

The Effect of Learning a Second Foreign Language at an Early Age

Ziyu Yang*

Suzhou Foreign Language School, Suzhou, JiangSu, 215000, China

* Corresponding Author Email: fengyanhua@sfls.com.cn

Abstract. Bilingual education was increasingly prevalent among children in modern society. Some researchers found that it exerted a huge impact on children's development. In contrasting manner, there was currently no uniform explanation for the formation mechanism and the extent of the impact of early second language learning. As a result, this study would explore the impact of early second language learning on children's overall performance and draw conclusions as to whether early second language learning is beneficial. This study summarized the effects at both psychological and biological levels. These findings showed that learning a dual language at an earlier age would positively affect children's development on both biological and psychological levels. These findings were significant in further understanding the effect of learning a second foreign language.

Keywords: second foreign language, children's development, early age.

1. Introduction

An initiative to support bilingualism and assist minority children succeed in American classrooms was funded through a program that acknowledged the situation of these kids and funds measures to help them. The rule was originally revised to make it more applicable to persons who speak other languages besides Spanish, such as Mandarin speakers. In terms of what bilingual education entailed, [1] Bilingual education was what Genesee characterized as: "education that aims to promote bilingualism by incorporating two languages into the majority of academic curricula. Roselle and Baker, on the other hand, defined bilingual education as "creating mother tongue teaching resources that educate children who didn't understand English to read and write in their original language and then progressively converted them to English over the course of several years. [2]. These definitions clearly described situations and an initiative to support bilingualism and assist minority children succeed in American classrooms was funded through a program that acknowledged the situation of these kids and funds measures to help them. The rule was originally revised to make it more applicable to persons who speak other languages besides Spanish, such as Mandarin speakers. In terms of what bilingual education entailed, [1] Bilingual education was what Genesee characterized as: "education that aimed to promote bilingualism by incorporating two languages into the majority of academic curricula. Early learning of a second language was primarily driven by two factors. According to the first notion, the younger the child, the faster he or she learns the language, which was the so-called "younger is better" principle. Secondly, in an increasingly globalized society, intercultural competence was essential, and it was essential to stimulate children's curiosity about others and cultures when they were open and responsive to them. The cognitive benefits of learning a second language, such as improved problem-solving, attention control or task switching, and the idea of improving English literacy, were relatively modern ideas, though they had not yet permeated public discourse. The lower grades would be the final focus area of the review as they form the basis for academic success. Education was a lifelong process, the consequences of which had a lasting impact on outcomes. However, the first three years of schooling would be the focus of the bilingual education analysis in this review, as these years were most important for the development of basic learning skills and attitudes. Therefore, this study summarized this effect at both the biological and psychological levels and demonstrated that it would have a positive impact on academic performance.

1.1 The effects on the biological level

On a biological level, UCLA neurology professor Dr. Paul Thompson and his team discovered that from about the age of six until puberty, the brain systems dedicated to learning new languages increase fast. Then, between the ages of 11 and 15, throughout puberty, these systems essentially shut down and stopped growing. Since the functional properties of the brain developed and matured throughout this early postnatal period, the findings implied that there is a time frame known as the "critical period," during which experience or environmental factors had a significant impact on the brain's "plasticity." This means that learning a new language during a critical period could make children learn better and quicker.

More specifically, The critical period hypothesis needed only have an impact on first language acquisition in its simplest version. Making decisions about whether or whether the hypothesized key time included second language acquisition was crucial to our comprehension of the nature of the period. If this was true, then children should learn a second language more effectively than adults and, as a result, should achieve higher levels of eventual competency in the language.[3] This hypothesis was evaluated by comparing the levels of English proficiency acquired by 46 native Korean or Chinese speakers who immigrated to the country when they were between the ages of 3 and 39 and had been residents for between the duration of the test and 3 to 26 years. Using a grammaticality judgment task, these participants were evaluated on a wide range of English grammatical structures. Early arrivals clearly and significantly outperformed later arrivals, as shown by correlational and t-test analyses. Up to puberty, test performance was linearly correlated with arrival age; however, following puberty, performance was low but widely varied and unrelated to arrival age. It was established that the age impact was not an unintended consequence of variations in motivation, self-consciousness, or American affiliation. Every grammatical structure that was tested had the same effect, in spite of the fact that the degree to which later learners had a firm grasp of each structure differed noticeably. The findings support the idea that a key period for language acquisition has an impact on second language learning as well.

