



Providing Culturally and Linguistically Responsive Language Assessment Services for Multilingual Children with Developmental Language Disorder: a Scoping Review

Milijana Buac¹ · Rebecca Jarzynski^{1,2}

Accepted: 25 October 2022 / Published online: 9 November 2022
© The Author(s), under exclusive licence to Springer Nature Switzerland AG 2022

Abstract

Purpose of Review Researchers have devoted extensive time and effort into developing and analyzing culturally and linguistically responsive language assessment tools for multilingual children. The goal of the present review was to examine the most recent updates and recommendations for language assessment of multilingual children.

Recent Findings Twenty-three articles published within the past 5 years met inclusion criteria. Together, the research studies identified several assessment tools/approaches with high diagnostic accuracy including standardized assessments specifically designed for multilingual children, language sampling, dynamic assessment, alternative assessments such as non-word repetition and statistical word learning, measures of morphosyntax, and the use of a variety of technologies to aid in the assessment process.

Summary Literature from the past 5 years points to the use of a converging evidence model where evidence-based clinical decisions are made using multiple assessment tools. Further research is necessary in several areas, especially in relation to the validity of parent report of concern and the use of technology such as automated speech recognition systems to aid during the assessment process.

Keywords Multilingual · Bilingual · Assessment · Linguistically responsive · DLD · Children

Introduction

Multilingual language development is characterized by extreme heterogeneity such that two children growing up with the same languages can vary vastly in their language learning experiences, and ultimately, proficiency in each language. This heterogeneity in language learning, exposure, and use can complicate language assessment services. Speech-language pathologists, professionals who are responsible for conducting evidence-based language assessment, often feel underprepared to work with children from multilingual backgrounds [1]. In fact, children from multilingual backgrounds are often under- and/or over-diagnosed with

language impairment [2]. Underdiagnosis may occur when practitioners adopt the “wait and see” approach, waiting to evaluate until the child becomes more fluent in English. Overdiagnosis may occur when practitioners assess solely in English, not taking into account the child’s skills in the other language(s). Another major barrier to providing culturally and linguistically responsive assessment services is the lack of appropriate assessment tools for multilingual children resulting in the incorrect use of monolingual norms to make diagnostic decisions for multilingual children [3]. An additional complicating factor includes the lack of trained *bilingual* speech-language pathologists, with only about 8% of speech-language pathologists in the USA reporting they are bilingual [4]. This results in a client–clinician mismatch [5]. Together, these issues are in fact a public health crisis given that there are 12 million multilingual children in the USA [6].

Despite these barriers, researchers have devoted significant amount of time and effort into developing assessment tools and procedures to improve assessment practices for multilingual children. Recommendations made over the

✉ Milijana Buac
mbuac@niu.edu

¹ Northern Illinois University, 425 West Lincoln Highway, Wirtz Hall 358, DeKalb, IL 60115, USA

² University of Wisconsin- Eau Claire, 239 Water Street, Eau Claire, WI 54703, USA

years include testing all languages instead of assessing only the primary society language [7, 8], using conceptual scoring to take into account knowledge across all languages [9, 10], developing and adapting assessments specifically designed for multilingual children [11], and creating alternative assessments that move beyond assessing static language knowledge [7, 12]. Recently, a converging evidence approach was presented as a best practice for assessment of multilingual children [13••]. Specifically, in order to make a clinical decision regarding whether or not a multilingual child has a language impairment, the clinician must gather and synthesize information from four areas, including parent and/or teacher concern ratings, language samples in all the child's languages, standardized assessments appropriate for the child's cultural and linguistic background, and measures of learning potential (i.e., dynamic assessment). Thus, clinical decisions must be made with sufficient evidence across multiple areas of assessment. In addition to the converging evidence framework, there has been a call for clinicians to approach language assessment of multilingual children within the framework of “disorder within diversity” where the language skills of multilingual children are compared to the language skills of other multilingual children with similar linguistic experiences/backgrounds instead of comparing multilingual children to monolingual children [14].

The goal of the present paper is to review the most recent updates in the field of speech-language pathology regarding culturally and linguistically responsive assessment approaches for multilingual children. Specifically, research studies conducted within the past 5 years were reviewed to assess the most recent updates, recommendations, and advances in the field of speech-language pathology. The paper focuses on the diagnosis of developmental language disorder, which is defined as a neurodevelopmental disorder characterized by persistent difficulties in the child's ability to comprehend and use language that is not associated with a biomedical condition [15]. In multilingual children, these comprehension and production difficulties are present in all the child's languages.

