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Challenges in Assessing Bilingual School-aged Children with Developmental Speech Difficulties

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Abstract: The assessment of speech development of bilingual children is challenging. This article summarizes the major challenges in assessing bilingual children with developmental speech problems. This leads to the investigation of the barriers identified in the literature. Major challenges were identified are: lack of skilled speech and language therapists, linguistic and cultural variation, differences in speech and language skill of bilingual children, inadequate knowledge of speech therapists on speech and language development of bilingual children, differences in phonological development and dearth of knowledge of therapists on bilingual children's phonological development, and lack of appropriate speech assessment tools. To minimize these challenges, considering the language developmental diversity of bilingual children, number of competent speech therapists in this area should be increased and culturally and linguistically appropriate assessment tools should be developed.

Key words: Bilingual, speech development, language assessment, assessment tools, assessment challenges.

Introduction

Bi or multilingualism refers to the ability of using two or more languages (Paradis, Genesee and Crago, 2011). Bilingualism has received a significant attention in the field of children's speech and language development as it is estimated that half of the world's children are expected to learn or acquire two languages in their preprimary or early school years (De Houwer, 1995). Most recently, the number of bilingual children on speech and language therapy caseloads is increasing due to international movement and migration. As a result, speech and language therapists are facing

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challenges to assess a huge number of bilingual children's speech and language abilities and provide intervention (Girolametto and Cleave, 2010). The aim of this article is to discuss why might be it challenging to assess a bilingual or multilingual child (school aged) with suspected speech disorder to identify the nature of speech difficulties and how these challenges can be addressed? The aim will be achieved focusing on the following discussions: what is bilingualism or multilingualism and why it is important to assess speech and language abilities of bilingual children, typical and atypical speech acquisition of bi/multilingual children compare to monolingual children, speech disorder in monolingual and bilingual children, challenges of assessing bilingual children's speech disorder and possible ways of addressing these challenges. Finally, the conclusion will be drawn based on the discussion and different research findings.

What is bilingualism or multilingualism and why it is important to assess speech and language abilities of bilingual children?

Bilingualism or multilingualism defines the existence of more than one language in a society or within an individual. The meaning of bilingualism may differ from individual to individual as there is no single definition of bilingualism. For some people bilingualism means comprehensive oral fluency; whereas, for other people it implies any degree of ability in two languages (White and Jin, 2011). Baker (2006) has termed bilingualism based on different dimensions of bilingualism, rather than just defining it with one sentence or paragraph. Li (2007) mentioned about 37 kinds of bilinguals, including social, economic and linguistic extents and the level of proficiency of a bilingual person. However, The Royal College of Speech and Language Therapists (1996) define bilingualism as the capability of communication using two or more languages, in ranges of modalities and to varying degree of competency. Currently, bilingualism is defined as the ability of using two languages to communicate in day to day life basis (Martin, 2009). Children may learn their second language after they acquire their first language or they may acquire two languages simultaneously (Paradis, Genesee and Crago, 2011).

It is crucial to assess the speech and language abilities of bilingual children. Accurate assessment of a child's communicative skill plays vital part in diagnosis and advises therapy so that treatment strategies meet the child's needs (White and Jin, 2011). According to Harasty and Reed (1994) about 10 percent children might have speech disorders when they go to school. A significant number of children exposed to two languages in pre-school years might be referred for speech therapy for assessment and intervention of speech disorders. Many children learning more than one language may not have any difficulties in speech and language development. Nevertheless, a large number of children may experience complications to acquire speech and language skills. These may effect on their academic achievements and building relationship with peers (Goldstein and Kohnert, 2005). So, for early identification in deviation of speech and language skills and to plan intervention, it is important to assess speech and language abilities of bilingual children. These study findings reveal some important information regarding bilingual children's speech and language assessment but most of these studies included only those children who are learning the second language after the acquisition of first language. No studies included children who are learning two languages at the same time.

