The Benefits of Bilingualism

Rachel Farhan

Abstract: More people are becoming bilingual and the research suggests that it is worth the time and effort to do so. Neurological and academic research suggests that being bilingual has many benefits, including supporting a sense of community and accomplishment. Research has shown that bilingualism at an early age has neurological and academic benefits. Neurological benefits include contributing to the plasticity of the brain and to an increase in brain activity and offering cognitive advantages. Academic benefits include contributing to a larger capacity for short-term memory and advantages linked to literacy. The earlier a second language is learned, the earlier these benefits manifest; thus, learning another language has lasting effects that can carry on throughout a child's education and life.

The Benefits of Bilingualism

Imagine going to a country in Europe, such as Italy, and taking part in the way of life there, being immersed in the culture, the community, and the language of the people, feeling a part of it and enjoying yourself there. That's what being bilingual can do for you. Bilingualism is fluency in two or more languages. Being bilingual can be rewarding and useful, and it's good for the brain. Researchers have found that globally, more people are bilingual than monolingual (Marian & Shook, 2012). Marian and Shook report that "even in the United States, which is widely considered monolingual, one-fifth of those over the age of five reported speaking a language other than English at home in 2007" and that "millions of Americans use a language other than English in their everyday lives outside the home, when they are at work or in the classroom" (p. 1). Despite the increasing numbers of those who are bilingual, learning a new language takes time and effort, and sometimes isn't prioritized by parents or by schools. Yet, developing another language should not be put off until the later grades, it can begin in elementary school. Bilingualism at an early age has neurological benefits and can help with academics as well as with personal development in the classroom.

Learning a Language Early

The earlier a child learns another language, the greater the benefits (Burlacu, 2018; Marsh, 2000). Children have an enthusiasm for learning and they can learn languages faster and more easily than adults. Teachers can use a child's first language to help with the learning of a second language. Learning a second language early allows children to develop greater fluency as well as a smooth, natural accent. As they master a new language, they also gain confidence and a feeling of accomplishment. Along with this, bilingualism opens up job opportunities and is a selling point for colleges making it a great addition to a resume or college application. An early start allows for longer second-language education, which increases the likelihood of an individual becoming fluent in a second language (McLaughlin, 1992).

According to research, learning becomes more difficult with age, so learning early results in the most benefits. One large-scale study conducted with approximately 670,000 participants found that the critical period for learning a language is by age 10; after this period, it gets harder. Those under 18 were also able to learn a second language well, although not as easily as those under 10. Those who began learning a second language after the age of 18 were much less likely to reach proficiency (Andrei, 2018; Burlacu, 2018; Gander, 2018). Further research has supported this finding; research using brain scans has also found that the capacity to learn a language decreases over time. Sousa (2011) has also argued that the best time to learn a second language is early in life. Children can still learn languages during adolescence, but as Sousa (2011) explained:

> the window of opportunity for acquiring language within the language-specific areas of the brain diminishes during the middle years of adolescence. Obviously, one can still acquire a new language after this period, but it takes more effort because learning the L2 recruits brain regions not generally involved in native language acquisition. Furthermore, PET scans show that when children grow up learning two languages, all language activity is found in the same areas of the brain. But those who learn a second language at a later age show that the two language areas are spatially separated (p. 31).

The factors affecting such learning have not yet all been determined; for example, it may be that younger brains have more flexibility to learn a second language (McLaughlin, 1992), but it has been hypothesized that it is easier for children to learn a second language because they have more time and effort to learn (Schmid, 2016).

Benefits of Bilingualism

Neurological Benefits

Knowing more than one language has positive effects on the brain (Espinosa, 2018; Jasinska & Petitto, 2018; Marsh, 2000). Bilingualism has been tied to competency in speaking, reading, and writing in both languages. It carries linguistic and cognitive advantages and is valuable in later school years and life. Learning another language helps develop thought processes in the brain, and also support learning more broadly. Research has shown that bilingual learners have cognitive advantages over monolingual learners in terms of both verbal and nonverbal reasoning, as well as greater cognitive flexibility (Jasinska & Petitto, 2018).

Bilingual learners' brains have been shown to have better attention-focusing and task-switching abilities. Bilingual learners can easily switch between their first and second languages and speakers can rapidly adjust to changes in language situations (Marian & Shook, 2012). For example, a Spanish-speaking student learning English can speak Spanish on the playground with friends yet switch with ease to English with in the classroom. Using brain scans, researchers have found that bilingualism is associated with improved executive function, such as attention-focusing and the inhibition of inappropriate behavior (Kovelman, Baker, & Petitto, 2008;

Marian & Shook, 2012). In addition, using functional Magnetic Resonance Imaging (fMRI) to see which brain regions are active when completing tasks that require switching between the two languages, these researchers found that bilingual learners had stronger cognitive abilities; bilingualism was associated with broad effects on neurological functions, such as control mechanisms and sensory processes, along with improved metalinguistic awareness, memory, and creativity.

Another study found that early and proficient bilingual learners had larger inferior parietal cortexes, which are linked not only to language learning but also to mathematical ability and the ability to read emotions, perhaps due to overlapping and similar neural activations across the two languages (Kovelman, Baker, & Petitto, 2008). Additionally, fMRI showed activation in the right temporal and parietal lobe regions of the brain, suggesting that bilingual learners learn languages at the same time and can switch back and forth between the two; thus focusing on learning a second language does not interfere with learning one's first language (Sousa, 2011).

fMRIs have also showed that the brains of bilingual and monolingual learners processed language in similar ways. In both groups the language areas of the left hemisphere activated when language was spoken. In addition, both monolingual and bilingual learners had a similar increase in brain activity in the left hemisphere when speaking one language. However, when bilingual learners used both languages, they showed increased brain activity in both left and right hemispheres (Sousa, 2011). Based on this research Sousa has argued that bilingualism builds neural networks and cognitive control, and that bilingual leaners can easily transfer learning from one language to another.

