**Initial Speech-Language Evaluation Summary**

**Name**: Aarush Agrawal **Evaluation Date**: April 30, 2024

**Date of Birth:** July 12, 2017 May 3, 2024

**Age:** 6 years, 9 months

**Relevant Background Information**

Aarush, a 6-year, 9-month-old male was seen on April 30, 2024 and May 3, 2024 at Innovative Pediatric Learning Center of Miami (I.P.L.C. Miami) for an initial speech-language evaluation. The evaluation was scheduled following a Psycho-educational evaluation.

As per information obtained from the case history, Aarush was born following a full-term pregnancy via planned Cesarean section. Mother reported no complications during birth. Additionally, his mother reported Aarush is in good health at this time. Early developmental milestones were reported to be developing within normal limits. As per information obtained from case history, concerns regarding Aarush’s development began “when he was in VPK”.

Aarush was evaluated by Gihanna Jimenez, Ed.D., LSP in March 2024. Results from evaluation revealed Aarush’s overall intelligence is within the average range. However, results revealed concerns in the areas of processing speed, working memory, phonological awareness, functional communication, visual motor skills, and executive functioning skills. Additionally, Aarush meets the criteria for a Learning Disorder with impairments in reading and writing. Refer to report from Gihanna Jimenez, Ed.D., LSP for additional information. Aarush was also evaluated by Lindamood-Bell Learning Processes in April 2024. He will begin reading and writing intervention at Lindamood-Bell Learning Processes starting July 2024.

At this time, Aarush currently attends Pinecrest Elementary School and is in First Grade. He is exposed to English at school. At home, he is exposed to both English and Hindi. At this time his primarily language is English.

**Instrumentation**

Formal and informal measures performed during the evaluation included the following:

* Social Behavioral Observation
* Clinical Evaluation of Language Fundamentals- Fifth Edition (CELF-5)
* Oral-Peripheral Examination
* Articulation/Phonology
* Speech-Language Sample
* Fluency
* Voice

All measures were performed in English. Results of all formal and informal assessments appear to be reliable.

**Outcome of Evaluation**

**Social Behavioral Observation:**

Observation was used to assess behavioral components in various structured and unstructured activities throughout the evaluation. The following social behavioral observations were noted:

* Aarush entered the treatment room independently with clinician. He appeared to enjoy the toys and materials in the treatment room. While building rapport, Aarush engaged in appropriate conversation with clinician.
* Aarush demonstrated adequate communicative intent and awareness of others. In addition, appropriate eye contact was present.
* Throughout the course of formal assessment measures, Aarush demonstrated good initial attention to task.
* After administering a few items, Aarush appeared distracted by the room and often times looked out the window and would move around in his seat. He was observed to engage the clinician in off topic conversation whenever there was a pause between items. However, he was very easily verbally redirected and would return to task.
* Overall, Aarush was compliant throughout the entire assessment. Formal assessment measures were broken down and he was provided with breaks throughout.
* It should be noted that Aarush did require repetitions to complete some assessment items. Additionally, visuals in the assessment appeared to be useful in aiding with overall comprehension.
* During administration of the CELF-5 when Aarush appeared to not be listening and/or fatigued, overall comprehension was affected. Inconsistent attention was observed to affect subtest scaled scores. This was also consistent in unstructured conversation. When engaging in lengthier conversation with Aarush, decreased comprehension was noted as evident by the way Aarush would respond to clinician.
* Additionally, it was noted that, at times, Aarush knew his response was incorrect, however, he was unable to problem solve to make an appropriate deduction.
* Generally, Aarush performed all tasks willingly and interacted well with the clinician. He attempted all tasks. Throughout the course of the evaluation, verbal praise, visuals, and breaks were proven to be effective in keeping Aarush motivated and on task.

**The Clinical Evaluation of Language Fundamentals- 5th Edition (CELF-5)** a standardized assessment of receptive and expressive language skills was administered in order to assess overall language skills. The CELF-5 is designed for students ages 5-21 years to assess language and communication skills in a variety of contexts.

**Core Language Score and Index Scores-** The Core Language Score and Index Scores are composite scores. These scores are based on the sum of various test scaled scores.