Typical and atypical speech acquisition of bi/multilingual children compare to monolingual children

Speech acquisition of children is a complex process, perhaps more difficult when a child learning more than one language. Previous research has shown speech acquisition was slower for both typically developing bilingual children and bilingual children with speech disorders compare to their monolingual peers. However, recent studies have exposed that speech sound acquisition of bilingual or multilingual children can be more advanced (i.e. positive transfer) or less advanced (i.e. negative transfer) compare to their peers learning only one language (Goldstein and Mcleod, 2012). Grech and Dodd (2008) revealed children from two to six years used Maltese and English at home demonstrated more progress in terms of phonological skills acquisition (consonant correctness, regularity

and fewer number of mistake patterns) compare to monolingual children. Similarly, Lleo, Kuchenbrandt, Kehoe and Trujillo (2003) found higher coda production rate in the Spanish productions for children speaking Spanish and German language compare to children speak only Spanish. Positive transfer has been noticed in the speech sounds abilities (as measured by consonant correctness, vowel accuracy, accurateness of syllable types and whole-word measures) of three, four and five years old Spanish-English bilingual children and did not differ significantly compare to their monolingual peers (Fabiano-Smith and Goldstein, 2010).

Bilingual or multilingual children's speech sound skills development can be slower or less advanced (negative transfer) in comparison to monolingual children. Holm and Dodd (2006) found most of the Cantonese-English-speaking children's (ages 26-67 months) phonetic inventory was not age appropriate compared to monolinguals, in that their inventories were not as robust. Results also revealed that Spanish-English bilingual children demonstrated less accuracy and greater number of errors in comparison to their Spanish and English monolingual peers. However, there were some similarities in error types and phonetic inventory (Gildersleeve-Neumann, Kester, Davis and Pena, 2008). Another study was conducted by Gildersleeve, Davis and Stubbe (1996) investigated English speech sound abilities of typically developing English-Spanish-speaking children (three years of age). They found bilingual children demonstrated lower intelligibility rating, showed more mistakes in vowel and consonant production and made more unusual error patterns than monolingual English and monolingual Spanish children. Bilingual children demonstrated error types (e.g. cluster reduction) which were found in both languages and those were not displayed by either monolingual Spanish speaking children (e.g. final consonant devoicing) or monolingual English speakers (e.g. initial consonant deletion). Even though, these studies seem to illustrate positive and negative transfer in the speech sound skills of bilingual or multilingual children, they are restricted in that they are cross-sectional studies. Longitudinal research can provide a better picture in this circumstance.

Speech disorders in monolingual and bilingual children

Both monolingual and bilingual children can demonstrate speech difficulties. Dodd and McCormack (1995) categorized the speech disorder of monolingual children into four different subgroups based on their surface speech mistakes and related performance on a series of tasks that recognized difficulties in the speech processing chain. The four subclasses are:

Articulation difficulties

It is the inability to produce a phoneme or sound which is perceptually not understandable, either in isolation or in any other phonetic environment. Children may demonstrate a particular deficit consistently (e.g. lateral lisp) or replace another phoneme (e.g. [w] for /r/). Articulation difficulties may occur due to peripheral problem where a child learns an inconsistent motor program for a specific speech sound (Fey, 1992).

Delayed phonological skills

Children's phonological system can be similar to typically developing children. Most of the phonemes can be pronounced; however, there can be a difference between the child's phonological system and his/her chronological age. This can happen due to poor language-learning context, slower neurological growth or cognitive delay (Powers, 1971).

Consistent deviant disorder

This can be described as systematic use of unusual phonological directions, i.e., error types that are not normal for typical phonological development (e.g. deleting all syllable-initial consonants). These mistakes are assumed to occur due to reduced capacity to abstract knowledge about the nature of the phonological system (Dodd and McCormack, 1995).

Inconsistent speech disorder

This can be identified as variable production of similar words or phonological features in the same environment. These children may not have difficulties in phonological system but find it difficult to

plan the motor sequences (Bradford and Dodd, 1996). Children who make inconsistent errors execute poorly on tasks evaluating phonological working memory and vocabulary and phonological planning (Bradford-Heit, 1996).

These same four subgroups have been found in languages other than English (Holm, Dodd, Stow and Pert, 1999). So and Dodd (1994) assessed 17 Cantonese-speaking monolingual children with suspected speech disorder. They found two children were unable to produce specific phoneme in intelligible way, eight children had delayed development of phonology, five children constantly made error types that were not normal of typical phonological development and two children demonstrated speech errors considered as inconsistent. Similarly, Fox (1997) found all the four subgroups in German-speaking children with suspected speech difficulties.

