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A COMPARISON OF CONVERSATIONAL RECAST AND MILIEU IN LANGUAGE
SAMPLING

An Undergraduate Honors Thesis
Submitted in Partial fulfillment of
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by
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Abstract

The purpose of this project was to observe the language and play abilities of two children and recognize the impacts of leading or following with different language interventions. Two preschool age children were selected and compared for these observations: one who has shown signs of communicative or social-emotional challenges and one who showed no such signs. For each child, information was gathered in regard to their behaviors and language during a play interaction with peers. In addition, two language samples were collected by the observer, one using the technique of conversational recast and the other using the technique of milieu teaching. The observations were interpreted through quantitative measures, such as the mean length of utterance (MLU) and type token ratio (TTR), as well as qualitative measures, such as nonverbal behavior, interactions with others, and relevance of conversational contributions.

Key Words: conversational recast, milieu, communication sciences and disorders

Dedication/Appreciation

I would like to sincerely thank Dr. Cynthia Cress for all her guidance, time, and encouragement throughout this project on top of her already busy schedule as an incredible professor. I have learned so much from Dr. Cress during this time, as well as in her classes, that excite me for my future in graduate school and as a speech language pathologist. I also have extreme gratitude for the parents of the two preschoolers and UNL's Children's Center for allowing me the opportunity to apply what I have learned in my classes to the real world.

Introduction:

Language samples are a tool for professionals to analyze a client's language by gathering a portion of the person's communication and using that to make some qualitative and quantitative observations about how that person may be utilizing their language. Though not a normed or standardized form of assessment, meaning that there are not a strict set of guidelines to adhere to so the information derived cannot singlehandedly be used to verify a client for language services, language samples are useful for extracting information. One measure that can be calculated from a language sample is called the mean length utterance (MLU). This describes how long, on average, a person's statements or sentences are by counting the number of morphemes in the entirety of the sample and dividing that value by the total number of sentences (or utterances) present in the sample. Morphemes are described as the smallest meaningful word unit; for example, the word "cars" would be comprised of two morphemes. "Car" is a free morpheme, which means it can stand on its own, and the "s" is a bound morpheme that adds the meaning of plurality to the word "car". Calculating an MLU can give professionals an idea of the complexity of a person's language, as well as potential language impairments in children if the child's MLU falls one standard deviation below the average for that particular age (Rice et.al, 2010). When collecting a language sample, there are generally one or two observers and the person being observed interacting in a social or play context. The communication, or lack thereof, is typically recorded with both audio and video and later transcribed, including verbal or nonverbal language and contexts in which they occurred if it is appropriate to include.

Another measure is the type token ratio (TTR), which describes the variety or quantity of unique words present in a language sample. This is calculated by extracting each word as it appears in the sample and keeping track of repeated words. Then, the number of different words

is divided by the total number of words (unique and not unique) to find the TTR value. A typical TTR value ranges from 0.45 and 0.50, demonstrating that there is a normal or expected amount of variety in words while also implying that commonly repeated words (such as “and”, “the”, “it”, etc.) are being used consistently for syntactic (grammatical) accuracy (Paul, Norbury, Gosse 2018). A TTR that exceeds 0.50 indicates that there are too many unique words and not enough of those common words that exist by virtue of having grammatically correct and complex sentences. Likewise, a TTR that falls below 0.45 signals a lack of different types of words and a general redundancy, which is also not ideal because that may indicate a less expansive vocabulary.

In addition, the language sample’s words can be sorted into different categories based on their semantic association; these categories include, but are not limited to nouns, verbs, adverbs, qualifiers, etc. Though not necessarily a quantitative value, this organization of data helps give an idea of what types of words are being used more or less and what relative degree of semantic diversity there may be.

Principles of Language Assessment Intervention:

When collecting a language sample, as mentioned before, it is important for the observer to limit the number and types of questions asked to obtain a more representative sample of the child’s language. A sample that is child-led allows for more initiation on the child’s part, focuses on what the child is interested in, and encourages the child to respond more fully since they get to be in control of what topic of conversation is pursued. The observer should primarily focus on making comments in response to what the child says rather than asking question to elicit a response. In contrast, a sample that is adult-led has a more open-ended line of questioning, with an intentional attempt to avoid questions that can be answered with a “yes”, “no”, or other one

worded answers, where the child collaborates with the adult over a shared topic that the adult models or initiates.

