Language development in bilingual children: A primer for pediatricians

By Victoria Fierro-Cobas, MD, and Eugenia Chan, MD

The number of children in the United States who are exposed to two languages is growing. Pediatricians need to know how to screen for normal language development in these children, what advice to offer parents about bilingual child-rearing, and how to answer common questions raised by families and teachers.

You are seeing Jorge for his 2-year-old well-child visit. As you examine him, his parents express concern about his language development. Jorge is able to say fewer than 10 words, some in Spanish, some in English. He was born in Puerto Rico and came to the United States when he was 12 months old. His parents speak a mixture of Spanish and English at home, as do his older siblings. His English-speaking day-care provider has told the parents that Jorge is confused by being exposed to two languages. She has suggested that the family speak only English so that Jorge will do better once he starts school. Jorge's parents want to know what they should do.

Lauren Klementz-Hart

The above vignette portrays an increasingly common scenario: parents concerned about language development in their bilingual child. In 1990, more than six million children between the ages of 5 and 17 (representing 13.9% of children in this age range) spoke a non-English language at home.[1] This number is expected to rise over the next few decades. As a result, pediatric providers will need to become familiar with normal patterns of bilingual language acquisition and be able to identify abnormal language development in a bilingual child.

Screening for language development in a child exposed to two or more languages can be challenging. Questions that commonly confront primary care providers include:

- Does learning two languages "confuse" the child and thereby slow language development?

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- How does a bilingual child acquire language?
- How does one know whether the language development of a bilingual child is normal or a possible developmental language disorder?
- What should families be told about raising a bilingual child?

In this article, we review patterns of bilingual language development, offer general advice about raising a child bilingual, and discuss common questions raised by parents and teachers. For simplicity's sake, we use "bilingual" to mean exposure to, rather than fluency in, two languages.

Developing bilingualism

Language development is a complex, dynamic process influenced by the child's age, language exposure, and social interactions. A bilingual child generally follows one of two language acquisition patterns: simultaneous bilingualism, in which the child acquires two languages at the same time before the age of 3 years, and sequential bilingualism, in which the child acquires a second language by age 3 after having acquired the primary language.

Preschoolers may differ qualitatively from school-age children in their ability to develop a second language. For older children and adults, acquiring a second language is a conscious rather than subconscious process, more appropriately termed language learning rather than language acquisition.[2]

Simultaneous bilingualism. Not much is known about the process by which a very young child simultaneously learns two languages. In general, however, these children appear to go through two stages of bilingual language development (Table 1).

The first stage is an undifferentiated, "single-language" system composed of elements from both languages. The same developmental processes that occur in a monolingual child—single words, increased vocabulary, emergence of two-word combinations, use of verb tenses, and so on—also occur in this undifferentiated stage of simultaneous bilingualism; the main difference is that two languages are involved. For example, the child may know an object's name in one language but not the other or use words from both languages in a single sentence (language mixing), or use word stems of one language with prefixes and suffixes from another language (language blend).

The second stage occurs when a child begins to differentiate the two

TABLE 1

Simultaneous acquisition of two languages

Age	Stage	Milestone	Red flag for language development problem
Birth to 2 months	Undifferentiated (contains elements from both languages)	Cooing	
2–6 months	Undifferentiated	Babbling	No bilabial sounds
6–15 months	Undifferentiated	First words (age of appearance might be somewhat later than with monolingual speakers but is still within normal range)	Less than one new word per week
1–2 years	Undifferentiated	Language blend (parts of words in both languages are blended in the same word)	Less than 20 words (2 languages combined) by 20 months
2–3 years	Undifferentiated	Language mixing (words of different languages are used in the same phrase or adapted to the grammar of the other language)	A countable number of words by 30 months. No word combinations
4 years and older	Differentiated	Uses each language as a separate system	

TABLE 2

Sequential acquisition of two languages

Stage	Milestone	Red flag for language development problem
First language	Normal acquisition sequence	Milestones abnormal
Second language		
Interactional period	Use of nonverbal communication and fixed phrases	Echolalia
Inference period	Grammatical rules of the first language are applied to the second language	Syntactic errors in the first language
Silent period	Selective mutism (can be longer in anxious children)	Prolonged or true mutism
Code-switching	Switches between languages in the same conversation	Word retrieval difficulties

language systems, using each one as a separate system for distinct purposes. The child may learn to associate each language with a specific person (parent vs. babysitter), age group (playmates vs. adults), or situation (home vs. playground). He then develops the ability to alternate language, using a specific language to communicate in a specific context. If the family code-switches multiple times within one conversation, the child will also learn that pattern and recognize that two different languages are being used.

