

Can children with Down syndrome learn more than one language?

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Does learning a second language affect progress in a first language? Some new evidence is beginning to indicate that children with Down syndrome can pick up a second language like other children, with no negative effect on their first language.

Can children with Down syndrome learn more than one language? Does learning a second language affect progress in a first language? These are questions that professionals are often asked but there is very little research evidence

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available on which to base advice. They are questions that are not easy to answer by designing a research study as, in many countries, so few children with Down syndrome are expected to learn more than one language. Parents could be very helpful in enabling us to answer these questions by recording the progress of their children with Down syndrome when they are in a bilingual situation and I hope that this article may encourage parents to write to me with information on their own children's progress with a second language. I am aware of many children and adults with Down syndrome who have achieved a functional level of competence in speaking a second and sometimes

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a third language, through contacts with families and professionals in many countries. I have also met children with Down syndrome who can read and write in more than one language but we need much more information their levels of general ability and on how they have achieved this in order

to advise other parents. Case studies would be a good starting point for more research.

Learning a second language in school

In many countries, all children are expected to learn two or even three languages and they may begin to learn more than one language before starting full-time education or they may not be exposed to a second language until they are in school. For many of these children, only one language will be spoken at home and the other language may be used by some people in the community or only in school. Teachers and parents want to know if the child with Down syndrome should be included in second language learning. For example, should English speaking children with Down syndrome be included in Irish or Welsh lessons in primary school? Should children with Down syndrome learn a second language in secondary school when their peers begin lessons in the new language? As far as I am aware, there are no published studies of children's progress in these situations but I have met children with Down syndrome who have done well when learning a second language in both primary and secondary school. For example, I know children doing well in Irish language and Welsh language primary schools even though their first and home language is English. One lad in an English secondary school learned French in his first year as well as his

non-disabled peer group – by going home and writing out everything he had to learn, as he knew that he had to see the French words to remember them. His mother commented that he was learning a second language in the same way as she had taught him his first language – by reading it. (*For more on the benefits of early reading on speech and language development see* ^{5,7})

The bilingual family

The other common situation that raises queries is the bilingual family. In a bilingual family, two languages will be used in the home because the first language of each parent is different and they wish their children to be able to speak both languages. If typically developing preschool children (under 5 years of age) are exposed to two languages used naturally they usually have no difficulty in becoming fluent in both languages.

Bilingual families are often advised not to speak two languages to babies and toddlers with Down syndrome on the assumption that, since children with Down syndrome have significant speech and language difficulties, they will be further disadvantaged by hearing two languages. There is actually no published evidence to support this view but there is one study in progress in Canada that suggests that there is no disadvantage. At least in the early stages, children with Down syndrome who are becoming bilingual are making the same progress in their first language as children with Down

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syndrome who are learning only one language (monolingual). Preliminary findings from this ongoing study by Elizabeth Kay-Raining Bird and her colleagues were presented in July at a joint conference combining the Symposium on Research in Child Language Disorders held annually at the University of Wisconsin-Madison, Madison, USA with the IX International Congress for the Study of Child Language.^[1]

Is bilingualism affecting their first language?

They are comparing the progress of 8 children with Down syndrome who are bilingual with a group of 15 who are monolingual, matched for mental age. All but one of these bilingual children are exposed continuously to both languages at home as well as in the community. The chronological ages of the bilingual children range from 4 years to 11 years. The two groups of children with Down syndrome do not differ in their English vocabulary sizes (English being the first or dominant language for all the children) or in their developing grammar as measured by Mean Length of Utterance (MLU). Learning two languages has had no negative effects on first language learning – no effects on vocabulary or on grammar in their spoken language.

Are they like other bilingual children?

When compared with typically developing bilingual children at the same stage of language development, the bilingual children with Down syndrome were making the same progress in vocabulary in both the languages. All the children with Down syndrome (both bilingual and monolingual) were using shorter phrases and sentences than the typically developing children, demonstrating the usual delay in mastering early grammar that is shown by children with Down syndrome.

This is an important study but, as the presenters emphasised, it is a small study which needs replicating and it is too early to see if bilingualism has any effect on the development of later grammar in one or both languages. However,

they conclude that their study does NOT provide support for the advice to speak only one language to babies with Down syndrome – the advice that is usually given to parents at the present time. This research group are also looking at the way the bilingual children mix the use of the two languages and once they publish the findings of these studies we will publish the full references for our readers.

Other studies

There are two other published case studies of bilingual or multilingual individuals with Down syndrome, one of an Italian woman speaking Italian, English and some French^[2] and one of twin girls who were bilingual in speech (English) and in sign, British Sign Language for the deaf (BSL)^[3,4] as they had profoundly deaf parents, for whom BSL was the dominant language, and a hearing older brother. (Deaf sign languages such as BSL are full languages with fully developed grammars. Makaton is not a language, it is a set of signs used to support spoken language learning – without a grammar).