Method

Articles for the present review were identified and selected following the framework outlined by Arksey and O'Malley [16] and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISM) [17]. Arksey and O'Malley [16] outlined a five-stage process for conducting a scoping review: identify the research question, identify relevant studies, select the relevant literature, chart the data, summarize and report and results. They also included an optional sixth step, which includes consultation of stakeholders. In the present review, a keyword search was

conducted in the following databases: (1) EBSCO ERIC, (2) MedLine, (3) ProQuest, and (4) ScienceDirect. Keywords included *multilingual*, *bilingual*, *developmental language disorder/language disorder*, and *assessment*. Empirical studies that met all the following criteria were included in the present review: (1) focused on multilingual children with developmental language disorder, birth to 18 years of age, (2) focused on language assessment considerations, (3) published in a peer-reviewed journal within the past 5 years (2018–2022), and (4) published in the English language. Review articles, book chapters, conference abstracts, and articles written in languages other than English were excluded from the present review.

The initial step in the review process included a screening of the titles and the abstracts of all articles identified through the keyword search in each database listed above. The full text of the articles deemed relevant to the topic of this review paper was retrieved for further examination. The first author conducted the initial screening.

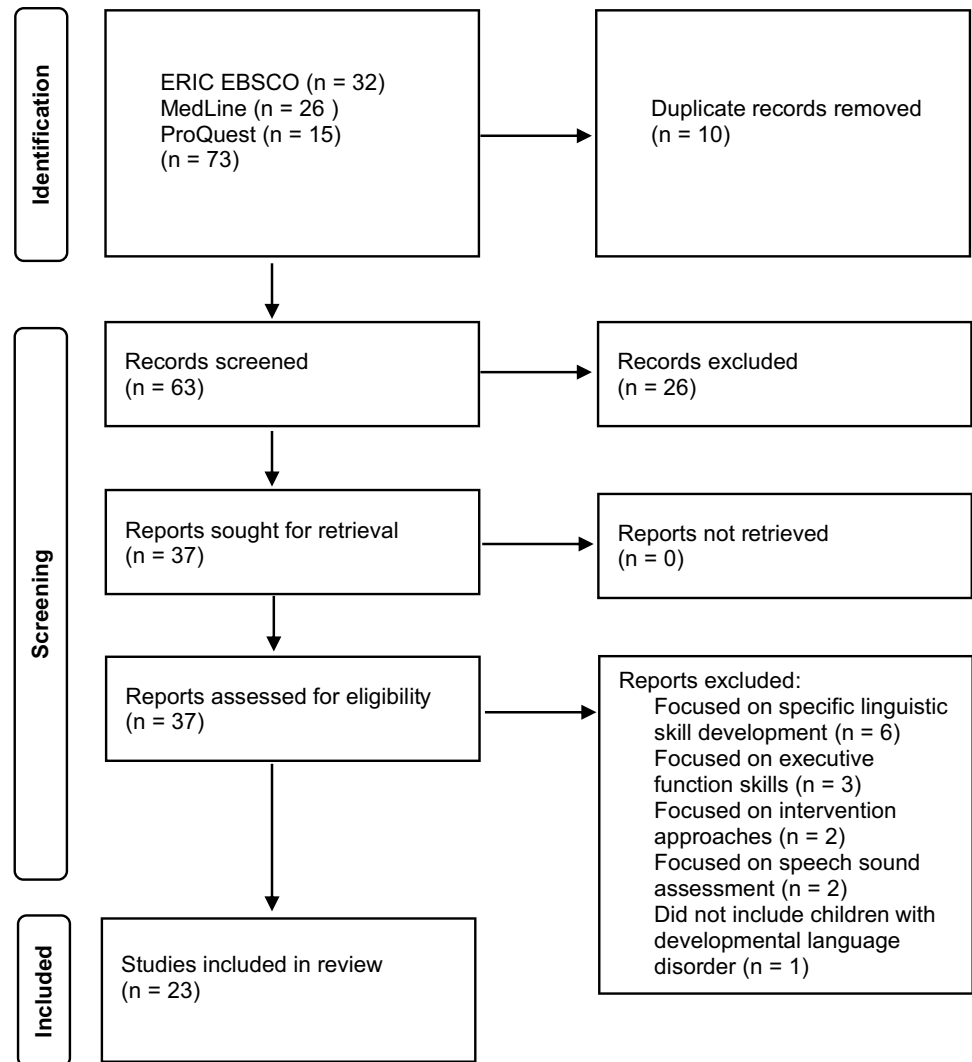
Results

The initial screening of articles based on the keyword search was conducted by the first author. A total of 73 articles across the four databases were identified. Of those, 10 were duplicates and thus removed, resulting in 63 relevant articles. After full text examination, 40 articles were excluded because they did not meet the aforementioned inclusion criteria. This resulted in a total of 23 articles that met eligibility criteria. A research assistant reviewed all 73 articles which were initially identified to calculate an inter-rater reliability check to ensure that all articles selected for review met the inclusion criteria outlined above. The inter-rater reliability check resulted in 98% agreement. Ambiguities were discussed and the inter-rater reliability reached 100% post discussion. The 23 articles selected for the review were articles that presented primary data. Those articles were reviewed by the first author who identified overarching themes based on the assessment approach(es) discussed in each article. Eight themes related to assessment approaches of multilingual children were identified and are outlined below. Both authors reached 100% agreement on all themes identified (Fig. 1).