Sequential bilingualism. The process of developing a second language before age 3 is slightly different from the process of developing a first language. First, a sequentially bilingual child can draw on knowledge and experience with the first language. Second, whether and for how long a child passes through several phases in the sequential language acquisition process depends on his temperament and motivation (Table 2). A more socially oriented child, for example, may very quickly learn fixed phrases that help him interact with other children and adults, such as "my turn" or "all done." A less outgoing child may have a "silent" phase when he is with people who speak his second language.

Third, the relative exposure to the second language compared with the first language can affect how a child develops the second language. If the child hears and uses both languages equally, his developmental language pattern will more closely resemble patterns in monolingual language development.[3] This is fairly unusual, and most bilingual children have clear "majority" and "minority" languages—the majority language being the one with which he feels most comfortable. Note, however, that the child's majority language may not always be the first language he is exposed to: A child from, say, an exclusively Chinese-speaking family who then enters and begins functioning in an English-speaking society may ultimately use English as his majority language.

Abnormal development of bilingual language

Detecting speech and language delays in multilingual children can be challenging. Limited availability of bilingual speech and language pathologists and the lack of standardized screening instruments in languages other than English make assessment difficult. Pediatric practitioners need to be familiar with common milestones in monolingual language development and adapt them to the bilingual child (see, for example, "The child with delayed speech," *Contemporary Pediatrics*, September 1992, page 55).

The key is to obtain information about the child's entire language system, not just the primary or secondary language. For instance: At 18 months of age, both a monolingual child and a bilingual child should have acquired approximately

50 words, whether those words are, say, all English, all Russian, or a combination of the two. Likewise, two-word combinations should be present by 2 years, although one word may be in, say, Hebrew and the other in French. If the parents speak limited English, obtaining the services of a trained interpreter is essential to capture the complete picture.

In countries where multilingualism is the norm, models for screening and enhancing language development emphasize providing information and support to parents and schools.[4] Workshops for families and teachers can help review expected language milestones and promote optimum methods for stimulating normal speech and language development.

General advice for parents

Parents often ask their pediatric provider for advice about how to raise a bilingual child. The following are rules of thumb for parents that can apply to almost any language-learning situation.

Be consistent. Experts suggest that the best way to maintain bilingualism is to compartmentalize the languages, separating how and with whom each language is used. A child who is developing language normally should be able to master multiple languages regardless of the way he is exposed to them (both parents speaking both languages, for example, or one parent speaking one language), as long as the pattern of exposure is clear and consistent. For instance, a child could use only Spanish with his father and only English with his mother, or only Spanish at home but only English at school. Clear boundaries for where each language is spoken should be established, and the rules should be adhered to in every situation. The child should soon be able to differentiate these situations and speak the appropriate language in each case.

Do what feels natural. Parents are more likely to maintain consistency if they choose a pattern of language exposure that feels natural to them. For example, if one parent is more comfortable speaking Chinese and the other parent is more comfortable speaking English, it may be more natural for the child to hear one language exclusively from one parent. Maintaining a particular language pattern should not impose undue stress on the family; enjoying the languages as a family will help promote the child's progress.

Parents who want their child to develop a language that they have not mastered should have a strong commitment to learning and speaking that language routinely to provide a good model of that language. Other strategies include having a child-care provider or playmates who are fluent in the second language and having second-language children's books or videos.

Keep the language developmentally appropriate. When addressing a child, adults automatically simplify their speech. Similarly, when a child is developing two languages (simultaneously or sequentially),

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the grammar of each language should be suitable for the child's age. Parents should also build on their child's attempts to communicate by demonstrating grammar and vocabulary. If the child says "Me juice!" the parent might respond with "Do you want a cup of juice?"[5] The language that the parent responds in depends on how he or she is teaching the child. If, for example, the family has decided to speak only the minority language at home, the parent should repeat the phrase in that language in the right way.

Aids that are often used when a child is developing a first language should also be used with the second language. Music, rhymes, games, and videos help the child not only to learn the language but also to appreciate the culture that he is being raised in.

Keep your child interested. Motivation is key to teaching a child a second language. The goal is to allow the child to feel special and proud. Telling stories and playing language-based games are opportunities to have fun practicing the languages, and the chosen topics can be culturally relevant. Families can be involved in activities in their child's classroom, which also enhances the child's self-esteem.

