The Dixit Method of Language Sampling in Early Adolescence

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Disclosure

Language sampling

- Language sampling is a widely accepted technique used by speech-language pathologists to examine spoken language in children.
- Language sampling is considered by many to be the best ecologically valid method of examining natural language production
  - Nippold, Frantz-Kaspar, Crammond Hayward-Mayhew, & MacKinnon, 2014
  - Heilmann, Nockerts, & Miller, 2010
  - Johnston, 2006
  - Hadley, 1998

Obtaining a Language Sample

- What are some ways to collect language samples that you may have utilized in the past?
  - How old were the children or clients that you used these elicitation techniques with?
- So typically collecting a language sample with a younger child is fun and simple—play with them! But…
  - How do you collect language samples from adolescents?

A problem with language sampling

- Research reveals that there is a lack of helpful age-appropriate tools available to elicit language in the adolescent population.
- But why does this matter?
  - The adolescent years are a period of transitioning to more complex language usage. Therefore, it is important for researchers to develop engaging and age-appropriate measures of assessment so language delays do not go unnoticed or untreated.
  - When we don't comprehensively elicit and analyze narrative speaking, **adolescents are at risk for failure in functional communication areas** (academic, social, practical) which require complex language abilities to express oneself with clarity, precision, and efficiency.
    - Nippold, 2010

Interview Protocol

- A standard interview protocol (Nippold, Frantz-Kaspar, Crammond, Hayward-Mayhew, & MacKinnon, 2013) is a typical elicitation procedure used by speech language pathologists today.

Appendix A

Conversational Interview Protocol

General Guidelines:
  a. Show respect for the participant
  b. Show genuine interest
  c. Listen patiently
  d. Avoid interruptions and overlaps of speech
  e. Ask open-ended questions
  f. Ask one question at a time
  g. Pause after asking a question (count to 4 silently)
  h. Repeat or rephrase a question as necessary
  i. Feel free to "go with the flow" to encourage spontaneity

Interviewer reads the following statement:
"Now I'd like to learn something about you. I'm going to ask you a few questions. *But first, let's try out the recording equipment. Please count to 10."*

(Interviewer replays the recording; makes adjustments so that it is clear and loud enough to hear later. Then the interviewer turns on the recording equipment to "record.")

Begin as follows:

  1. What would you like to tell me about yourself? For example, what could you tell me about school/work or your family, friends, or pets?
  2. How do you like to spend your free time?
  3. What could you tell me about your hobbies, favorite sports, or travel activities?

Nippold, Frantz-Kaspar, Crammond, Hayward-Mayhew, & MacKinnon (2013)

Issues with the interview protocol?

- Do you think that this is an appropriate elicitation method?
- Can you think of any issues that may be related to sampling language in this manner?
- What would you change about it?

Analyzing the Sample

- In order to capture an individual's use of language, and subsequently how diverse their use of language is, the speech language pathologist is tasked with analyzing the language sample based on a set of predetermined criteria
- Diversity, in and of itself, is allusive to define but is often thought of as the range or variety of words used by a speaker in a given setting.
- The most traditional route of analysis is type-token ratio (TTR)
- 'Type' simply implies the number of different words used over the 'token,' or total number of words used.
- While the TTR process is widely utilized, it is possible that it is not accurate/entirely representative of a speaker's diversity in language use.

Type-Token Ratio

- TTR is the **ratio** obtained by dividing the **types** (the total number of different words) occurring in a text or utterance by its **tokens** (the total number of words). A high TTR indicates a high degree of lexical variation while a low TTR indicates the opposite (Thomas, 2005).

Check it out

- (S1) We run every morning
- (S2) We run up and down the slope of that hill every morning before sunrise.

- Which one is more *diverse?*

Type (total number of different words)

Token (total number of words)

- Jarvis (2013)

Not So Fast

- These sentences have differing numbers of types AND differing numbers of tokens
- BUT within each sentence, the number of types equals the number of tokens
- Therefore, both sentences are **100% diverse**
  - (Jarvis, 2013)

Other measures of lexical diversity

- vocd-D & HD-D
- MTLD
- The problem:
  - These indices have tended to demonstrate sensitivity to variations in text length (McCarthy & Jarvis, 2010).
  - Measures lack construct validity because they have not been derived from a well-developed theoretical model of lexical diversity (Jarvis, 2013).

Analyzing the Sample: Scott Jarvis

- Linguist, Scott Jarvis, proposes taking an ecological perspective to analyze lexical diversity in language samples.
- Quantitative linguistics (TTR, vocd-d, HD-D, MTLD, etc.) view diversity as a matter of statistical frequencies involving types and tokens...aka the rate of word repition
- Ecologists view diversity in a multidimensional way that includes:
  - Richness- number of species
  - Eveness- proportion of distribution of individuals across species
  - Disparity- amount of difference between species
  - Importance- uniqueness
  - Density & Dispersion- spatial distribution of individuals and species

Applying the Theoretical Ecological Approach to Analyze Lexical Diversity

- **Size (token).** Total words used.

- **Richness (type).** The number of different words used in a language sample

- **Evenness.** The degree to which word types are evenly dispersed among a sample

- **Disparity.** The proportion of words in a language sample that are semantically related.

Applying the Theoretical Ecological Approach to Analyze Lexical Diversity

- **Importance (frequency).** The relative frequency with which words in a text occur in a language as a whole.

- **Dispersion (range).** How widely a particular word or word family is used across a text (Kyle & Crossley, 2014).

- SUBTLEXus

The Dixit Method: The Language Sample

- **What did we do?**
  - Compared the effectiveness of two elicitation methods in assessing lexical diversity in young adolescents.
    - Traditional Interview Protocol
    - The Dixit Method- Original Method

The Dixit Method: Analyzing the Sample

- What did we do?
  - Applied Jarvis' theoretical model of ecological assessment to LD by quantifying six of the seven properties of diversity (Jarvis, 2013).

The Dixit Method

- Our goals were to:
  - Determine which method is more effective for collecting lexically diverse language samples reflective of adolescents' spoken language skills.
  - Advance the knowledge in the field regarding best practices for collection and analysis of lexically diverse language samples in adolescence.

- Research Question:
  - Does the Dixit Method of language sampling elicit a more lexically diverse sample than the standard interview procedure in early adolescents with typical language development?

Method

- **Participants**

Method

- **Materials**
  - Protocols
    - Interview
    - The Dixit Method
  - Dixit Cards

Method

- **Procedures**

Method

- **Measures**
  - TTR
  - MLU
  - Scott Jarvis: Ecological Approach
    - Tool for the Automatic Analysis of Lexical Sophistication (TAALES)
    - Systematic Analysis of Language Transcripts (SALT)

Results

Discussion