The Italian woman was reported as an exceptional case as she was seen to be particularly able, with an IQ of 71. She had standard trisomy 21 and she had good spoken Italian with better mastery of spoken grammar than is typical for a person with Down syndrome. She also had some competence in French and in English. She had been in Belgium until she was 6 years old on a NATO military base and therefore exposed to French. She learned English from a British sister-in-law and she was able to hold a conversation in English, watch English TV and speak on the phone. She had a full time job as an adult in an Italian advertising agency. Her abilities demonstrate that having Down syndrome does not prevent someone from learning several languages, as many parents and professionals know from their own experience.

Does language modality make any difference – is sign easier?

The bilingual twins, Sally and Ruthie, have Mosaic Down syndrome and normal hearing and they have

been followed for a number of years by Bencie Woll and Nicola Grove in the UK. They were exposed to both BSL and speech in their home from birth and have become competently bilingual. At three years of age, the twins' dominant language was BSL sign and their progress in spoken English was delayed relative to their sign language progress. They differentiated their language use like other bilingual children, signing to other signers and speaking to other speakers.



Nazli Okè speaks and reads both Turkish and English

Vocabulary learning may be easier in sign

At ten years of age, their dominant language was spoken English. They still signed to their parents and other signers, but used speech to each other and to other speakers. Their sign vocabulary was more extensive than their spoken vocabulary. In sign, their vocabulary age for comprehension was at the same level as their mental age. In spoken English, their vocabulary comprehension level was approximately two years behind their mental age. This specific gap between mental age and language age is the usual pattern reported for children with Down syndrome learning a spoken language. The vocabulary advantage in sign might reflect that sign language was their parents' first language therefore they may have experienced a richer vocabulary in sign. These findings could also reflect a sign advantage for learning vocabulary, supporting research that does indicate visual cues definitely support spoken word

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learning and that spoken words alone are difficult for children with Down syndrome to learn.^[5]

Grammar learning is not easier in sign

However, the twins' development of grammar comprehension was equally delayed in both languages, sign and speech and it is disappointing to learn that they did not show an advantage in learning a sign grammar. This may be an important finding for our understanding of the

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cause of grammar difficulties. Most children with Down syndrome have difficulty mastering the grammar of their spoken language and have vocabulary knowledge that is ahead of their grammar by their teenage years. It has been suggested by a number of researchers that poor short-term verbal memory may be a major causal factor, limiting the children's ability to process sentences and access the grammar, and also that speech-motor difficulties may affect the production of grammatical markers and complete sentences.^[5,6]

If the main problem with learning grammar was linked to learning a spoken language from listening, then children learning a sign language might be less likely to show a grammatical difficulty and may have more fluent production in sign rather than speech. However the twins do show grammatical difficulties in both languages and use only short 'keyword utterances' in both speech and sign, suggesting a more fundamental language learning

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difficulty is associated with Down syndrome, regardless of the modality of the language. The girls are also now dominant in spoken English rather than in sign, despite sign being the dominant language of their parents. If sign was actually an easier language mode for children with Down syndrome, we might have expected them to prefer it and to have become more competent in sign than in speech.

What can we conclude from the available information?

The evidence from individual cases and from these studies indicate that children with Down syndrome can become bi-lingual and they seem to be doing so in the same way and as typically developing children of the same mental age and first language level. There is no evidence that learning two languages has any negative effects on the development of the children's first language. The children with Down syndrome show difficulties in developing grammar in both languages, even if one language that they are exposed to is a full sign language such as BSL.

This suggests that the advice for parents should be to include their child with Down syndrome in ordinary family and community life like any other child. If their family is bilingual then they should use the two languages with the baby with Down syndrome in the same way as they do with their other children and he or she will be likely to cope perfectly well with this experience. Similarly, if other children in the family and local community are exposed to two languages in school, the child with Down syndrome can follow the same pathway.

I would offer two cautions to this advice based on my experience. Firstly, I would monitor the progress of the child with Down syndrome carefully as some children will experience more severe speech and language delays than others, and we do not have enough evidence to suggest that all babies with Down syndrome will cope with two languages. Secondly, all babies with Down syndrome need good language input to help them with their first language and I would concentrate all additional speech and language therapy and reading activities in the preschool years on the development of the main language the child will need in the family, community and in the school, if possible.

With regard to teaching grammar, the evidence we have at the present time suggests that the best way to teach grammar to children with Down syndrome is through appro-

priately planned reading activities in their first language, as we have argued in the first issue of this journal for 2002.^[see 7,8] These reading activities are, of course, always accompanied by speech so that the visual and the spoken language forms have the same grammar and seem to work together to support the learning of one language. We are exploiting the fact that visual short-term memory is better than auditory short-term memory for children with Down syndrome.

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