Consider All Languages

Two studies addressed screening approaches of multilingual children [18•, 19••]. These studies found that, in general, multilingual children are screened at least 3 months later than monolingual children [18•]. Directly screening both languages is the recommended best practice [19••]. Screening multilingual toddlers in only one of their languages

Fig. 1 Article selection process



resulted in many false positives, unnecessarily increasing assessment referrals [19••]. It was also found that when toddlers were administered a screening tool in the major society language while parent report was used to screen for concerns in the native language, this resulted in high specificity but low sensitivity. Thus, many children who would benefit from a full assessment were not identified. Together, these studies indicate that *direct* screening/assessment of *all* languages by professionals appears to be best practice, while parent report should be used as supplemental information.

Best Language Scoring Method

One recent assessment has been developed for bilingual English–Spanish speaking children between the ages of 4 and 6 years old. The Bilingual English Spanish Assessment (BESA) [11] uses the best language scoring method to make a clinical decision regarding developmental language disorder. That is, both languages are assessed but

the best score from each subtest (phonology, semantics, and morphosyntax) is used for the final language index score. The BESA has been shown to have excellent sensitivity and specificity for Spanish–English bilingual children between the ages of four to six using the best language scoring method. One study [20••] presented an extended version of the BESA, the Middle Extension (BESA-ME) [21••], designed for school age children between 7 and 11 years old. The results revealed that using the best language scoring method was valid for older children as well. Another study [21••] extended the use of the BESA to Spanish–English bilingual children who speak African American English dialect and found that the BESA is a valid assessment tool for bilingual dialect speakers. Together, these studies illustrate the importance of using assessment tools designed specifically for multilingual children while taking into account knowledge *across* all the child’s languages.

Specific Language Skills

Two specific areas of multilingual language development were addressed in the articles selected for this review: code switching and morphosyntax. Code switching is a bilingual phenomenon where speakers alternate between their languages, either within the same sentence or between sentences and it is a typical phenomenon of multilingual language development. One study [22•] found that Spanish–English school-age children with developmental language disorder engaged in the same type and number of code switching behaviors as their neurotypical peers. Thus, the authors conclude that analysis of code switching behavior should not be used as part of the assessment process to rule in or rule out developmental language impairment. Alternatively, clinicians should allow children to code switch during language assessment as this is a typical phenomenon of bilingual language use.

A number of studies evaluated the utility of morphosyntax measures for assessment of multilingual children [23•, 24, 25, 26•, 27•, 28•]. This is not surprising given that children with developmental language disorder have difficulties learning and using morphology and syntax [29•, 30, 31]. The articles focused on grammatical features of specific languages such as Spanish [23•, 26•], Turkish [28•], and Welsh [27•]. One study [28•] demonstrated that children with developmental language disorder demonstrate morphosyntactic differences even when learning a less morphologically rich language. Overall, all research articles confirmed the need to extensively assess morphosyntax but urged clinicians to assess a variety of morphological structures in each language [25] because the extent of morphosyntactic difficulties varies depending on the typology of the child's language.

Language Sampling

Use of language samples as a bias-free assessment tool has been recommended for multilingual children [32]. One study [33•] found a positive correlation between standardized assessment scores and language sample measures in bilingual Spanish–English school-age children. However, they demonstrated that each measure provides unique information and the utility of language samples varied by age. Specifically, the use of wordless picture books for story retelling appears to be more suitable for younger children between 5 and 8 years old than for older school-age children. Thus, language sample measures should be used when assessing multilingual children, but they should be used in conjunction with other tools.

