Parents & Professionals in Education

'*Bilingual children understand that there are multiple ways to see the world*'

(Ellise Suffill, University of Edinburgh)

Multilingual children

An increasing number of parents and professionals in education are in contact with children who speak more than one language. Language development in multilingual children differs from monolingual language development in a number of ways. AThEME research sheds light on several aspects of language development in multilingual children, such as the effect of language dominance and language distance on child language learning, the acquisition of pragmatic abilities in multilingual children, and the effect of multilingualism on prosodic development.

Learning a second language

Learning a second language (L2) in early life does not always ensure native performance. AThEME researchers were the first to investigate whether the amount of language use by highly proficient early bilinguals has an impact on the learning of language rules (grammar). They found that the amount of language spoken on a daily basis might be a reliable way to estimate the effective language learning process of early bilinguals. The degree of language dominance (to what extent language is used on a daily basis) can have a permanent impact on the way early bilinguals assess grammar across their languages. Therefore, as well as considering age of acquisition, language dominance should also be considered as an important factor that influences the processing of grammar in the second language, even when this language is successfully acquired early in life. (Caffarra, Barber, Molinaro & Carreiras 2016)

Second language processing does not only depend on the age of acquisition and the speaker's proficiency of the L2, but also on the differences between the grammars of the speaker's first language (L1) and L2. AThEME researchers investigated to what extent processing L2 is influenced by linguistic similarities and differences between the first and second languages. Results indicate that the processing of grammar in L2 is largely shaped by characteristics of the L1 grammar. When the grammar of the first and second languages are similar, grammar processing in the second language is similar to that of native, monolingual speakers. However, when grammar has greater differences across the two languages, bilinguals may process the grammar of their second language differently to native speakers, even in cases of highly proficient, early bilinguals. (Zawiszeski & Laka 2016)

Advantages of being multilingual

Substantial exposure to minority languages at home indirectly affects bilingual children's cognitive development. In areas where both a minority and a majority language are used, the chances of becoming proficient in both languages are best for children who speak the minority language at home. A higher degree of bilingualism – defined in terms of the balance of ability across two languages – has a small positive effect on children's selective attention (i.e. the ability to stay focused on task-relevant information). However, this effect disappears as children grow older, and is not visible for other cognitive capacities, such as interference suppression (i.e. ignoring salient distractor

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information whilst attending to less salient, task-relevant information) and working memory (i.e. memory used throughout tasks, such as doing calculations and remembering increasing lists of items). (Bosma, Hoekstra, Versloot & Blom 2017)

There are very few studies that compare early bilingual speakers with monolingual speakers in terms of assessing their pragmatic abilities (such as the comprehension of inferences i.e. how we learn to infer what a speaker really means, instead of just what they say). These studies have suggested that bilingual speakers are more sensitive to the communicative context than monolinguals. AThEME researchers compared the pragmatic abilities of both early bilingual children and adult L2 learners to monolingual speakers by measuring 'scalar implicatures'. To do this, they tested the performance of monolinguals and bilinguals in recognizing implicit meaning and presupposition beyond the explicit or literal meaning of utterances. The results showed that in the case of adult L2 learners, though learning a second language does not enhance pragmatic abilities, having to switch between two languages makes the pragmatic cues most salient. Their results further confirm that early bilingual development does not affect the development of pragmatic abilities. (Stateva, Andreetta, Dupuy, Reboul & Stepanov 2016) and (Dupuy, Stateva, Andreetta, Cheylus, Déprez, van der Henst, Jayez, Stepanov & Reboul 2018)

AThEME researchers also investigated bilingualism in the case of communicative impairment (i.e. impairments in speech production or comprehension, as well as difficulties in writing and reading, such as stutters, dyslexia or aphasia). People are often under the impression that bilingualism should not be promoted in cases where children have specific language impairments or learning disabilities. This is often the case with developmental dyslexia. Parents and teachers may discourage bilingualism because they fear it could have a negative impact. Contrary to these assumptions, AThEME findings support results from other studies, showing that bilingualism does not have a negative impact in cases where children have dyslexia. In fact, it can even have a positive effect in some tasks in the domains of morphological competence (i.e. the structure and content of words), metalinguistic awareness (i.e. recognizing that statements have both a literal meaning and an implied meaning) and executive functions (i.e. skills such as working memory that help us manage mental tasks). In these tasks, bilingual dyslexic children were found to outperform monolingual dyslexic children and in some cases, even monolingual typically developing children. Therefore, it appears that advantages typically associated with bilingualism might also alleviate some of the impacts of dyslexia on language. (Vender, Hu, Mantione, Savazzi, Delfitto & Melloni 2018)

Previous studies have shown that bilingualism improves children's perception of prosodic properties (i.e. the rhythm and intonation of language). Music and speech share fundamental prosodic characteristics such as tone, duration and rhythm. Therefore, AThEME researchers investigated the influence of bilingualism and musical training on prosodic processing. The results indicated that both music skill and bilingualism can increase children's abilities to distinguish between different syntactic structures (sentence structures) in an unknown language, based only on prosodic cues. (Stepanov, Pavlič, Stateva and Reboul 2018)

New findings on language dominance

The ability to selectively access two languages characterises the everyday bilingual experience. The way bilinguals use their two languages comes in different forms. Conversations may predominantly involve the use of the dominant language, the use of the non-dominant language, or even concurrent use of the two languages.

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Previous studies have tended to focus on conditions when the switching between languages is evenly balanced. AThEME researchers explored whether the patterns of language switching in bilinguals are different when one language is used more frequently than the other language. They found that in situations where bilinguals are using their L2 more intensely, they have an increased need for additional language control (such as demarcating the focus on access to the relevant language and reducing competition from the irrelevant language). Language control refers to the unconscious cognitive mechanism that allows bilinguals to speak correctly in one language, whilst avoiding interference from the other language. Bilingual language control, and thereby lexical access to both languages, is adjusted depending on the language context. In a situation where the second language is heavily preferred, this non-dominant language may start to function like the dominant language to create optimal performance for bilinguals during conversations. (Timmer, Christoffels & Costa 2017)

In previous studies investigating the role of L2 proficiency (as a proxy for dominance) on language control, exposure and age of acquisition were rarely addressed. AThEME researchers investigated this and found that the ability to switch between languages is not only shaped by L2 proficiency, but also by daily L2 exposure and age of acquisition. More exposure to the L2 makes it generally easier to access and switch between the two languages, as it seems to reduce the dominance of the L1. Age of acquisition seems to complement the definition of dominance: the earlier acquired, the more dominant the language. The age of L2 acquisition predicts overall delay in L2 learning: the later the age of acquisition, the greater the delay. (Bonfieni, Branigan, Pickering & Sorace 2018)

For more information

Learning a second language

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Publications

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Caffarra, S., H. Barber, N. Molinaro, and M. Carreiras (2016). *What usage can do: The effect of language dominance on simultaneous bilinguals' morphosyntactic processing.* (deliverable 5.4.)

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Videos

Mutual effects of language and cognition in bilinguals, by Michela Bonfieni

How languages label the world in different ways, by Ellise Suffill

Multilingualism: an opportunity to catch also for dyslexic children, by Maria Vender

The acquisition of German by bilingual children, by Janet Grijzenhout

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