based on several factors
  - Age of the child
    - “The usefulness of MLU-m for distinguishing syntactic development diminishes past Brown’s Stage V, because sentences that contain syntactic elaborations may be the same length as those that do not (Crain & Lillo-Martin, 1999; Leonard, 1998). Thus interest in applying MLU-m to older populations has been lacking. Klee (1992b) and Rollins, Snow, and Willet (1996) have challenged the validity of MLU-m for later-developing language.” (Hewitt et al., 2005, pg. 199)
  - Provide results in all areas of language
  - Demonstrate strengths and weaknesses of the child
  - Supplement results from other areas of assessment
Analysis Calculations

- MLU (or MLU-m)
  - Number of morphemes
  - Number of utterances

- Type-Token Ratio (TTR)
  - Total number of different words (NDW)
  - Total Number of Words (TNW)

Try a sample on your own

- In the handout is a language sample. Mark and count morphemes for child.
- Calculate total number of utterances for the clinician & child.
- Calculate Mean Length Utterance (total morphemes/total utterances) for child.
- Calculate number of different words (NDW) for child.
- Calculate total number of words (TNW)
- Calculate type-token ratio (TTR)
- You have a handout with the answers but don’t check until you’ve done it by hand.
Additional Considerations

- Did sample represent the speaker’s language abilities?
- Were the results influenced by the partner?
  - Example: Did the other speaker ask too many yes/no questions?
  - Consider analyzing the other speaker’s language sample too
- Context and additional notes can provide valuable information
- Correct or incorrect language examples compared to other assessment results
- Complexity of language compared to peers
- Language needed in natural environments (ex. Academic requirements)

Electronic Analysis

- Child Language Analysis (CLAN)/CHILDES System
  - http://childes.psy.cmu.edu/
- Computerized Profiling (CP)
  - http://www.computerizedprofiling.org/
- LENA language assessment
  - http://www.lenafoundation.org/DataServices/LenaLanguageAssessment.aspx
- Systematic Analysis of Language Transcripts (SALT)
  - http://www.saltsoftware.com/
Electronic Analysis

- Each website has sample transcripts or details about how their program works.
- Look at the similarities and differences between features
- Consider your needs and the costs associated with using an electronic transcription program

Conclusion/Questions

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