Standard Scores are based on a scale with a mean of 100 and a standard deviation of +/- 15. The following interpretation of standard scores is applicable:

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| --- | --- |
| **Standard Score Range** | **Interpretation** |
| Above 115 | Above Average |
| 86-114 | Average/ Within Normal Limits |
| 78-85 | Marginal/Below Average/Mild |
| 71-77 | Low Range/Moderate |
| 70-50 | Very low range/Severe |
| 50 and below | Profound |

The following results were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
| Core Language Score and Index Scores | Standard Score | Percentile Rank | Interpretation |
| Core Language Score | 87 | 19% | Grossly Within Normal Limits |
| Receptive Language Index | 111 | 77% | Within Normal Limits |
| Expressive Language Index | 81 | 10% | Mild Delay |
| Language Content Index | 106 | 66% | Within Normal Limits |
| Language Structure Index | 87 | 19% | Grossly Within Normal Limits |

Core Language Score - The Core Language Score is a measure of general language ability and provides an easy and reliable way to quantify overall language performance. The Core Language Score is derived by summing the scaled scores from Sentence Comprehension, Word Structure, and Expressive Vocabulary. Aarush received a Core Language Score of 87 and a percentile rank of 19%. This standard score and percentile rank are grossly within normal limits.

Receptive Language Index - The Receptive Language Index is a measure of listening and auditory comprehension skills. The Receptive Language Index is derived by summing the scaled scores for Sentence Comprehension, Following Directions, and Word Classes. Aarush received a Receptive Language Index score of 111 and a percentile rank of 77%. This standard score and percentile rank are within normal limits.

Expressive Language Index - The Expressive Language Index is a measure of expressive aspects of language including oral language expression. The Expressive Language Index is derived by summing the scaled scores from Word Structure, Expressive Vocabulary, and Recalling Sentences. Aarush received an Expressive Language Index score of 81 and percentile rank of 10%. This standard score and percentile rank yields a mild delay.

Language Content Index - The Language Content Index is a measure of vocabulary and word knowledge. The Language Content Index is derived by summing the scaled scores from Expressive Vocabulary, Following Directions, and Word Classes. Aarush received a Language Content Index score of 106 and a percentile rank of 66%. This standard score and percentile rank are within normal limits.

Language Structure Index – The Language Structure Index is a measure of understanding and production of syntactical structures and morphology. The Language Structure Index is derived by summing the scaled scores from Sentence Comprehension, Word Structure, and Recalling Sentences. Aarush received a Language Content Index score of 87 and a percentile rank of 19%. This standard score and percentile rank are grossly within normal limits.

**Test Scaled Scores-** Test scaled scores provide performance information about the language content that each test targets. Test scaled scores are based on a scale with a mean of 10 and a standard deviation of +/- 3. Subtest scaled scores that are between 7 and 13 are considered to be average. The following interpretation of scaled scores is applicable:

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| --- | --- |
| **Scaled Score Range** | **Classification** |
| 13 and above | Above Average |
| 8 to 12 | Average |
| 7 | Marginal/Borderline/At risk |
| 6 and below | Low to very low |

The following results were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
| Test | Scaled Score | Age Equivalence | Interpretation |
| Sentence Comprehension | 12 | 8:2 | Average |
| Linguistic Concepts | 10 | 7:9 | Average |
| Word Structure | 9 | 6:3 | Average |
| Word Classes | 11 | 7:2 | Average |
| Following Directions | 12 | 7:9 | Average |
| Formulated Sentences | 5 | 5:2 | Low |
| Recalling Sentences | 6 | 4:10 | Low |
| Understanding Spoken Paragraphs | 8 | N/A | Low Average |

**Sentence Comprehension-** The Sentence Comprehension subtest is used to evaluate the ability to interpret spoken sentences of increasing length and complexity and select the picture that illustrates referential meaning of the sentences. Aarush obtained a scaled score of 12 and age equivalence of 8 years, 2 months. This scaled score and age equivalence are average. He demonstrated relative strength with understanding negation, modifications, prepositional phrases, direct/indirect objects, infinitives, relative clauses, subordinate clauses, interrogatives, passive voice, direct requests, and compounds.

**Linguistic Concepts-** The Linguistic Concepts subtest assessed Aarush’s ability to interpret spoken directions that contain basic concepts and identify mentioned objects from among several pictured choices. Aarush obtained a scaled score of 10 and an age equivalence of 7 years, 9 months. This scaled score and age equivalence are average. He demonstrated relative strength with verbal commands including inclusion/exclusion (e.g., with, not, without, either…or), location, quantity (e.g., all, many), sequence (e.g., beginning, middle, after), and temporal (e.g., until).