Academic Benefits

Beyond neurological benefits, bilingualism can have positive effects on academic achievement and personal growth and development. Cook (2001) argues that for bilingual learners, the two languages are blended in the mind in all areas: vocabulary, syntax, phonology, and pragmatics. As a result, bilingual learners are more flexible in their thinking and can code-switch in both languages at the same time; easily moving from one language to the other another. As Cook explained, "code-switching is a highly skilled activity" (p. 10), one which helps individuals rapidly switch between discourses beyond language (for example, from learning English to learning math). For this reason, Cook argues that being bilingual can improve a mind cognitively, emotionally, and socially.

Many researchers have explored the positive academic effects of bilingualism (Espinosa, 2018; Marsh, 2000; McLaughlin, 1992). They have found that for students studying a second language, the first language acts as a bridge to improved learning in the second language, and that such students typically have more positive attitudes toward school. Early exposure to a second language related to better language skills in that second language. Moreover, bilingual learning enabled children to avoid falling behind and improved academic outcomes in school. Research has also shown that often bilingual learners outperform monolingual learners (Jasinska & Petitto, 2018; Marian & Shook, 2012). As Jasinska & Petittto (2018) have described,

> Early exposed bilingual children showed better performance on measures of phonological awareness relative to monolingual children, their increased pho-

> nological skills were the strongest predictor of reading skill, and they outperformed their monolingual peers on reading tasks. The bilingual child has exposure to phonological systems in two languages and must differentiate between those two languages from an early age. This dual language experience may support the bilingual child's perceptual learning of phonological categories and ability to discriminate phonemes (p. 326).

Further, they argued that their linguistic exposure provided a literacy advantage. Bilingual learners also tended to perform better on tasks that required conflict management, suggesting that the benefits of bilingualism extend beyond the academic into the social realm.

Beyond this, researchers found an association between the range of a bilingual learner's first language (Spanish) vocabulary and the second language (English) fluency of those individuals (Proctor, Carlo, August, & Snow, 2006). Students who were the fastest readers in English seemed to benefit from possessing a broad Spanish vocabulary.

Both Sousa (2011) and Teale (2009) have found that bilingual learners' knowledge of their first language helps them when learning to read English and contributes to their academic achievement. Teale found that for bilingual learners, literacy skills like phonological awareness and decoding developed quite fully (to mastery) in relatively short periods, and that this typically happened at an early age. Thus, their research suggests that when a second language is spoken regularly, it has lasting effects on the mastery of grammar and phonology in one's first language. Supporting this, Gil & Bardack (2010) found that students in bilingual programs outperformed those in monolingual programs in academic achievement across curriculum after four to seven years of dual language instruction. Research on students studying in dual-language programs has also shown that for those students English is learned at the same time as for those students enrolled in English-only programs and that dual-language students demonstrated a higher level of academic achievement.

Additional research supports these findings. For example, in a study conducted at York University in Canada suggested that bilingual learner's second language knowledge gave them an advantage in learning to read (Helen Doron English, 2013). Neurologically, bilingualism flexes brain muscles and builds them up. It promotes greater density of gray matter in the brain, which is responsible for processing information, including memory, speech, and sensory perception. A final positive example of bilingualism is higher test scores; bilingual learners were found to perform better than monolingual learners on many standardized tests, such as the SAT (Helen Doron English, 2013).

Next Steps

Given the many positive effects of bilingualism, what can be done to help bring bilingual learning into the classroom? One important implication is that the first language of students enrolled in ESL programs should be seen as a strength rather than as a weakness, and that these students should be taught in ways which encourage them to develop true bilingualism. For example, Cook (2001) suggested the importance of using students' first languages positively, such as for testing and for

translation, or the use of one language for part of the day and the other language for the other part of the day. Other researchers have suggested the importance of intentionally use both languages to promote proficiency (Espinosa, 2018; Marsh, 2000). To do this, teachers should pay attention to the exposure and quality of teaching in each language. Teachers can learn strategies to help second-language learners comprehend, develop oral language, and progress in English language development. It is important to bridge the two languages by using visual aids and multi media to help with comprehension and to give these students the chance to get instruction and real-life situations to help them master both their languages. The greater the proficiency in the first language, the better the chance of acquisition and proficiency in a second language (Sousa, 2011). There is broad agreement among researchers that if skills in one's first language are strong it offers a strong foundation to build second language acquisition, and this should be made clear to all of those working within education, from administrators to teachers to pre-service teachers (Pufahl, Rhodes, & Christian, 2001).

Conclusion

Research has shown that bilingual learning at an early age has neurological benefits and can help with academic learning and personal growth and development. Schools should offer second language education from an early age, and should encourage bilingual and ESL learners to use both of their languages for better academic achievement. The earlier the exposure to and acquisition of a second language, the longer lasting positive effects it can yield. In addition, ESL students should be offered education in both their first and second languages; the research shows that supporting them in this way encourages bilingual learning with all of its benefits.

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About the Author

Rachel Farhan has a bachelor's degree in Elementary Education 1-8 from The University of Toledo and a master's degree from the University of Toledo in Curriculum and Instruction with a Reading Endorsement. She is currently working as a remedial specialist at two private schools, and also has taught grades 1-5.