



BILINGUALISM HELPS TO IMPROVE CHILDREN'S COGNITIVE DEVELOPMENT

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<https://doi.org/10.5281/zenodo.14879375>

Abstract: The article is devoted to the importance of bilingualism in learning a foreign language. There is a significant influence of bilingualism on the development of children's cognitive skills and abilities. In addition, it is mentioned that bilingualism helps one to increase his critical and creative thinking which may aid a learner to learn a language effectively and easily. There are given some examples of how bilingualism can have a positive effect on language improvement and children education. Bilingualism plays a significant role in enhancing children's cognitive development. Research shows that children who are exposed to two or more languages at an early age develop superior cognitive abilities compared to their monolingual peers. Bilingual children often exhibit improved executive functions, such as problem-solving, attention control, and task-switching. The process of switching between languages strengthens the brain's cognitive flexibility, fostering better memory retention and multitasking skills. Moreover, bilingualism enhances metalinguistic awareness, which helps children understand the structure of language more profoundly. This ability to think in multiple languages not only contributes to better academic performance but also helps children develop stronger social skills. Despite the challenges bilingual children might face in terms of language acquisition, the long-term cognitive benefits outweigh the initial difficulties, making bilingualism a valuable asset in their cognitive and academic growth.

Keywords: bilingualism, critical thinking, creative thinking, language learning, children education, cognitive skills.

Аннотация: Статья посвящена важности билингвизма в изучение иностранного языка. Билингвизм оказывает значительное влияние на развитие познавательных навыков и способностей детей. Кроме того, упоминается, что билингвизм помогает человеку повысить свое критическое и творческое мышление, что поможет помочь выучить язык эффективно и легко. Приведены некоторые примеры того, как билингвизм может оказать положительное влияние на улучшение языка и образование детей. Двухязычие играет важную роль в улучшении когнитивного развития детей. Исследования показывают, что дети, с раннего возраста подвергающиеся воздействию двух или более языков, развивают более высокие когнитивные способности по сравнению с монолингвальными сверстниками. Двухязычные дети часто демонстрируют улучшенные исполнительные функции, такие как решение проблем, контроль внимания и переключение задач. Процесс переключения между языками укрепляет когнитивную гибкость мозга, улучшая память и навыки многозадачности. Кроме того, двухязычие способствует развитию метаязыкового сознания, что помогает детям глубже понять структуру языка. Эта способность думать на нескольких языках не только способствует лучшей учебной успеваемости, но и помогает детям развивать более сильные социальные навыки. Несмотря на трудности, с которыми могут столкнуться двухязычные дети в процессе освоения языков, долгосрочные когнитивные преимущества перевешивают начальные сложности, что делает двухязычие ценным активом для их когнитивного и академического роста.

Ключевые слова: билингвизм, критическое мышление, творческое мышление, изучение языка, воспитание детей, когнитивные навыки.

Bilingual programs have a positive effect on language development and children education, supporting children in developing greater flexibility in their thinking through habits and processing information through two different languages. One of the earliest researchers to explore the connection between bilingualism and cognitive development was Peal and Lambert (1962). Their groundbreaking study, *The Relation of Bilingualism to Intelligence*, challenged the negative stereotypes about bilingual children that were prevalent at the time.

Key Contributions of Peal and Lambert:

1. Shift in Perspective:



Their research demonstrated that bilingual children outperformed monolingual peers in both verbal and non-verbal intelligence tests. This marked a significant shift in how bilingualism was viewed in academic and social contexts.

2. Cognitive Flexibility:

They were the first to highlight that bilingualism enhances cognitive flexibility, problem-solving skills, and the ability to see situations from multiple perspectives.