Not only is child-led versus adult-led present in deciding what kind of language sample context to collect but also in determining the most effective form of intervention process. One intervention that can be used for a variety of targets is conversational recast. This technique involves restating, or “recasting”, as the name implies, parts of a child’s utterance to add more input to their language (Paul, Norbury, Gosse 2018). This may occur in the form of expansions, where more syntactic context (ex. recasting “I chase dog!” as “you chased the dog?”) is applied or extensions, where more semantic context might be included (ex. recasting “I see a tree” as “you see a tall, apple tree”). Recasting has a wide array of executions based on what the learning goals are, what the child’s capabilities are, or how complex the adult chooses to recast (Cleave et.al, 2015).

Milieu teaching is a form of adult led intervention that is focused on changing the environment so that the child has the opportunity and context to produce a certain language target, with feedback from adults on the success of the target (Yoder et.al, 1995). Three components of this technique include intentional arrangement of environment, as mentioned above, responding to the child’s behaviors, and using conversation centered around what the child may be interested in (Paul, Norbury, Gosse 2018). Various forms of prompting exist in milieu teaching, one of which is incidental teaching. This method focuses on cueing in a naturalistic way with strategically selected activities. The mand-model approach is also part of milieu teaching, involving, respectively, directed questions or presentation via multiple choices and adult target production prior to requesting the child to produce the target (Paul, Norbury, Gosse 2018).

Case Examples:

The purpose of this project was to gather observations and samples from two children and compare and contrast the information obtained from the descriptions and calculations to see how the two different techniques showed variations in the children's social and language outcomes.

“Sylvie” was four years and three months old when the language sample was collected. She attends a childhood center on weekdays during the morning and afternoon. “James” was four years and eleven months at the time of the language sample collection and attends the same childhood center as Sylvie on weekdays throughout the morning and afternoon. The observer has worked in the childhood center for two years and has spent about a year and a half with both James and Sylvie. James was chosen for this project due to some social and language concerns noted by the observer, which included hesitations, frequent self-corrections, and the usage of behaviors to communicate thoughts. Sylvie was selected for this project due to no apparent concerns noted in language and social contexts. The observations derived from her samples and situations were used as a way to compare and contrast more expected language and social behavior across the different contexts and environments that the information was collected in.

Clinical Observations:

James's Child Led Language Sample

James demonstrated having an MLU of about 6.52 in the sample that was more focused on child-led and child-initiated topics. The MLU range that one would typically expect for a child of about 60 months, which was a comparable measure for James given his age, is 4.0 to 6.8 (Paul, Norbury, Gosse 2018). This demonstrates that his average length of utterances was expected for a child of his age and in itself is not concerning. The calculated TTR for this

language sample was about 0.34, indicating that James had a tendency to use the same words multiple time and generally did not seem to have as much vocabulary variety that one would typically see given the number of words in the sample. The observer attempted to elicit conversation from James by using phrases such as “I wonder...” or commenting on topics that he had already initiated. In general, James tended to have his own ideas that he wanted to talk about and would sometimes relate a thought with a comment made by the observer but generally seemed to start a new topic (that was sometimes related to the previous topic) which deviated from the commentary of the observer. An example of this is when James and the observer talked about his birthday, and he mentioned having roller skates. The observer comments on having never been roller skating before, and James’s response was about a television show about puzzles that he watches at home. He had many creative ideas with his drawings and explained them with detail, as exemplified in the very beginning of the sample when he describes drawing a dragon with a horn that can blast fire and teeth that turn pink when it gets scared. The observer noticed a tendency of James to self-correct, use fillers often, and repeat words or phrases over and over in an attempt to restart the utterance. An example of this is when he says, “And even even it turns to stone when when when uh lion goes so it even when it scared”, followed by the completion of his thought with “when it scared it turn it it gets it teeth is it gets him with his teeth pink.”

