The case for bilingualism: a positive effect on intelligence?

The world is bilingual. Monolingualism is not the norm, but the exception and we have to acknowledge how odd it is that linguistics has dedicated so much time and work to the exception as if it were the rule. Monoligualism is an aspiration of geopolitical interests, a fact that is more easily perceptible in large countries such as Brazil, Canada, China, India, Russia and the United States. 274 indigenous languages in Brazil (in the 2010 IBGE census) are ignored in favor of the myth of a monolingual country, a monolith of 212 million of speakers of the oficial language, Portuguese. That is an instance of the view that "a monolingual language ideology has shaped the categorization of world languages based on social, political and economical agendas" (Miller et al. 2018, p. 5). The numbers for bilingualism on the planet will vary greatly, depending on whether dialects, pidgins and creoles will be counted in, but according to Baker (2014, p. 216) 'Estimates typically tend to vary between 60 and 70%' of bilinguals in the world.

In a layman's opinion a bilingual is very easily described as 'someone who speaks two languages', but linguists add complexity to the issue by asking pointed questions: How proficient does one have to be? And proficient in what context? If one is proficient in any of the four skills bilingualism? For research purposes, is bilingual any different from a multilingual? The linguist adopts the point of view that personal and social circumstances in which people learn a second language vary from individual to individual and, as a result, there are many distinct ways of being bilingual. Furthermore, the definitions of 'bilingual' found in literature vary according to the researcher's choice of focus, which range from the ability to use the languages, the routine use of the languages, or the effectiveness in the use of the languages. Baker and Wright (2021, 30 – 31) cite Valdés' definition ('Bilingual/multilingual individuals ... are able to function (i.e. speak, understand, read, or write) even to a very limited degree in more than one language'; Grosjean's definition ('bilinguals are those who use two or more languages or dialects in their everyday lives'); and Mohanty's definition (the ability of communities or persons to meet the communicative requirements of themselves and their society in normal daily life in two or more languages in their interactions with the speakers of any of these languages'). In the first and second definitions we can see that both bilinguals and multilinguals are considered together, which will be valid throughout the paper; in the last definition a distinction is made between individual and societal bilingualism.

A definition of 'bilingual' is extremely relevant – not just a matter of nomenclature – because it is at the basis of much of the research in the area, necessary as it is in the process of selecting the participants in a study. Nonetheless, the term resists simplistic views: Colin and Wright (2021, p. 38) contest older definitions such as the one that equates bilingualism to a native-like control of two languages, after all, they ask, how can we define 'control' and who are the 'native' reference group? Besides, as Saville-Troike (2012, p. 36) put it, defining bilingualism in terms of native-like ability 'would rule out most bilingual speakers' as 'there are extremely few people who really speak more than one language 'like a native''.

The difficulty in the definition arises from the nature of the thing being defined: languages are complex phenomena that involve biological, social, psychological and political aspects in addition to linguistic ones and assessing a person's ability to use a language necessarily has to take all those perspectives into account.

Baker & Wright (2021, p. 31) emphasize the importance of context in the study of bilingualism, as "language is not produced in a vacuum". They add that "the social environment where two or more languages function is crucial" if we mean to understand bilingual and multilingual usage. Various factors have been the object of interest in the attempt to determine what impact bilingualism can possibly have on the brain. To find out, for instance, if the age of the bilingual plays a relevant part in the results, research in the field encompasses the human lifespan from early infancy to old age. Similarly, different proficiency levels at different skills have been investigated.

On the question of whether bilingualism has any effect on intelligence, past standpoints make a stark contrast to what state-of-the-art research has to say nowadays. Miller et al. (2018, p. 3) say it is hard to believe that up to the 1960's many studies correlated bilingualism with "lower IQ, cognitive deficiencies and even mental retardation." In the last decades, however, the pendulum of perception of the merits of bilingualism has moved to the extreme opposite, which, in Saville-Troike's view (2012, p. 99) can be credited to "philosophical and political factors" as well as to research findings.