In another study [34••], several changes were proposed to the traditional language sampling measures. The rationale for the proposed changes was that many speech-language

pathologists avoid the use of language sampling due to the time demand to collect, transcribe, and analyze the sample. To determine the feasibility of alternate, shortened language sampling procedures, parents were asked to present a book to their child as they typically would and then ask their child to retell the story. Parents were then asked to report back the longest utterances they heard their child produce. Then, two measures were calculated: the length of the longest utterance produced by the child and the average of three utterances in words, that is, the number of words produced in the three longest utterances was calculated and divided by three to obtain an average. Results revealed that these alternative measures, which would be less time consuming, appear to provide reliable information about children's language skills as they significantly correlated with traditional language sample measures such as number of different words and mean length of utterance. Together, these two studies demonstrate the diagnostic utility of language sample measures when assessing multilingual children; however, these measures should be used in conjunction with other tools and clinicians should be trained to elicit and analyze language samples according to procedures suitable for their clinical setting.

Dynamic Assessment

Unlike standardized assessments, which assess static knowledge, dynamic assessment assesses learning potential. Thus, dynamic assessment is thought to be less biased as it does not depend on past experiences and opportunities, but instead, provides information about the child's ability to learn new information. It was pointed out in one study [35••] that despite the high success rate of dynamic assessment across multiple cultures and languages, dynamic assessment is not commonly used in clinical practice. Correspondingly, these authors recommended using a standardized dynamic assessment procedure to allow for ease of administration and scoring. In their study [35••], a standardized approach was used to conduct a dynamic assessment focusing on story retelling. Over 3 days, they conducted a pretest of children's narrative retell ability (day 1), explicitly taught narrative retell skills (day 2), and conducted a posttest of narrative retell abilities (day 3). Their assessment approach resulted in high sensitivity and specificity for school-age multilingual children. The high classification accuracy, paired with the results of previous studies [36], support the use of dynamic assessment when assessing the language skills of multilingual children. Similar results were obtained by another study [37] and that work further demonstrated cross linguistic benefits such that children made gains in their story telling abilities across all their languages irrespective of the language of the teaching session. In another study [38], the

utility of dynamic assessment was assessed using an inferential word learning task where children were required to infer the meaning of novel words based on surrounding text/context. They demonstrated high diagnostic accuracy using this task to identify multilingual children with developmental language disorder. Together, all three studies confirmed the utility of dynamic assessment.

Alternative Assessments

Several alternative measures have been proposed to reduce bias when assessing multilingual children. In the articles selected for the present review, these alternative measures include non-word repetition and statistical word learning. Non-word repetition tasks have been studied for over two decades and have been suggested as an appropriate assessment tool to reduce bias in assessment. In a non-word repetition task, children are asked to repeat syllable sequences increasing in length and complexity. The syllable strings are novel words that resemble the phonology of one language or are crosslinguistic in nature such that the phonology represents multiple languages. The question often asked in non-word repetition studies for utility with multilingual children relates to the most appropriate method for structuring the novel words. In two recent study [39•, 40•], it was found that overall, non-word repetition tasks are effective in differentiating children with and without developmental language disorder. Furthermore, monolingual children and bilingual children performed similarly on non-word repetition tasks, further confirming that non-word repetition tasks are less biased assessment tools [39•]. However, clinicians are cautioned against using a single language specific non-word task even if all languages spoken by multilingual children contain similar phonology [40•]. Thus, multilingual children should be assessed using words that are representative of all their languages.

Statistical word learning has also been suggested as a less biased assessment tool for multilingual children. During statistical word learning, children are exposed to a stream of input requiring them to track transitional probability to identify word boundaries. One study [41] found that both multilingual and monolingual children with developmental language disorder experienced difficulty learning words during a statistical word learning task. Furthermore, statistical word learning ability was a strong predictor of the severity of developmental language disorder, such that children with poorest performance on the statistical word learning task had lowest language skills. This study demonstrated that statistical word learning tasks may be used in conjunction with other measures (i.e., converging evidence) to aid in diagnosing language impairment in multilingual children.

Technology

In cases where there are no professionals who speak the child's languages, the use of speech recognition technology has been proposed to aid in screening children's language skills. Specifically, dual-language automatic speech recognition (ASR) has been examined for use with multilingual children [42••]. ASR is simply a speech recognition technology such as Google Assistant and Amazon Alexa with capability to recognize a vast number of languages. In the study [42••], it was proposed that ASR can be used as a way to allow speech-language pathologists to screen the language skills of children whose languages they themselves do not speak. These authors specifically state that this would not be the best approach for a comprehensive assessment, at this time, but at least serve as a potential starting point for a screening. In their study, they successfully employed the use of the Google Cloud non-streaming REST speech-to-text API program to transcribe bilingual English–Spanish school-age children's responses. Language scores were compared when items were transcribed by a human versus an ASR resulting in favorable outcomes. The ASR measure yielded the same sensitivity as the human coding but lower specificity. Therefore, assessment tools specifically programmed with use of ASR may be a helpful method to screen the language skills of multilingual children.