**Word Structure -** The Word Structure subtest is used to evaluate a child’s knowledge of grammatical rules in a sentence-completion task. Aarush was asked to complete a sentence that pertains to an illustration using the targeted word structures. Information from this subtest can help determine how Aarush is acquiring the morphological rules of the English language. Aarush obtained a scaled score of 9 and an age equivalence of 6 years, 3 months. This scaled score and age equivalence are average. He demonstrated relative strength with using regular plurals, third person singular, derivation of nouns, auxiliary + -ing. possessive pronouns, comparative and superlatives, uncontractible copula (e.g., it’s, he is, she is), reflexive pronouns, and subjective pronouns. It is important to note, Aarush is exposed to both English and Hindi. The primary language spoken at home is Hindi; therefore, word structure can be influenced by his exposure to multiple languages.

**Word Classes-** The Word Classes subtest evaluates the ability to understand and express relationships between words that are related by semantic class relationships. Aarush was asked to choose the items that best represent the desired relationship. This subtest provides information on Aarush’s development of categorization skills and ability to associate word meanings. Aarush obtained a scaled score of 11 and an age equivalence of 7 years, 2 months. This scaled score and age equivalence are average. He demonstrated relative strength with semantic classes and object function.

**Following Directions -** The Following Directions subtest is used to evaluate a child’s ability to interpret, recall, and execute oral commands of increasing length and complexity. Aarush was asked to remember the names, characteristics, and order of pictured animals, and point to them in response to an oral direction. Aarush obtained a scaled score of 12 and an age equivalence of 7 years, 9 months. This scaled score and age equivalence are average. He demonstrated relative strength with following all 1-level commands and most 2-level commands. Additionally, he demonstrated strength following commands with one and two modifiers.

**Formulated Sentences-** The Formulated Sentences subtest assesses ability to formulate simple, compound, and complex sentences when given grammatical (semantic and syntactic) constraints. Aarush obtained a scaled score of 5 and an age equivalence of 5 years, 2 months. This scaled score and age equivalence are in the low range. He demonstrated relative strength with formulating sentences using pronouns and verbs. However, Aarush demonstrated difficulty formulating sentences using nouns, adjectives, adverbs, conjunctions, and prepositions.

**Recalling Sentences-** The Recalling Sentences subtest is used to evaluate the child’s ability to repeat sentences of varying length and complexity without changing any word meanings or structure. The child’s response indicates if critical meaning or structural features are internalized for recall. The ability to remember spoken sentences is required in following directions and other situations in school and home settings. Aarush obtained a scaled score of 6 and an age equivalence of 4 years, 10 months. This scaled score and age equivalence are in the low range. Aarush was able to recall various short sentences. However, as length and complexity increased, he missed at least one component of the sentence.

**Understanding Spoken Paragraphs-** The Understanding Spoken Paragraphs subtest assesses the ability to sustain attention, create meaning from oral narratives, and supply critical thinking strategies. Questions are probed to assess memory for facts and details, ability to identify main idea, and make inferences. Aarush received a scaled score of 8 which is in the lower end of average. He demonstrated relative strength recalling key details of a paragraph, sequencing, and understanding social context. However, Aarush demonstrated difficulty recalling the main idea of a paragraph, inferencing, and predicting.

**Oral Peripheral Observation:** Informal assessment of the oral speech mechanism was performed through observation to assess the adequacy of the structures and functions of the oral-motor mechanism. Cursory observation revealed:

Structure – The face was observed to be symmetrical in shape. The mandible and maxilla were in proper alignment, height, shape, and size. Dental occlusion, the palatal arch and oral/dental structures were observed to be unremarkable based on chronological age. At this time, Aarush’s oral structure was observed to be adequate for speech production.

Function – The body, trunk, and facial tone were observed to be normal. All reflexes were inhibited (no observable reflexes when eating or performing verbal tasks). Phonation and breath support were adequate (1-3 seconds of sustained phonation), for single voiced, nasal and un-voiced phonemes could be produced. Labial-facial control and lingual control (tongue) were observed to be adequate for speech production. Jaw movements were significant for occasional open mouth posture. Jaw stability is important for speech as it allows the tongue and lips to move independently to produce speech in a quick and efficient manner. Additionally, tongue tip protrusion was noted. Proper tongue control is significant for speech production.

**Articulation/Phonology:** The ability to produce speech sounds was assessed throughout the course of the evaluation in order to measure articulation of sounds and determine types of misarticulation. The Clinical Assessment of Articulation and Phonology - 2nd Edition (CAAP-2)was administered. Additionally, spontaneous speech was elicited both in words and connected speech. Data was collected and analyzed using the Age of Customary Consonant Production chart as recommended by The American Speech-Language-Hearing Association (ASHA). The acquisition of speech sounds is a developmental process, and children often demonstrate "typical" errors and phonological patterns during this acquisition period. Dialectally appropriate error patterns were taken into consideration during assessment of speech sounds in order to differentiate typical errors from those that are not.

