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## Short Communication

# Assessing communication disorders in children: A brief overview

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### ABSTRACT

The review summarizes the various methods employed in assessing communication skills in children. Speech-language assessment is a complex procedure that aims to evaluate child's receptive and expressive vocabulary, formation of sentences, using language for different purposes, and articulation. It is crucial for early identification, diagnosis, and intervention of children with communication disorders. It is the initial step taken towards understanding the difficulties faced by the parents or caregivers of the child and guiding them to make appropriate decisions regarding the intervention. Formal and Informal testing procedures are complementary approaches incorporated to understand the child's speech and language abilities. The information gathered during assessment forms a foundation for making clinical decisions. The results obtained from the assessment determines whether the child has a language delay or demonstrates age-expected performance, which in turn influences the need for intervention.

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## 1. Introduction

Assessment of communication skills in children is a systematic process of gathering relevant information about the child's existing and co-existing communicative behaviors, associated factors, and other background variables, all this information is integrated for drawing conclusions and making an appropriate clinical decision. Speech-language assessment is a complex procedure that aims to evaluate a child's receptive and expressive vocabulary, formation of sentences, use of language for different purposes, and articulation. It is essential for early identification, diagnosis, and intervention for children with communication disorders. It is the initial step taken towards understanding the difficulties faced by the parents or caregivers of the child and guiding them to make appropriate decisions regarding the intervention. Therefore the efforts to comprehend

the nature of the issue come before the intervention. Speech-language therapists evaluate communication skills by obtaining information about the child, including detailed medical history, developmental history, and family history, clinically observing the child, and educational history, and administering multiple assessment tools/ test materials. Assessment of communication skills among young children is a multifaceted process, where clinicians employ formal and informal testing procedures to create a comprehensive profile of the child's communication skills. Formal testing includes administering various standardized tools and Informal testing procedures include obtaining information from parents/ caregivers, observing the child directly, and analyzing the child's speech-language samples. These complementary, approaches create a holistic understanding of the child's speech and language ability.<sup>1</sup>

The information gathered during the assessment forms a foundation for making clinical decisions. The results obtained from the assessment determine whether the child has a language delay or she/he reflects age-expected

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performance. The decisions regarding the requirement of intervention are based on the assessment results. Also, these findings help Speech Language Pathologists (SLP's) refer the child to other professionals for further evaluation and treatment. A good assessment should be evidence-based, incorporate comprehensive information, use a variety of approaches, and be customized to the age, gender, skill level, and ethno-cultural background of each child.<sup>2,3</sup>

## 2. Discussion

### 2.1. Formal testing procedure/ Assessment

A formal assessment is a standardized test procedure involving a written document such as a test (e.g., Receptive Expressive and Emergent Language Scale), administered under controlled conditions, following a specific protocol and procedure. Most SLPs use norm-referenced tests for assessing speech and language skills but criterion reference tests (e.g., Transdisciplinary play-based assessment, Assessment, Evaluation, and Programming System for Infants and Children) can be used by uniformly standardizing administering and scoring procedures.

Norm-referenced assessment tools (e.g., Preschool Language Scale, Clinical Evaluation of Language Fundamentals - 4, Receptive one-word picture vocabulary test, Expressive one-word picture vocabulary test) are standardized tests that allow clinicians to compare children's performance with age-matched peers, in addition to this they also provide quantitative data and standardized scores for diagnostic purposes and tracking progress over time. These tests are composed of empirically selected materials, with different directions for using them, to adequately determine norms and also provide data on reliability and validity. For children with problems needing attention, a screening test is administered and to describe the various components of the disorder a diagnostic test is administered. These tests offer advantages such as being highly objective, reliable, and valid in assessing broad content areas, and they help in identifying specific problematic areas. However, numerous tools are available for evaluating communication skills, making it hard to choose the most appropriate one. A web-based survey done by Denman et al., 2023 on different standardized measures used by Australian SLP's to evaluate school children with language difficulties reveals that even though there are multiple assessment tools available for evaluating language skills, only a few were used regularly (e.g., Clinical evaluation of language fundamentals - Preschool). However, each tool has unique abilities to be useful in different situations but there is no one tool or set of tools that are specific to a child or clinician.<sup>2-5</sup> Also, the results obtained from norm-referenced tools only measure a child's language ability in comparison with his/ her peers but they are not tailored to measure a child who is

from a different cultural and linguistic background. There are multiple studies done to address the issues faced by clinicians in assessing language abilities in children from various cultural and linguistic backgrounds. The results of these studies indicate that clinicians must put efforts on developing resources that are regionally accepted and validated to adhere the regional competences to minimize bias and misdiagnosis. In addition to this clinicians should have access to developmental norms of communication skills for multiple languages used by diverse children that they encountered in their clinics.<sup>6-8</sup>