Screening tablet applications also show promise as a reliable tool. In one study [43•], the Receptive Vocabulary Screener (RVS) for German-Polish and German-Turkish speaking children was reliably used to screen receptive language skills. The benefit of both the tablet application and the ASR is that the examiner is not required to speak the child's languages.

Local Norms

Measures of English language skills may provide important information about multilingual child's language skills, but it is important to not rely solely on such measures. One study [44] found that the use of a comprehensive monolingual test battery may provide valuable information about multilingual children's language skills, especially those who speak languages where formal assessments are not available. However, it should be pointed out that this study specifically focused on English Language Learners who required support in acquiring English. Another study [23•] showed that Spanish–English bilingual children exposed to English at least 40% of the time achieved high scores on an English assessment of morphosyntax. In both studies, there was variability in performance indicating that although English measures may provide important information, it is crucial to assess both languages. In fact, assessments developed for monolingual children should be *adapted* for multilingual children by

developing *multilingual/local norms* for any assessment that was developed for monolingual children [45••].

Discussion

The goal of the present paper was to review and synthesize the most recent updates and recommendations for the assessment of multilingual children. A synthesis of research findings from articles published in the past 5 years aligns with the converging evidence framework recently outlined in the literature [13••]. That is, no measure is sufficient in isolation; clinicians must thoroughly assess and monitor progress by synthesizing information from multiple assessment tools, across all of a child's languages. Research in the past 5 years has shown diagnostic utility with a number of tasks/tools. A large proportion of the articles focused on morphosyntax [26%], rightfully so as morphosyntactic difficulties is a hallmark characteristic of developmental language disorder. The use of language sampling and dynamic assessments has continuously shown high diagnostic accuracy. The use of technology such as speech recognition has potential in aiding in the assessment process, especially when the clinician does not speak all the child's languages. Lastly, the review of recent publications reiterates the need to assess all languages and urges the use of assessment tools developed specifically for multilingual children.

Despite all the advances, many studies still continue to compare multilingual to monolingual children. It is necessary to move away from such a viewpoint and adopt the view proposed by Oetting [14] to look at “disorder within diversity.” It is necessary to develop assessment tools *with* multilingual children *for* multilingual children as these children have unique linguistic experiences that should not be compared to monolingual experiences. This approach calls for the development of local norms such that assessments used with multilingual children are based on the language characteristics of the multilingual community in which the child resides and receives linguistic input from.

Future Directions

Many unanswered questions remain. Arguably, the most important next step is to ensure that the clinicians responsible for assessing children's language skills, speech language pathologists, are properly trained on how to approach multilingual assessment. Thus, an urgent call to changes in training is required. Graduate speech-language pathology programs must provide future clinicians with opportunities to learn, across the entire curriculum, current best practices that are culturally and linguistically responsive and provide students with opportunities to interact and work with children who come from multilingual backgrounds.

Based on the recent articles, it appears that clinicians would be more likely to use culturally and linguistically responsive assessment tools such as dynamic assessment and non-word repetition tasks if standardized protocols were available. Thus, research on standardized dynamic assessment protocols is urgently needed as these tasks show excellent diagnostic accuracy. Language sampling is another method with excellent diagnostic accuracy given the rich linguistic information that can be obtained from this single task. Clinicians have significant time constraints; thus, further research is necessary on how to maximize the use of language sampling. Initiatives such as those proposed by Guiberson [34••] are initial steps that must be capitalized on, and standard protocols should be considered to give clinicians clear guidelines on specific measures that can be obtained efficiently from language samples.

Direct clinician assessment appears to result in best diagnostic outcomes. However, parent report appears to provide valuable information. As noted in the review of recent literature, further research is necessary to delineate the accuracy of parent report. Specifically, it is necessary to assess parents' ability to rate the child's language skills in the native versus non-native language(s) and to determine factors that may moderate this relationship such as parents' own language proficiency and socioeconomic background.

There have also been great advances in the use of technology such as automatic speech recognition programs and tablet applications. Studies assessing these technologies are sparse, but such technologies have the potential to aid in the initial screening process. Imagine the use of such technologies in every pediatrician office and pre-school to identify children who are at risk as early as possible. This would allow children to receive early intervention services resulting in improved quality of life.

Limitations

The present review is limited to the literature within the past 5 years. Readers are directed to several review articles [2, 7, 46] spanning a little over a decade focusing on assessment recommendations for multilingual children. We also solely focused on language assessment. But assessment of speech sound production is also impacted by the number of languages a child speaks. Readers are directed to a recent tutorial focusing on this topic [47]. In the present review, we focused on multilingual children, that is, children who speak two or more languages. Language assessment of children who speak more than one dialect is also characterized with similar complications and similar assessment recommendations. Readers are directed to several recent articles [48–50] focusing on assessment of children who speak more than one dialect.