There is some evidence that the categorization of subgroups of speech disorder can also be applied to bilingual children. Dodd and McCormack (1995) mentioned that these subgroups of speech difficulties are also common with children speaking two languages. Dodd, Holm and Li (1997) presented two case studies with two Cantonese-English-speaking children. One of them, had speech errors, features of articulation difficulties and phonological delay in both languages compare to his bilingual peers. The other child demonstrated mistakes, which showed that he had a consistent irregular phonological disorder in both languages. There was also some confirmation that one child was having trouble marking the differences between his phonological systems, a characteristic not obvious in the larger bilingual group with whom he was compared. All these studies provided valuable information regarding the characteristics of speech difficulties of both monolingual and bilingual children but the studies were limited with fewer number of participants. Children of both language groups were selected from specific socio-economic background rather than having children from diverse socio-economic environment. Moreover, most of these studies were not longitudinal which might be useful to identify the features of speech difficulties of both monolingual and bilingual children more accurately.

Challenges in assessing bilingual children's speech disorders and possible ways of addressing these challenges

It is mentioned in the earlier section of this article that the number of bilingual children on speech and language therapy caseload is increasing day by day and most of these children may have speech difficulties. The assessment of speech of bilingual children may involve a range of difficulties which are as follows:

Lack of skilled speech and language therapists

The evidence shows that, though the number of bilingual caseload is increasing significantly but there is a notable lack of specialized speech therapists to assess bilingual or multilingual children's speech difficulties (Stow and Dodd, 2003). A survey was conducted by The Royal College of Speech and Language Therapists (1999) showed that of those who returned questionnaires, 98.5% labeled themselves as white and 98.5% were female. Bilingual specialized speech therapists were rare in this survey. Winter (1999) mentioned that there are very few speech therapists who have a specific bilingual caseload. Similarly Law et al. (2000) stated that the number of bilingual expert speech and language therapist is very limited. The Royal College of Speech and Language Therapists (2002) data shows that though there are 8263 registered speech therapists in UK but only 0.58% of the therapists acknowledged specialists in this field. Though these studies provided some useful data but those were unclear in some cases and can create confusion. Moreover, these data are relatively old now.

To address this issue, it is obvious to have more skilled speech therapists or relevant professionals in this field. To do so, different courses can be started particularly on bilingual children's speech and language assessment. Moreover, more research, workshop, conference can be useful method to increase the knowledge of speech and language therapists (Stow and Dodd, 2003).

Linguistic and cultural variation

It is important to consider bilingual children's family culture and language use including dialectal differences during the assessment

(Laing and Kamhi, 2003). A speech and language therapist may be in the danger of conducting a linguistically and culturally biased assessment if he/she does not take into account these linguistic and cultural variations. This can also act as a barrier of getting the actual communicative competences of the child and can lead a misdiagnosis (White and Jin, 2011). To overcome this challenge, a socio-cultural method should be applied as the crucial approach reinforcing other assessment approaches for assessing bilingual clients; rather than simply being a substitute to other approaches, it should be considered as the core context for them. Another possible way would be to inspire more people from marginal groups and speakers of minority languages into the profession (White and Jin, 2011).

Differences in speech and language skill of bilingual children

Variability in speech and language ability of bilingual children can also be a challenge for speech therapists during assessing children's speech and language skills (Sanchez, 2006). Children's speech and language proficiency is dependent on different factors, such as child's age, intensity of exposure to a language, child's motivation and learning opportunity of that language (Sanchez, 2006). Sometimes it is difficult for a clinician to pay attention to all these factors which can then lead a wrong diagnosis. To overcome this challenge, a clinician must consider child's language history and cultural background (White and Jin, 2011). A clinician can also use standardized questionnaire to quantify children's language proficiency and use such as Language Experience and Proficiency Questionnaire (LEAP-Q) (Marian, Blumenfeld and Kaushanskaya, 2007), History of Bilingualism Questionnaire (Paradis, 1987).

Inadequate knowledge of speech therapists on speech and language development of bilingual children

Therapist's lack of adequate knowledge on bilingual children's speech and language development (on both languages) is one of the common challenges during the assessment (Chavda et al., 2003 and Holm et al., 1999). This is reasonable that, the clinician may have insufficient knowledge on children's speech and language

development as majority of the speech therapists are monolingual and very few of them are specialized in this field (The Royal College of Speech and Language Therapists, 2002). This lack of knowledge may contribute inaccurate diagnosis of child's speech and language ability. To avoid this challenge, speech therapists need to be conscious of developmental processes and patterns of language use (such as language mixing, code switching, interference) which are used by bilingual children (Roseberry-McKibbin, 2002). A speech and language therapist should gather data from different sources and triangulate these data to make a reliable speech and language assessment of the child's overall linguistic ability (Girolametto and Cleave, 2010). The clinician can also compare and contrast children's capacity to speak each of their languages to decide whether these children have a speech sound disorder or not (McLeod, 2012).