Several factors may diminish or increase a child's interest in learning a second language. Asking the child to "perform" or "show off" his second language might be embarrassing and result in the child feeling "different." Encouragement and praise for spontaneously using a second language can go a

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long way toward enhancing the "language ego."[5]

Contrary to popular myth, the more solid a base the child has in his first language, the easier it will be for him to learn a second language. A child learning a second language should not be deprived of hearing and practicing his primary tongue; building on an already strong language base is a basic tenet of sequential learning.

Responding to concerns

Parents of a bilingual child frequently have concerns about the possible negative effects of bilingualism. The following Q&As will help you give informed answers to these and other commonly asked questions.

Does bilingualism cause speech and language delay or language disorders?

Evidence indicates that bilingualism does not cause language delay, although language delays can certainly occur in bilingual children.[6,7]

Differentiating language delay or disorder from sequential bilingualism is important. A child learning a second language will normally have delays and inaccuracies in syntax that a monolingual child may not have. These usually result from "learning errors" derived from common underlying learning strategies (the methods used to teach a child a language) and are not language disorders.[8]

Learning a second language generally does not interfere with the development of a child's first language. Progress in the first language sometimes appears to be slowing down compared with that of a monolingual child, but this relative delay is usually not significant.[8] There may be some periods of language mixing, but having a solidly developed language can only help with mastery of a second language. In addition, developing a second language may actually strengthen a child's first language, as she will use the base provided by the first language to learn the second. When first-language acquisition stagnates (usually because support for its maintenance is lacking), the second language is often developed enough to take over.[8]

> **Take-home message**
>
> Learning a second language generally does not interfere with the development of a child's first language.

Children who have significant delays in acquiring the first language usually have an underlying disorder or poor language exposure. These children are unlikely to develop a second language successfully.

Does bilingualism cause learning difficulties or disabilities?

Many people believe that bilingualism is the reason some bilingual children have difficulty learning to read. Research suggests, however, that learning difficulties occur in bilingual children just as they do in monolingual children, and that bilingualism is neither a direct nor indirect cause. A bilingual child may have learning difficulties if he enters school without a solid base in either language, leaving him unequipped to handle the increasingly higher order language demands of the classroom. But this is not a consequence of bilingualism per se. A monolingual child whose language skills are similarly underdeveloped will also experience difficulty learning.

If my child has a learning difficulty or language disorder, should we stop being bilingual so as not to confuse her?

Studies in Canada have found that even children who are "slow" at school are capable of learning two languages—but at a slower pace. Yet, parents of children with a language disorder are commonly advised to switch to the majority language of school and the community (say, English in the United States), even if it is the child's second and less competent language. Although well-intentioned, this advice may leave the child without a language in which she feels secure and may exacerbate the learning problem. The priority should be to preserve the home language if at all possible, even if it is the minority language. If the school can support this and the child can use the language she has mastered, she will be better able to learn, especially if she can practice with her family. Learning the second language can come later.[9]

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Children with a severe developmental disorder, such as autism and mental retardation, often have a severe delay or atypical language acquisition that requires intensive language and communication-oriented therapy. Little is known about whether these children should become monolingual in the language spoken in the school or community—given that most special education, mental health, and speech and language services are available only in that language—or whether preserving the home language is more important because of emotional, cultural, and family reasons.[10] The decision to become monolingual in either the home language or the majority language, or to maintain some degree of bilingualism, depends on the child's abilities and the family's values. In general, however, if the parents of a child with a severe developmental disorder are not proficient in the child's second language, speaking that language at home should be discouraged.[10]

Does learning two languages simultaneously interfere with a child's cognitive development?

Contrary to what researchers first reported, second language acquisition does not affect a child's intelligence. Studies done before the 1960s estimated that the IQ of monolingual children was superior to that of bilingual children.[11] These tests were conducted in English (generally the second language of these children) with samples of middle-class American

Resources for families

Web sites

American Speech-Language-Hearing Association (ASHA)
www.asha.org/speech/development/Bilingual-children.cfm
This page contains general information about bilingualism in children, with links to specific information on speech and language development.

The Hanen Program
www.hanen.org
The Hanen Centre is a Canadian charitable organization committed to helping young children with, or at risk of developing, language delay to communicate and interact effectively.

Bilingual Families
www.nethelp.no/cindy/biling-fam.html
This page is intended primarily as a place for bilingual parents to find information and resources to help them raise their children as bilinguals.