Conclusion

Based on literature within the past 5 years, language assessment of multilingual children should be approached using information from a variety of sources, that is, using converging evidence [13••]. Clinicians should understand that multilingualism is heterogeneous and no two multilingual children have exactly the same linguistic experiences. Therefore, assessment must be individualized. Assessment should take into account all the children's languages, extensive background information on the language acquisition history, use, and exposure, both past and present. Clinicians should choose assessment tools that have been developed using local multilingual norms. Clinicians should also supplement norm-referenced standardized assessments with additional tools. Promising assessments include language sampling and dynamic assessment along with specific tasks such as non-word repetition. But most of all, clinicians should move away from comparing multilingual children to monolingual children and assessing disorder versus differences. We must move toward the “disorder within diversity” framework [14] as this calls for comparing multilingual children to their multilingual peers. In summary, as the most updated literature stands at the moment, culturally and linguistically responsive assessment should use converging evidence and assessment tools developed using local norms.

Declarations

Conflict of Interest The authors declare no competing interests.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

References

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Of major importance

1. Santhanam SP, Parveen S. Serving culturally and linguistically diverse clients: a review of changing trends in speech-language pathologists' self-efficacy and implications for stakeholders. *Clin Arch of Comm Dis.* 2018;3(3):165–77.
2. Bedore LM, Peña ED. Assessment of bilingual children for identification of language impairment: current findings and implications for practice. *Int J Biling Educ Biling.* 2008;11(1):1–29.
3. Caesar LG, Kohler PD. The state of school-based bilingual assessment: actual practice versus recommended guidelines. *Lang Speech Hear Serv Sch.* 2007;38(03):190–200.

4. Member & Affiliate Profile Annual Demographic & Employment Data [Internet]. Maryland: American Speech-Language-Hearing Association; 2022 [updated 2022 February 25; cited 2022 September 15]. Available from: <https://www.asha.org/siteassets/surveys/2021-member-affiliate-profile.pdf>
5. Kohnert K, Ebert KD, Pham GT. *Language disorders in bilingual children and adults.* 3rd ed. San Diego, CA: Plural Publishing; 2021.
6. U.S. Census Bureau. American Community Survey (ACS) [Internet]. 2022 [updated 2022 September 27; cited 2022 September 29]. Available from: <https://www.census.gov/programs-surveys/acs>
7. De Lamo WC, Jin L. Evaluation of speech and language assessment approaches with bilingual children. *Int J Lang Commun Disord.* 2011;46(6):613–27.
8. Ebert KD, Kohnert K. Language learning impairment in sequential bilingual children. *Lang Teach.* 2016;49(3):301–38.
9. Gross M, Buac M, Kaushanskaya M. Conceptual scoring of receptive and expressive vocabulary measures in simultaneous and sequential bilingual children. *Am J Speech Lang Pathol.* 2014;23(4):574–86.
10. Mancilla-Martinez J, Greenfader CM, Ochoa W. Spanish-speaking preschoolers' conceptual vocabulary knowledge: towards more comprehensive assessment. *HS Dialog: The Research to Practice Journal for the Early Childhood Field.* 2018;21(1):22–49.
11. Peña ED, Gutiérrez-Clellen VF, Iglesias A, Goldstein BA, Bedore LM. *Bilingual English Spanish Assessment (BESA).* Baltimore, MD: Brookes; 2018.
12. Saenz TI, Huer MB. Testing strategies involving least biased language assessment of bilingual children. *Commun Disord Q.* 2003;24(4):184–93.
- 13.●● Castilla-Earls A, Bedore L, Rojas R, Fabiano-Smith L, Pruitt-Lord S, Restrepo MA, Peña E. (2020) Beyond scores: using converging evidence to determine speech and language services eligibility for dual language learners. *American J Speech-Language Pathol.* 29(3):1116–32. **(This paper proposes the use of converging evidence for multilingual language assessment.)**
14. Oetting JB, Gregory KD, Rivière AM. Changing how speech-language pathologists think and talk about dialect variation. *Perspectives of the ASHA Special Interest Groups.* 2016;1(16):28–37.
15. Bishop DV, Snowling MJ, Thompson PA, Greenhalgh T, Catalise-2 Consortium, Adams C, Archibald L, Baird G, Bauer A, Bellair J, Boyle C. Phase 2 of CATALISE: a multinational and multidisciplinary Delphi consensus study of problems with language development: terminology. *J Child Psychol Psychiatry.* 2017;58(10):1068–80.
16. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol.* 2005;8(1):19–32. <https://doi.org/10.1080/1364557032000119616>.
17. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Ann Intern Med.* 2009;151(4):264–9.
- 18.●● Wiefferink K, van Beugen C, Wegener Sleswijk B, Gerrits E. Children with language delay referred to Dutch speech and hearing centres: caseload characteristics. *Int J Lang Commun Disord.* 2020;55(4):573–82. **(This paper indicates that multilingual children are screened at least 3 months later than monolingual children.)**
- 19.●● Nayeb L, Lagerberg D, Sarkadi A, Salameh EK, Eriksson M.(2021) Identifying language disorder in bilingual children aged 2.5 years requires screening in both languages. *Acta Paediatrica.* 110(1):265–72. **(This paper demonstrates the importance of direct screening of both languages by professionals vs. solely relying on parent report.)**
- 20.●● Peña ED, Bedore LM, Lugo-Neris MJ, Albuodour N. (2020) Identifying developmental language disorder in school age bilinguals: semantics, grammar, and narratives. *Language Ass Quart.*