Saville-Troike (2012, p. 100). points out that when comparing bilinguals to monolinguals, besides looking at whether the evidence is positive or negative, "and it is generally positive", it is important to consider that they perform cognitive tasks differently.

> A person who knows more than one language can perceive and experience the world through more than one lens: both negative and positive effects are signs that L2 users think differently from monolinguals . . . Multicompetence is a different state of mind

Apart from the conspicuous benefits obtained when one learns an additional language (such as being able to communicate with people when you travel, accessing better job opportunities, increasing one's understanding of different cultures, etc.), Hawkins (2019, p. 16) mentions the impact of bilingualism on executive control and cognitive reserve as two of the less obvious potential gains of bilingualism that may lead to an explanation of how speaking a second language can possibly affect the brain positively.

Executive control is explained as "the mental processes that manage, integrate, regulate, coordinate or supervise other cognitive processes, such as attention and visual perception". Cognitive reserve is defined as "the ability of the brain to compensate for damage to its neural structure, particularly from diseases that cause dementia". Both these processes are infallibly mentioned in all recent literature consulted and research findings have indicated that bilingualism affects them positively (Hawkins 2019, p. 16). Saville-Troike (2012, 99 – 100) report results obtained in recent research contemplating

children and aging adults which indicate that memory is one of the areas where bilingualism seems to have positive effects on, for both groups.

A variety of tests have been devised, such as the ‘Simon test’, the ‘Stroop test’, and the ‘color–shape test’, that presume to reflect the workings of executive control. Numerous studies utilizing these types of measurement have found a superior performance by bilingual speakers when compared with monolinguals, even in young children. It is understood that executive control is enhanced in those who speak more than one language (Hawkins 2019, p. 16 – 18).

As can be seen in the short history of the studies in bilinguism, scholars have moved away from looking at bilinguals as probable victims of cognitive difficulties when compared with monolinguals, to concentrating on the positive effects to neuroplasticity that bilinguism promotes.

Although the majority of the recent publications on bilingualism considered here do not hesitate to reiterate the advantages of bilinguals over monolinguals, Miller et al. take issue with that labelling. They do acknowledge the “measurable effects” of bilingualism and that there are in fact differences between monolinguals and bilinguals; they do not, however, support the nomenclature ‘advantages’ or ‘disadvantages’ that is so widely used, calling it a ‘misnomer’. Their view is that what might at first be taken as a disadvantage can be seen as an advantage from another perspective. The fact that bilinguals have smaller lexicons in either language, for example, may seem negative at first sight, but may turn positive when we take into account the fact that the sum of the number of words he has in both languages is far superior than the lexicon of a typical monolingual. The authors’ stance on determining what is positive or negative in bilinguism is that “measuring relative vocabulary size is really nothing more than documenting an interesting difference; one that may indeed have important knock-on effects, but an advantage or disadvantage per se it is not (Miller et al. 2018, p. 4). Baker and Wright go in a similar direction when they refer to an analogy in which athletes from different sports, who each excel at different skills, are compared; they conclude that “comparing the language proficiency of a monolingual with a bilingual’s dual language or multilingual proficiency is similarly unjust” (2021, p. 47) .

To all the parents and politicians out there, and to people in general who are planning for the future intellectual acuity of their children or for the maintenance of the mental health of the citizens of the country (or their own) the knowledge yielded by up-to-date research in second language learning is equally advisable to all: learn/teach an additional language. They can all rest assured that those suspicions that once hung over the cognitive performance of a bilingual child have long been assuaged. Miller, Bayram, Rothman and Serratrice confidently assert that “there is no credible evidence that bilingualism has any negative effects on any domains of development and beyond (2018, p. 3) and I, for one, can only add my name to the list of billions on the planet who have been on the receiving end of a wealth of benefits foreign languages can gift us, among

which is the privilege of studying a PhD immersed in a foreign country whose language and literature I have loved my whole life.

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