3. Impact on Intelligence:

The study concluded that bilingualism does not hinder intellectual development but rather provides cognitive advantages, laying the foundation for future research in this field. Quote from Peal and Lambert (1962): "The bilingual child is a more flexible thinker, able to approach problems with creativity and adaptability."¹

It has long been assumed that childhood bilingualism affected developing minds but the belief was that the consequences for children were negative: learning two languages would be confusing. Research with adult bilinguals built on these studies with children and reported two major trends. First, a large body of evidence now demonstrates that the verbal skills of bilinguals in each language are generally weaker than are those for monolingual speakers of each language. Considering simply receptive vocabulary size, bilingual children and adults control a smaller vocabulary in the language of the community than do their monolingual counterparts. On picture-naming tasks, bilingual participants are slower and less accurate than monolinguals. Slower responses for bilinguals are also found for both comprehending and producing words, even when bilinguals respond in their first and dominant language. Finally, verbal fluency tasks are a common neuropsychological measure of brain functioning in which participants are asked to generate as many words as they can in sixty seconds that conform to a phonological or semantic cue. Performance on these tasks reveals systematic deficits for bilingual participants, particularly in semantic fluency conditions, even if responses can be provided in either language. Thus, the simple act of retrieving a common word is more effortful for bilinguals.

²Bilingual children attain language milestones at the same age as monolingual children. They also do not show any evidence of language disorder. Indeed, infants have the ability to use rhythmic signals to distinguish two languages from the first days of life. In fact, bilingualism can give children an advantage at school. Bilingual children are found to be better able than their monolingual classmates to focus on a task thanks to the ability to adjust distraction. Concentration - a marker of good working memory - is similarly found in bilingual adults, especially those who are bilingual at an early age. It is possible that bilingual management helps the brain form and maintains concentration while ³ignoring irrelevant information. Bilinguals at all ages demonstrate better executive control than monolinguals matched in age and other background factors. Executive control is the set of cognitive skills based on limited cognitive resources for such functions as inhibition, switching attention, and working memory.

Early evidence that bilingual children solved nonverbal conflict tasks differently from monolingual children was reported in a study by Bialystok and Majumder. Eight-year-old children were given a variety of nonverbal problems to solve, some of which contained perceptual distraction. Bilingual children outperformed monolinguals on the conflict tasks, but children in the two groups were comparable on tasks that did not include distracting perceptual information. This pattern has been confirmed in studies of both children and adults using a flanker task, theory of mind task. Other studies with adults have shown better performance by bilinguals in naming the font color in a task, smaller costs in task switching, better ability to maintain task set in an attention task, and more susceptibility to negative priming, presumably because of greater inhibition. As mentioned above, many researchers believed that bilingualism and bilingual education can help to increase children's critical and creative thinking which are considered as most sophisticated things in learning a foreign language. Although bilingualism is a language experience, managing attention to two languages imposes demands on

¹ <https://srcl.onlinelibrary.wiley.com/doi/full/10.1111/j.1467-8624.2011.01707.x>

[1] Bialystok E, Majumder S. The relationship between bilingualism and the development of cognitive processes in problem-solving. *Appl. Psycholinguist.* 1998;19:69–85;

[2] Bialystok, E. (2011). Reshaping the mind: the benefits of bilingualism. *Canadian Journal of Experimental Psychology*, 65(4), 229–235;



the cognitive system that require brain regions not typically used for language processing. From studies of bilingual language switching and non-linguistic cognitive control, and from the meta-analysis cited earlier, it seems likely that the neural focus of cognitive control in bilinguals lies in bilateral frontal regions. In order to facilitate information transfer between the hemispheres, it is also possible that prolonged bilingual experience alters anatomical structures in addition to cortical functional networks.

The need to manage two jointly activated languages apparently leads to an enhancement of frontal-posterior attentional control mechanisms with the consequence that other types of cognitive control are also enhanced. Again, only the bilingual infants noticed the change in language, even though the children in this study had no experience with either language. The authors concluded that bilingualism enhances general perceptual attentiveness through the experience of attending to two sets of visual cues. Bilingualism influences executive and social functions, but the way in which it does so is subtle and selective.