- 17(5):541–58. **(This paper extends the best language scoring methodology to school-age children.)**
21. ●● Gatlin-Nash B, Peña ED, Bedore LM, Simon-Cerejido G, Iglesias A. (2021) English BESA morphosyntax performance among Spanish–English bilinguals who use African American English. *J Speech Language and Hearing Research*. 64(10):3826–42. **(This paper extends the utility of the BESA and the best language scoring methodology to bilingual children who speak African-American English.)**
 22. ● Kapantzoglou M, Brown JE, Cycyk LM, Fergadiotis G. Code-switching and language proficiency in bilingual children with and without developmental language disorder. *J Speech Lang Hear Res*. 2021;64(5):1605–20. **(This paper illustrates that code switching should not be used to rule-in or rule-out developmental language disorder in multilingual children.)**
 23. ● Bedore LM, Peña ED, Anaya JB, Nieto R, Lugo-Neris MJ, Baron A. Understanding disorder within variation: production of English grammatical forms by English language learners. *Lang Speech Hear Serv Sch*. 2018;49(2):277–91. **(This paper focuses on grammatical features of Spanish that should be assessed.)**
 24. Bonifacci P, Atti E, Casamenti M, Piani B, Porrelli M, Mari R. Which measures better discriminate language minority bilingual children with and without developmental language disorder? A study testing a combined protocol of first and second language assessment. *J Speech Lang Hear Res*. 2020;63(6):1898–915.
 25. Castilla-Earls A, Pérez-Leroux AT, Fulcher-Rood K, Barr C. Morphological errors in Spanish-speaking bilingual children with and without developmental language disorders. *Language, Speech, and Hearing Services in Schools*. 2021;52(2):497–511.
 26. ● Castilla-Earls A, Pérez-Leroux AT, Restrepo MA, Gaile D, Chen Z. The complexity of the Spanish subjunctive in bilingual children with SLI. *Lang Acquis*. 2018;25(1):72–84. **(This is another paper that focuses on specific grammatical structures of Spanish that should be assessed.)**
 27. ● Chondrogianni V, John N. Tense and plural formation in Welsh-English bilingual children with and without language impairment. *Int J Lang Commun Disord*. 2018;53(3):495–514. **(This paper focuses on Welsh grammatical structures.)**
 28. ● Güven S, Leonard LB. Production of noun suffixes by Turkish-speaking children with developmental language disorder and their typically developing peers. *Int J Lang Commun Disord*. 2020;55(3):387–400. **(This paper focuses on Turkish grammatical structures and demonstrates that children with developmental language disorder experience difficulty in both languages that have relatively simpler and complex morphosyntactic structures.)**
 29. ● Bedore LM, Leonard LB. Grammatical morphology deficits in Spanish-speaking children with specific language impairment. *J Speech Lang Hear Res*. 2001;44(4):905–24. **(This is another paper that focuses on Spanish specific grammatical structures.)**
 30. Bedore LM, Leonard LB. Verb inflections and noun phrase morphology in the spontaneous speech of Spanish-speaking children with specific language impairment. *Appl Psycholinguist*. 2005;26(2):195–225.
 31. Leonard LB. *Children with specific language impairment*. 2nd ed. Cambridge, MA: MIT Press; 2014.
 32. Rojas R, Iglesias A. Bilingual (Spanish-English) narrative language analyses: why and how? *Perspectives on Comm Dis and Sci Cult Linguist Diverse Popul*. 2006;13(1):3–8.
 33. ● Ebert KD, Pham G. Synthesizing information from language samples and standardized tests in school-age bilingual assessment. *Lang Speech Hear Serv Sch*. 2017;48(1):42–55. **(This paper focuses on language sampling measures and assesses older and younger multilingual children. It demonstrates that language sampling may provide varying information for older vs. younger children.)**
 34. ●● Guiberson M. Alternatives to traditional language sample measures with emergent bilingual preschoolers. (2020) *Topics in language disorders*. 40(2). **(This paper proposes new and more efficient language sampling measures.)**