James’s Adult Led Language Sample

In this adult-led language sample, James had an MLU of about 5.38, once again indicating that the average length of his utterances is what one would typically expect based on his age. His calculated TTR was about 0.35, very similar to his TTR in the child-led sample with

a similar trend in using more repetitive words relative to the total number of words in the portion of utterances.

The observer used part of the milieu hierarchy, as described in the principles section, to ask more questions while collecting this sample in contrast to the child-led sample. Excluding questions related to clarification for comprehension purposes or restating what James commented on for affirmation purposes, the observer asked about 26 questions throughout the sample in an attempt to prompt certain conversation topics. These varied from asking James about family vacation, birthday plans, description of his drawings, and so on. James responded in a relevant manner to about 12 of them, so approximately 50% of the time, with the other instances resulting in silence or a topic change from the original question.

During this interactions, the observer's supervisor, a licensed speech language pathologist, attempted to elicit creative conversation by rolling up a piece of paper and pretending that it was a volcano. James responded in a matter-of-fact way that it was actually just a piece of paper and not a volcano, even though many of his previous topics and conversational contributions were about fictitious, not plausible events or objects. This begins to show his ability to be imaginative and creative with his own ideas but perhaps showing signs of being unable to understand the originality of others.

Sylvie's Child Led Language Sample

This child-led language sample yielded an MLU of about 4.95. For Sylvie's age of about 51 months, the expected MLU range is between 3.7 and 5.6, so her value indicates a typical MLU (Paul, Norbury, Gosse 2018). The TTR was about 0.63, indicating that Sylvie tended to

use a wider variety of words and not enough of the commonly used words that are needed to form complete and complex thoughts (such as “me”, “is”, “and”, “the”, etc.).

Though Sylvie was focused on her creating her artwork, she still seemed to enjoy and initiate nonverbal interactions with the observer. This can be exemplified in the situation. where she rolled up a piece of paper and looked through it at the observer Similarly, at one point, she drew a snake and pretended that it was slithering toward the observer, making snake noises.

Sylvie’s Adult Led Sample

In this language sample, Sylvie had an MLU of about 4.22, which again falls in the typically expected range of 3.7 to 5.6 for her age. The TTR calculated for the sample was about 0.52. This implies that in general, Sylvie had a slight inclination to use a wider variety of words and proportionally use less of the more common categories, such as articles and pronouns. However, the TTR for this adult-led sample was closer to the range one would expect (0.45-0.50) than the TTR for Sylvie’s child-led sample.

Sylvie demonstrates the ability to not only generate her own creative ideas but also being conscious and observing the ideas of others to incorporate into her own space. An example of this can be described when Sylvie began drawing a butterfly similar to one the observer had drawn earlier, even going to the point of confirming which color was used by the observer. She also shows interest in the ideas of others, as demonstrated by her pointing out each of the flowers that the observer drew, naming them, and choosing which one was her favorite when prompted. Sylvie seems to show an social awareness of what others are thinking, feeling, and doing, along with her own personal thoughts and connecting them together in the interactions she has with others.

James's Play Observation

The observer took note of James's interactions with his peers in an outdoor free play setting on the opposite side of the childcare center. Firstly, James appeared to have a group of about four fellow male preschoolers, who he tended to stay with throughout the duration of the play time. One of the boys, "Will", demonstrated behaviors that implied he was the "leader" of the group, such as walking in front with the others following him and being the one to suggest creative activities to play. The chosen activity was a pretend play game where the boys chose different dogs or animals to act like, and James was trying to share what color dog he wanted to be but seemed to restate or self-correct his idea. The others appeared to not be listening to him or would talk over him, which the observer associated with them not seeming to have the patience to wait for James's utterance. James's response included growling at the peers, stomping his foot, and an attempt to push one of the peers. Anecdotally, having been one of James's part-time teachers for about a year, the observer has noticed this similar pattern of James attempting to share his thoughts and ideas but self-correcting, restating, or hesitating to the point of other peers, who were initially listening to him, walking away, ignoring him, or talking over him.