Foreign language bookstore for children (books, videos, audiotapes)
www.bookswithoutborders.com

Bilingual Books for Kids (books for Hispanic children)
www.bilingualbooks.com

Spanish books for infants and toddlers
www.littlechiles.com

Pan Asian Publications (bilingual books for Asian children)
www.panap.com

Ketab Farsi (bilingual books and tapes for Iranian children)
www.tamasha.com/KetabFarsi

Articles and books

Baker C: ***A Parents' and Teachers' Guide to Bilingualism***. Clevedon, England, Multilingual Matters Ltd, 1998

Bilingual Family Newsletter
Contact: Marjukka Grover
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Frankfurt Lodge, Clevedon Hall, Victoria Road
Avon BS217SJ
England

Chiocca E: Language development in bilingual children. ***Pediatric Nursing*** Jan-Feb 1998;24(1):43

children as monolingual controls. More recent research from Canada, the United States, and Wales, using standardized testing in the appropriate languages, has shown that bilingual children have an IQ at least equal to that of their monolingual peers.[12]

Should immigrants adopt the language of their new country?

Immigrants often believe that switching to the language of their adopted country will help their child learn the language more quickly and adjust to the new society better. Changing the home language has disadvantages, however. First, speaking the new language in the home may feel unnatural and awkward for parents and child, especially if the parents' second language skills are poor. Second, a new home language together with a new home, new surroundings, and new friends may add to the disruption that a child experiences upon immigration to a new country. Most children need the reassurance of a stable home language to help them adjust.[5]

Most young children will learn the second language very quickly. As discussed earlier, learning a new language is best done with a solid primary language base. For an immigrant child, continued learning of his primary language assists both with second-language learning and with bridging cultures.

Raising a child as bilingual can be challenging. Parents may find support in other families in their community who are going through the same process. This "social comparison" of problems and worries can be very helpful for families that speak primarily a minority language. You can also refer families to resources listed in the box on page 94.

What about our internationally adopted child?

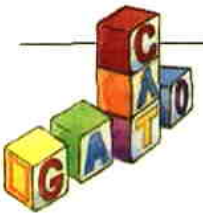
International adoptees often come from a background of limited developmental stimulation and qualitatively different language exposure. Their first-language skills may therefore be weak, which makes it difficult to acquire a second language; in fact, these children typically lose their first language before they gain communicative competence in their second. Younger children will probably have time to acquire a basis in the second language before they begin school and the demands on language skills increase. For children 4 to 8 years of age, it may be difficult to separate second-language learning difficulties resulting from a weak first-language system from true language disorders.[13] Children 8 years and older may have a more well-developed first language, but they may be expected to function at a higher level in their still-developing second language.

To start, international adoptees who are approaching school age should have a comprehensive evaluation, including medical, psychoeducational, and speech and language assessment. The latter two should be conducted in both first and second languages, if at all possible. Children with uncertain language ability should start speech and language therapy or, if starting school, at least have an individualized education plan (IEP) that addresses language remediation. (For children with uncertain language ability in one language but not the other, an IEP is unnecessary if they receive education in the language in which they are more proficient until they catch up with the second language.) In most cases, a "wait-and-see" approach before starting speech and language therapy is not recommended.[13]

Our child refuses to speak one of the languages we speak at home. What should we do?

It is very common, especially in adolescence, for children to reject the language that is not spoken by their peers. They also might feel sensitive about speaking a language not understood by the majority, and they therefore avoid doing so. In such a case, the parents should continue talking to their child in the language that he refuses to speak. Such refusals are usually short-lived and, if the child continues to be familiar with the language and understand its structure, it will be easier for him to resume speaking it later. When adolescents or young adults understand that knowing a second language might be attractive to future employers, increase travel possibilities, and enhance new relationships, the desire to speak it again usually returns.

A silent phase may also represent a normal developmental stage in a young child learning a second language sequentially. But if a young



child refuses to speak a second language in a particular situation, keep in mind the phenomenon of selective mutism. In selective mutism, a shy or anxious child fails to speak in certain circumstances but uses language normally in nonstressful environments, such as the home.[14,15] Although symptoms are usually not persistent, they can interfere significantly with school or social interactions.[16] Children with selective mutism should be treated with family- and school-oriented behavior modification and possibly psychopharmacology.[17]

True mutism in a child who has been able to communicate in the past is never normal. Regression in language development is also a cause for concern that should be carefully explored.

Embracing bilingualism

As the number of bilingual children and families in the United States increases, pediatric providers and other child development specialists need to be familiar with normal patterns of bilingual language acquisition. When assessing language development in a child exposed to two or more languages, a thorough history with information about the entire language system is essential.

A child who has the opportunity to speak more than one language should find that second language an asset, not an obstacle. Accurate information from pediatric providers can enable parents and schools to help children make the most of this opportunity. □

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