 35. ●● Petersen DB, Chanthongthip H, Ukrainetz TA, Spencer TD, Steeve RW. Dynamic assessment of narratives: efficient, accurate identification of language impairment in bilingual students. *J Speech Lang Hear Res*. 2017;60(4):983–98. **(This paper proposes a standardized approach to dynamic assessment.)**
 36. Orellana CI, Wada R, Gillam RB. The use of dynamic assessment for the diagnosis of language disorders in bilingual children: a meta-analysis. *Am J Speech Lang Pathol*. 2019;28(3):1298–317.
 37. Fiestas CE, Peña ED. The dynamic assessment of narratives: a bilingual study. *J Cogn Educ Psychol*. 2018;17(1):97–111.
 38. Petersen DB, Tonn P, Spencer TD, Foster ME. The classification accuracy of a dynamic assessment of inferential word learning for bilingual English/Spanish-speaking school-age children. *Lang Speech Hear Serv Sch*. 2020;51(1):144–64.
 39. ● Schwob S, Skoruppa K. Detecting developmental language disorder in monolingual and bilingual children: comparison of language-specific and crosslinguistic nonword repetition tasks in French and Portuguese. *J Speech Lang Hear Res*. 2022;65(3):1159–65. **(This paper focuses on non-word repetition tasks.)**
 40. ● Tuller L, Hamann C, Chilla S, Ferré S, Morin E, Prevost P, Dos Santos C, Abed Ibrahim L, Zebib R. Identifying language impairment in bilingual children in France and in Germany. *Int J Lang Commun Disord*. 2018;53(4):888–904. **(This paper also focuses on non-word repetition tasks.)**
 41. Ahufinger N, Ferinu L, Sanz-Torrent M, Andreu L, Evans JL. Statistical word learning in Catalan-Spanish and English-speaking children with and without developmental language disorder. *Int J Lang Commun Disord*. 2022;57(1):42–62.
 42. ●● Albudoor N, Peña ED. (2022) Identifying language disorder in bilingual children using automatic speech recognition. *Journal of Speech, Language, and Hearing Research*. 65(7):2648–61. **(This article described a new and innovative approach to scoring assessments when the speech-language pathologist does not speak the language of the child.)**
 43. ● Schaefer B, Ehlert H, Kemp L, Hoesl K, Schrader V, Warnecke C, Herrmann F, Stern, gwiazda or star: screening receptive vocabulary skills across languages in monolingual and bilingual German-Polish or German-Turkish children using a tablet application. *Child Language Teaching and Therapy*. 2019;35(1):25–38. **(This paper describes a tablet application for assessment of multilingual children.)**
 44. Whiteside KE, Norbury CF. The persistence and functional impact of English language difficulties experienced by children learning English as an additional language and monolingual peers. *J Speech Lang Hear Res*. 2017;60(7):2014–30.
 45. ●● Altman C, Harel E, Meir N, Iluz-Cohen P, Walters J, Armon-Lotem S. Using a monolingual screening test for assessing bilingual children. *Clin Linguist Phon*. 2021;26:1–21. **(This paper illustrates the importance of developing local norms.)**
 46. Kohnert K. Bilingual children with primary language impairment: issues, evidence and implications for clinical actions. *J Commun Disord*. 2010;43(06):456–73.
 47. McLeod S, Verdon S, Baker E, Ball MJ, Ballard E, David AB, Bernhardt BM, Bérubé D, Blumenthal M, Bowen C, Brosseau-Lapré F. Tutorial: Speech assessment for multilingual children who do not speak the same language (s) as the speech-language pathologist. *Am J Speech Lang Pathol*. 2017;26(3):691–708.

48. Oetting JB, Lee R, Porter KL. Evaluating the grammars of children who speak nonmainstream dialects of English. *Top Lang Disord.* 2013;33(2):140.
49. Oetting JB, Berry JR, Gregory KD, Rivière AM, McDonald J. Specific language impairment in African American English and Southern White English: measures of tense and agreement with dialect-informed probes and strategic scoring. *J Speech Lang Hear Res.* 2019;62(9):3443–61.
50. Hendricks AE, Diehm EA. Survey of assessment and intervention practices for students who speak African American English. *J Commun Disord.* 2020;1(83):105967.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.