Sylvie's Play Observation

Sylvie and her peers were playing on a playground close to the childcare center while the observer noted down her interactions. In general, she spent most of her time under the slide platform with a peer, playing with the rocks that filled the playground. Sylvie and her peer had many back and forth conversational interactions, demonstrating turn taking skills. At one point, Sylvie was shooing a bug away while the peer was talking, and the peer said "hey", wanting her to pay attention to what he was saying. Sylvie responded with, "Sorry, I was shooing it away", showing that she understood what behavior of hers bothered the peer (the behavior of not

listening), articulated why she was doing it, and amended her behavior by turning her attention back toward the peer's words.

Sylvie demonstrated the ability to communicate her needs, as she would ask the peer if he would help her cover her shoes in rocks and supported herself on asserting which rocks were hers to play with when the peer tried to take them. In both instances, Sylvie spoke in a calm manner and accepted the peer's refusal to help her cover her feet in rocks as that was his choice to make. There were a few situations where Sylvie appeared to get frustrated as she would try to take some rocks from the peer's hands, bounce her body, or lightly toss a rock in the peer's direction without hitting him. However, she would change her behavior when a teacher would redirect her to make kind and safe choices.

At one point, Sylvie and her peer noticed the observer and the supervisor, and Sylvie showed interest in what the observer was doing. She would ask questions when she did not understand, and listening to the adults' explanation of education.

Interpretation:

Though James had MLUs that were consistent with what one would typically expect for his age and on the higher side of the range, he demonstrated some concerns regarding the ways he would socialize with the observer and others. For one, he tended to be fairly fixated on his own topics of interest and though the observer tried to change the topic a few times, if it was not something he was interested in, he would generally remain silent. In comparison, Sylvie was able to follow the observer's lead with other topics or when asked questions. Both Sylvie and James were asked about their opinions on the observer's drawings, and while Sylvie commented on it and went to describe the drawing in more detail, James did not respond.

In terms of social interaction, James seemed to have a harder time communicating his thoughts and ideas to his peers and friends due to the frequent self-corrections and repetitions. The observer, being an adult, waited until he finished his utterance or trailed off without interrupting him. However, with his peers, it appeared to be much more difficult for them to wait as it took too much of their time and their attention span at that age is not very long. The observer noticed in the play observation, as well as anecdotally in the classroom, this behavior from his peers often frustrated James to where he would react by stomping his foot, growling, screaming, being physically aggressive, and/or crying. Sylvie tended to demonstrate a level of communicative competence where she was able to clarify misunderstandings and advocate for herself when she felt that her rights were being impeded on.

Across techniques, Sylvie seemed to have more to say in the adult-led sample, as demonstrated by the total number of utterances. Her TTR was also closer to the expected range, indicating that she used a more appropriate proportion of unique and redundant words compared to the child-led sample. Knowing Sylvie as a student, the observer believes that she may have been a bit shy during the first sample collected, which was the child-led sample, and became more accustomed to the environment when the second sample was collected.

Conclusion:

When gathering information about a child's speech, language, and communication, it is important to do so in a variety of ways to get a representative batch of observations and data. In some instances, having the observing adult take a step back and let the child take the lead in the conversation is essential so the sample actually gives an idea of how the child communicates rather than forcing the conversation in a different direction and yielding shorter answers. In other situations, such as when one is trying to better understand a child's social and pragmatic skills, it

may be important to have a more adult-led sample to see whether the child can take turns with topics and share common interest with others.

Conversational recast is a useful technique to build off of what the child already knows and can do by contributing small amounts of new information. This technique also benefits from taking the pressure off of the child to imitate or respond, and allow them to take control of the conversation in the way they deem comfortable. Milieu teaching is helpful in manipulating the environment to target certain outcomes, and the hierarchy of prompting allows the adult to control the level of difficulty so that the child does not get frustrated and stop but is still challenged. Milieu does require a response of sorts, whether that is through a mand, prompting, or modeling, but there are levels of support that the adult can give the child to help them be successful. If prompting yields a challenge in the target production, an adult can model or request an imitation, which makes it easier for the child to understand what is expected of them.

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