In the first study reporting the surprising outcome of an advantage in cognitive and linguistic performance by bilingual children. Intellectually experience with two language systems seems to have left one with a mental flexibility, a superiority in concept formation, a more diversified set of mental abilities. Bilinguals do sometimes have an advantage in inhibition, but they also have an advantage in selection; bilinguals do sometimes have an advantage in switching, but they also have an advantage in sustaining attention; and bilinguals do sometimes have an advantage in working memory, but they also have an advantage in representation and retrieval. Together, this pattern sounds like "mental flexibility", the ability to adapt to ongoing changes and process information efficiently and adaptively.

⁴It cannot be excluded that the monolingual and bilingual could have differed on some lifestyle variables after the acquisition of their foreign language. Indeed, there might exist some variables influencing cognitive performance, which have not yet been identified. However, in such a case, research would have expected a more general cognitive superiority in the bilingual group rather than the highly circumscribed pattern it has found (the only two tasks on which one found any suggestion of a possible difference were, exactly as predicted). To conclude, it is mentioned above that bilingualism can aid one to increase his or her critical and creative thinking. Even it can help to improve a learner's cognitive abilities which may make learning a language much more easily and effectively, that is why teachers of English as a foreign language classes try to utilize the innovative and effective methods and ways of bilingualism.

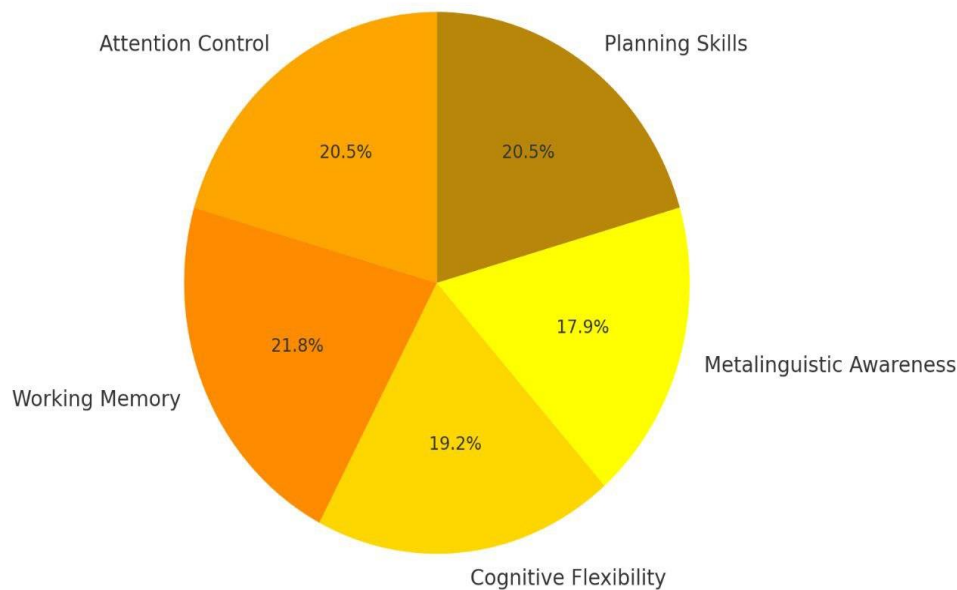
Here is the pie chart showing the cognitive performance of bilingual children in various areas, including Attention Control, Working Memory, Cognitive Flexibility, Metalinguistic Awareness, and Planning Skills. The chart illustrates the distribution of cognitive abilities in bilingual children, highlighting their strengths in each area.

[3] Schellenberg, E. G., & Peretz, I. (2008). Music, language and cognition: Unresolved issues. *Trends in Cognitive Sciences*, 12, 45–46;

[4] Stern Y. What is cognitive reserve? Theory and research application of the reserve concept. *J. Int. Neuropsychol. Soc.* 2002;8:448–460;



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