### 3. Informal Testing Procedure/ Assessment

Informal assessments are less structured and more naturalistic, they offer clinicians valuable insights into how children use language in real-world contexts and evaluate functional aspects of language that may not be captured by standardized assessment procedures.<sup>1</sup> It allows for assessing speech and language skills more deeply. They are not data-driven as standardized procedures but rather content and performance-driven. It includes obtaining information via interviews with parents or caregivers, observing the child directly, language sampling, and dynamic assessments. These kinds of measures require more skill and creativity on the part of the clinician. The procedure's reliability and validity are highly influenced by the clinician's level of expertise and knowledge about diagnosing a child's communication ability.<sup>2</sup>

#### 3.1. Information from the parents or caregivers and Parent-reported measures

To extract the necessary information from the parents/ caregivers about the child's communication development and to create a comprehensive clinical profile clinicians rely on methods like obtaining a detailed case history via semi-structured interviews, administering norm-referenced parent-reported measures such as inventories (e.g., MacArthur-Bates Communication Developmental Inventory), questionnaires (e.g., Ages and Stages Questionnaire -3), rating scales, and checklists (e.g., Children's Communication Checklist - 2) which allows the SLPs to enable individualization and offer a range of viewpoints while interpreting the overall diagnosis. A series of studies was conducted by Crais and Bishop et.al, 2009 where they reported that parents can be reliable informants in extracting relevant information about their child's communicative and developmental abilities as they observe their children in a more naturalistic environment and this information will provide valid and reliable results to support the clinical decision.<sup>5,9,10</sup> Nevertheless, drawbacks include the possibility of a lack of impracticality, individual biases, and judgment. Overall, this strategy provides both advantages and disadvantages, but it also provides a

comprehensive communication profile of the child to the clinicians.<sup>2</sup>

#### 4. Observation

Observation is a technique that offers valuable information about the child's communicative function in natural situations. It can be tailor-made to individual needs and allows the clinician to assess the child in different contexts. Some forms of observation include Naturalistic observation, Systematic or contextual observation, Stimulated observation, or Structural play. Naturalistic observation involves observing the child in various settings and interactions with different people without manipulating the environment. In systematic and contextual observation, the child's specific behavior is assessed in multiple situations, and whether environmental differences influence the behavior assessed is observed. In the Stimulated and structural play, clinicians or the observer create real-life simulations of communication situations to elicit desired behavioral responses without ignoring the natural response.<sup>2,3,11</sup>

##### 4.1. Speech-language sampling

Collecting a child's speech and language samples is crucial for understanding communication skills. These samples can be obtained in various situations and settings such as conversation with family members, caregivers, etc., structural play, narration, and expository speech. A couple of studies indicate that language samples provide a piece of valuable information about the child's pragmatic and discourse abilities, there is a high correlation between language sample measure and standardized test scores, and it is a crucial component of the comprehensive assessment.<sup>12,13</sup> Language samples can be elicited using various methods like when the child is playing with different toys, elicited description using a single object or an event, interviewing the child by using different topics, and Narrative elicitation by encouraging the child to narrate a story. Play-based assessments can be incorporated, as play serves the key role in observing and documenting the child's behavior, here parents or caregivers are facilitators who take turns to elicit target behaviors while the clinician becomes the observer who tracks the child's responses. There are few criterion-based (e.g., transdisciplinary play-based assessment) and norm-based (e.g., communication and symbolic behavior scale developmental profile) assessment tools available for assessing play behaviors in children. The results obtained during the assessment can be directly implemented into intervention.<sup>5</sup> A study by Eisenberg et al., 2018 examined the impact of language samples in two different ways, the first one was during play and the second was elicited description. The collected sample was analysed using developmental sentence scoring (DSS),

a diagnostic tool developed by Lee in 1974. Findings of the study indicated a significant difference in DSS scores between the samples, but sentence points were significantly higher for the play sample. Although there was a correlation between samples, the correlation for DSS was below an acceptable level. The agreement between sample types for pass-fail decisions on DSS scores was only moderate. Therefore the information collected using these procedures provides the best diagnostic data, and scope for individualization, and also helps to identify functional deficits concerning language. On the other hand, drawbacks include the process being time-consuming, difficulty in collecting representative samples, and clinicians must have higher expertise. The data collected during the assessment has less accuracy and reliability.<sup>2,3,12</sup>