Based on Aarush’s chronological age at the time of the assessment, the following relevant substitutions and phonological processes were noted:

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| --- | --- |
| Error | Example |
| Substitution of /th/ for /s/ | /mouth/ for /mouse/  /theal/ for /seal/ |
| Substitution of /th/ for /z/ | /thoo/ for /zoo/  /cheeth/ for /cheese/ |
| Substitution of /d/ for /d3/ | /cade/ for /cage/  /dar/ for /jar/ |
| Gliding of /r/ | /ling/ for /ring  /lake/ for /rake/ |

In addition, the following errors were found to be appropriate based on Aarush’s dialect and language acquisition, but should be monitored diligently:

|  |  |
| --- | --- |
| Error | Example |
| Substitution of /t/ for /θ/ (Voiceless th) | /teet/ for /teeth/ |
| Substitution of /d/ for /ð/ (Voiced th) | /dem/ for /them/ |

These sound substitutions and phonological processes affected Aarush’s overall intelligibility at the conversational level, making it difficult for an unfamiliar listener to understand Aarush’s utterances somewhat of the time. His intelligibility at the conversational level is understood approximately 80% of the time. By the age of 6, Aarush’s intelligibility at the conversational level should be 100% for an unfamiliar listener. Therefore, articulation skills were judged to be delayed for his chronological age.

**Speech-Language Sample:** A speech-language sample was observed in order to evaluate spontaneous speech and obtain more information about Aarush’s language skills in a less structured environment. A language sample can help identify the types of language behaviors in a child’s repertoire and provides an enhanced overview of language development. The speech-language sample was collected informally and observed for semantic, syntactic, morphological, and pragmatic language abilities. The following was observed:

Spontaneous language consisted predominantly of 4–5-word utterances with some expanded utterances. Expanded utterances were observed to be unorganized and off topic, at times. Language content consisted of naming objects, using action words, using words to describe objects, and using words denoting place, possession, quantity, time, and reason.

Social language use revealed Aarush’s ability to use phrases and sentences to request, get the clinician’s attention, talk about past experiences/events, naming objects, greeting the clinician, answering the clinician’s questions, and asking the clinician questions. Additionally, he was able to talk about recent events, maintain a conversation with the clinician, and ask for clarification. However, it should be noted that for lengthier discussions, Aarush’s comprehension was decreased and he demonstrated difficulty appropriately responding when spoken to, talking about what he is doing, and explaining steps on how to complete tasks. Additionally, Aarush demonstrated difficulty turn taking in social interactions and preferred to control the conversation. At times, he interrupted the clinician in conversation. Connected speech was observed to be disorganized and off topic, at times.

Aarush was asked to name 5 items given a category (e.g., friends in his class). He was able to confidently name 2-3 items. He then needed prompting to name 2-3 additional items about the category. While in conversation with clinician, Aarush talked about a recent event of his brother’s birthday. He mentioned chocolate pizza was eaten “at a fancy restaurant”. The clinician asked Aarush to elaborate. His responses were disorganized and out of sequence.

Intelligibility in connected speech was judged to be good to fair. At times, longer utterances were difficult to understand somewhat of the time without relying on context clues. Intelligibility results from the language sample were consistent with results obtained from the articulation portion of the assessment.

Overall, observations collected from the speech-language sample revealed that Aarush demonstrated decreased receptive and expressive language skills in spontaneous conversation.

**Fluency:** An informal evaluation of fluency indicated inconsistent disfluencies in Aarush’s speech. A language sample was collected while playing with various toys and engaging in conversation with clinician. Throughout informal observation, it was noted that Aarush was using part-word repetitions (i.e., ca…can, ha…how bout) and whole word repetitions (i.e., I thought…I thought, how bout…how bout). At this time, no secondary behaviors were observed (i.e., distracting sounds, facial grimaces, head movements, and extremity movements). Subjective observation revealed that Aarush’s average length of stuttering events is between half a second to one second in length.

It is important to note that stuttering can be caused by a language delay and can also be influenced by attention. At this time, fluency should be monitored. If disfluencies continue after language and attention have improved, a formal fluency assessment is recommended.

**Voice:** At this time, Aarush’s voice appears to be within normal limits. No atypical characteristics of vocal quality (i.e., hoarse, rough, or breathy) were noted.