Differences in phonological development and dearth of knowledge of therapists on bilingual children's phonological development

Lack of sufficient knowledge on the phonological development or developmental norms of bilingual children and similarities and differences in phonological skills of bilingual children compare to their monolingual peers are also robust challenges to assess speech difficulties of children speaking more than one language (Holm et al., 1999; Grech and Dodd, 2008). Bilingual language development research has mainly focused on the question of bilingual children's use of one or two grammatical systems. Phonological achievement has received very little attention by researchers of language acquisition compare to studies of syntax, semantics and pragmatics (Holm et al., 1999). Yavas and Goldstein (2006) found similar phonological skills of four to six years old bilingual Spanish-English children and monolingual Spanish and English children. On the other hand, Gildersleeve, Davis, and Stubbe (1996) stated significant dissimilarities in phonological skills of bilingual and multilingual children. Yet these studies provided some useful results but it can be argued on the validity of measuring bilingual children's assessment results using monolingual norms. More research is needed particularly on bilingual children's phonology acquisition.

Normative study with large number of bilingual children can be useful to establish the developmental norms of these children.

Lack of appropriate speech assessment tool

Lack of appropriate speech assessment is also a challenge for the speech therapists to assess speech of bilingual children. Most of the speech assessments have been developed in English except few assessments in languages other than English. This creates challenge to assess the speech of bilingual children. Many clinician then use the assessment tool which is used for monolingual children. Again, this can influence a misinterpretation of multilingual speech sound assessment data (McLeod, 2012). Develop more standardized speech assessment tools for bilingual children in languages other than English can be a solution of this problem. Gutierrez-Clellen and Pena (2001) mentioned about dynamic assessment as an effective way of assessing bilingual children's speech and language abilities. It is used to consider how children learn when given with feedback and, generally, has been seen as a useful protocol for use with children from culturally and linguistically diverse backgrounds.

Other challenges

There are some other challenges that can also impact on the accurate assessment of speech skills of bilingual children. Pena and Quinn (1997) claimed that lack of awareness with the task, objects/picture or vocabulary used in the test, might account for poor performance of the bilingual child. Sometimes it can also be difficult for the parents to understand if they are not competent on the language that speech therapist use in the session (Duncan and Gibbs, 1989). Kayser (1995) contended that clinician's unfamiliarity with the literature on child bilingualism (that can develop clinician's myths) can also impact on the assessment of bilingual children's speech and language ability. Considering all these challenges, speech therapists should develop sensitivity to their own social interactive styles, undertake training on multilingual assessment, can use high quality audio or video recordings in order to take speech sample (McLeod, 2012).

Conclusion

Bi or multilingualism has received a significant attention in the field of current research as it is increasingly becoming the main language-learning background of the majority of children world-wide. Bi or multilingual children are capable of speaking more than one language and accurate assessment of their communicative skills play vital role in diagnosis and plan intervention. Research has shown speech sound acquisition of bilingual children can be more or less advanced compare to their monolingual peers. Bilingual children can be at risk of having speech difficulties categorized as articulation difficulties, delayed development in phonological skills, systematic use of atypical phonological directions and inconsistent speech disorders similar to the monolingual children. Speech assessment of bilingual children can be challenging due to lack of specialized speech and language therapists in this filed, linguistic and cultural variations of bilingual children's family, bilingual children's variable speech and language ability, therapists lack of knowledge about bilingual children's speech and language development, shortage of adequate information on phonological development or developmental norms, lack of appropriate assessment tool. These challenges can be addressed by increasing the number of competent speech therapists in this field, application of socio-cultural method during assessment, paying attention on children's language history and cultural background, increasing consciousness about children's developmental process and pattern of language use, collecting data from both languages, developing knowledge base on bilingual phonological development, using dynamic assessment. Moreover, there is an urgent need to develop an international research base of bilingual speech and language acquisition and disorder.

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