##### 4.2. Dynamic assessment

Dynamic assessment is a process that evaluates the child's learning potential using a test-teach-retest approach. In this approach, the clinicians first measure the current performance of the child later teach them specific strategies, and observe how they respond to instruction, later the mediated learning experience is measured and compared. Few studies have emphasizes incorporating dynamic assessment with standardized tools for children from different linguistical and cultural backgrounds to avoid misdiagnosis and add more validity to the clinical decision-making process.<sup>7</sup> A systematic scoping review by Bamford et al., 2022 highlights the broad scope and variability of dynamic assessment. The review discusses the framework of dynamic assessment which aids clinicians in evaluating children's communication skills, identifying appropriate methodologies, and increasing transparency. This approach improves implementation fidelity and reduces the challenge of applying a broad and variable research base, particularly in assessing children with communication disorders. This approach helps clinicians to determine the baseline, identify the potential goals, and teach effective intervention strategies. This approach can be adapted for assessing children with multicultural backgrounds. However, the potential behaviors can be missed during the assessment due to a lack of objectivity, insufficient clinical experience, or skills.<sup>2,3,14,15</sup>

#### 5. Conclusions

To conclude integrating multiple assessment methods for assessing communication abilities in children with communication disorders will result in obtaining a detailed clinical profile of the child's communicative abilities and improving diagnostic accuracy. SLPs primarily use norm-referenced and de-contextualized measures for assessing language abilities in children with communication disorders, with less regular use of

contextualized, activity-focused, dynamic, and everyday environmental assessments which emphasize the need for culturally sensitive assessment practices, highlighting the importance of bilingual development. Dynamic assessment for culturally and linguistically diverse groups, with age-specific considerations. Play-based assessment is recommended for younger children, and age-appropriate assessment tools are needed. Challenges faced by the SLPs include limited time to assess individual behaviors, lack of assessment tools designed to assess targeted behavior and lack of standardized tools for children from different linguistic and cultural backgrounds. Future development should focus on increasing the regularity of contextualized, activity-focused, and dynamic assessments.

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## 7. Conflict of Interest

None.

## References

1. Caesar LG, Kohler PD. Tools Clinicians Use: A Survey of Language Assessment Procedures Used by School-Based Speech-Language Pathologists. *Comm Disord Q*. 2009;30(4):226–36.
2. Shipley KG, McAfee JG. Assessment in speech-language pathology: A resource manual. 7th ed. Plural Publishing, Inc; 2023.
3. Hegde MN, Pomaville F. Assessment of communication disorders in children: resources and protocols. 4th ed. Plural Publishing Inc; 2021.
4. Denman D, Cordier R, Munro N, Kim JH, Speyer R. Standardized Measures Used Regularly by Speech-Language Pathologists when Assessing the Language Abilities of School-Aged Children: A Survey. *Folia Phoniatr Logop*. 2023;75(5):334–9.
5. Crais ER. Testing and beyond: strategies and tools for evaluating and assessing infants and toddlers. *Lang Speech Hear Serv Sch*. 2011;42(3):341–64.
6. Williams CJ, McLeod S. Speech-language pathologists' assessment and intervention practices with multilingual children. *Int J Speech*

*Lang Pathol*. 2012;14(3):292–305.

7. Denman D, Cordier R, Kim JH, Munro N, Speyer R. What Influences Speech-Language Pathologists' Use of Different Types of Language Assessments for Elementary School-Age Children? *Lang Speech Hear Serv Sch*. 2021;52(3):776–93.
8. Patla AA, Madhusudhanan S, Darshan HS, Rahul A. Speech-Language Pathologists' views and their approach towards assessment and management of child language disorders in bilingual context: Indian scenario. *Indian J Lang Linguis*. 2023;4(2):54–60.
9. Bishop DVM, McDonald D. Identifying language impairment in children: Combining language test scores with parental report. *Int J Lang Commun Disord*. 2009;44(5):600–15.
10. Crais ER, Roy VP, Free K. Parents' and professionals' perceptions of the implementation of family-centered practices in child assessments. *Am J Speech Lang Pathol*. 2006;15(4):365–77.
11. Hwa-Froelich DA. Play Assessment for Children From Culturally and Linguistically Diverse Backgrounds. *Perspect Commun Disord Sci Culturally Linguistically Diverse (CLD) Populations*. 2004;11(2):5–9.
12. Heilmann J, Tucci A, Plante E, Miller JF. Assessing Functional Language in School-Aged Children Using Language Sample Analysis. *Perspect ASHA Spec Interest Groups*. 2020;5(3):622–36.
13. Eisenberg SL, Guo LY, Mucchetti E. Eliciting the Language Sample for Developmental Sentence Scoring: A Comparison of Play With Toys and Elicited Picture Description. *Am J Speech Lang Pathol*. 2018;27(2):633–46.
14. Pathak S, Sovani-Kelkar P. Development of a screening tool to identify babies at risk of language delay in India: a preliminary study. *Lang Acquisition*. 2023;30(1):29–49.
15. Bamford CK, Mazzo S, Baker E, Ballard KJ. Dynamic Assessment for Children With Communication Disorders: A Systematic Scoping Review and Framework. *Am J Speech Lang Pathol*. 2022;31(4):1878–93.

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