**Impressions**

Based on the results of formal and informal assessment as well as parent interview and clinical observation, Aarush, a 6-year, 9-month-old male presents with a mild overall speech-language delay.

Social behavioral observation revealed Aarush mostly engaged in appropriate conversation with clinician and demonstrated adequate communicative intent and awareness of others. In addition, appropriate eye contact was present. Throughout the course of formal assessment measures, Aarush demonstrated good initial attention to task. However, after administering a few items, he appeared distracted by his surroundings. Aarush was observed to engage the clinician in off topic conversation whenever there was a pause between items. However, he was easily redirected and would return. Generally, Aarush performed all tasks willingly. Formal assessment measures were broken down and he was provided with breaks throughout. Overall, it was observed that when length and complexity of utterances increased, comprehension was affected.

Results from administration of formal assessment measure, the CELF-5, revealed Aarush’s receptive language and language content are within normal limits. Additionally, his overall core language and language structure are grossly within normal limits. However, Aarush’s expressive language yielded a mild delay. Information collected from the subtests of the CELF-5 revealed Aarush’s sentence comprehension, linguistic concepts, word structure, word classes, and following directions were in the average range. Additionally, his understanding of spoken paragraphs was on the lower end of the average range. However, Aarush’s ability to recall sentences and formulate sentences were in the low range.

Cursory observation of the oral speech mechanism revealed that the face was observed to be symmetrical in shape. Aarush’s oral structure was observed to be adequate for speech production. Assessment of the function of the oral motor mechanism revealed occasional open mouth posture and tongue protrusion.

Aarush’s intelligibility was judged to be good to fair in both structured conversation and spontaneous conversation. It was difficult to understand somewhat of the time without relying on context clues and/or gestures.

Overall, observations collected from the speech-language sample revealed that Aarush demonstrated decreased receptive and expressive language skills in spontaneous conversation.

An informal evaluation of fluency indicated disfluencies in Aarush’s speech. At this time, no secondary behaviors were observed. Subjective observation revealed that Aarush’s average length of stuttering events is between half a second to one second in length. At this time, disfluencies should be monitored as language and attention improve.

Observation of Aarush’s voice appears to be within normal limits and should be considered a relative strength for Aarush.

Results from the psycho-educational evaluation conducted in March 2024 revealed Aarush’s overall intelligence is within the average range. However, deficits in processing speed, working memory, phonological awareness, visual motor skills, functional communication, and executive functioning skills were noted. Additionally, results revealed Aarush meets the criteria for a Learning Disorder with impairments in reading and writing.

During early speech and language development, children learn skills that are important to the development of literacy. Phonological awareness is strongly connected to early reading and writing. Speech-language Pathologists have a key role in promoting the emergent literacy skills of all children. As per information collected from parent interview, Aarush will receive intervention from Lindamood-Bell Learning Processes starting in July 2024. At this time, we will not be including these goals in our intervention plan. However, we will continue to monitor reading development as it pertains to speech and language and add goals as needed.

Furthermore, it is important to note that all components of attention have a role in language acquisition. A language learner must focus on relevant linguistic input, discounting irrelevant input. He must sustain focus in order to take in complete input for processing. When the source of language input shifts, the language learner must also shift his or her attention to avoid missing relevant input. Finally, he must attend to processing the information in order to make it available for future use.

Additionally, individuals with difficulties with attention exhibit some form of impairment in executive functioning. Executive functioning includes areas of working memory, cognitive flexibility, and self-regulation. Executive functioning involves higher order language and cognitive skills. These skills are highly connected with academic and life success. Goals targeted toward the areas of executive functioning should also be included in Aarush’s intervention plan.

Based on the results from this evaluation, family support, and adherence to recommendations that follow, prognosis for improved communication skills is favorable.

**Recommendations**

Based on the information obtained through the assessment tools and parent, the

following recommendations are made:

1. Individual speech-language therapy 2-3 times a week for 45 minutes to improve overall speech-language skills.
2. Goals should be reviewed and updated monthly and a re-evaluation is recommended in 6 months to evaluate progress.
3. Implement at home activities focusing on goals targeted in therapy.
4. Continue school attendance in least restrictive environment.
5. Monitor fluency as language skills and attention improve.

It has been a pleasure meeting and working with Aarush and his family. If you have any questions and/or concerns feel free to contact me directly via telephone at (786) 622-2353 or via email at [info@iplcmiami.com](mailto:info@iplcmiami.com).

Sincerely,

Sophia Fernandez, M.S., CCC-SLP

Lead Speech-Language Pathologist