1.2 The effects on the psychological level

Children who acquired a second language became skilled problem-solvers and original thinkers as they got older. As infants strived to choose which language to use when their brains were constantly put to the test beginning at a young age. Bilingual kids were also better at planning, converging, and multitasking, according to research, in addition to having improved problem-solving abilities. Furthermore, they performed better on standardized assessments. The results of several studies taken together show that studying another language enhances the ability of doing things well. Thus, bilingual kids were more adept at multitasking, planning, problem-solving, and concentration. For example, the ability of bilingual and monolingual children to solve problems was studied in 2004 by psychologists Ellen Bialystok and Michelle Martin-Rhee [4]. On their computer displays, each youngster was instructed to place a blue and a red square in the corresponding number box. They were first instructed to group forms by color, placing blue shapes in blue boxes and red ones in red boxes. Both kids did a good job. The toddlers were then instructed to arrange the shapes, putting blue circles in boxes with red circles and red squares in boxes with blue circles. Children must pay more attention to this exercise because they must place items of various shapes into boxes of various colors. Bilingual children performed this task quicker. Also, in the study of Landry, R. G., [5] the key premise was that exposure to second language learning at the primary level was associated with divergent thinking very well in visualization assignments. The study explored cognitive flexibility derived from exposure to foreign languages. Learners of second languages were contrasted with those learning a single language. Kids who were learning a second language performed much better than students who only spoke one language. Therefore, it seemed that learning a second language not only gave kids the freedom to reject conventional solutions to a problem but also potentially rich sources for original and novel thoughts. When it comes to problem-solving skills, Bamford's study found that in a second-grade additive-bilingual (Spanish-immersion) classroom, students' problem-solving skills were

significantly better than those of their mother tongue, and there was no significant difference in mother-tongue development. Learning a second-language earlier also maintaining the ability to improve cognitive skills for children. In the study of Foster, K. M., & Reeves, C. K. (1989), [6](1989), [6]This study looked at the association between months of learning an initial French foreign language and the findings of instruments meant to evaluate cognitive and meta-cognitive processes. It also looked at the influence of primary foreign language courses on fundamental abilities. 67 sixth-graders participated in the study and were split into four groups, each with a different language length. The control group included three groups that participated in programs with varying lengths of time and 25 students with no prior exposure to French (6.5 months, 15.5 months and 24.5 months). Students in foreign language programs begin each day with 30 minutes of basic English reading before moving on to 30 minutes of French instruction. In the control group, reading instruction was introduced for 30 minutes in place of foreign language teaching. By repeated-measures analyses of variance (ANOVAs), the results showed that the foreign-language language learner group scored significantly higher than the control group in three categories --the Ross test and overall scores for all cognitive tasks. (Butterfly and insect test scores). According to Bloom's classification, students with a foreign language education scored higher on evaluation-related assignments and were the most cognitively competent. Linear trend analysis showed that students who studied French for longer did better.

The main objective of early schooling was to develop the fundamental skills on which children could build their educational future. The most important of these skills were language and reading skills. Another benefit of learning a second language at an early age was that it can improve test scores. Foreign-language students performed better on standardized tests such as the American College Exam and the spoken portion of the SAT, suggesting they were better prepared for college-level jobs. Students' test scores improved as time spent learning a second language goes on. In a study by Armstrong, Rogers, and Rogers (1997), third-grade students were randomly assigned to Spanish three times per semester, three times per week. The courses focused on oral listening skills and are all taught in Spanish. Students in the Spanish class showed significant improvement over those who had not studied mathematics and Chinese. There were no significant differences in reading scores. [8] In 1973, Indianapolis Public School started a business based on the assumption that by participating in a specially designed Latin FLES software emphasized the importance of Latin roots, English language abilities and syntactic structures control could be greatly accelerated. The goal of this task were to examine whether learning Latin and classical civilizations could: (1) amplified the English-language skills of sixth-graders; and (2) increased their cultural horizons and stimulate interest in humanities. The mission was aimed at about 400 sixth-graders at six schools who read Latin and classical civilization through software in coordination with regular classes. They took 30-minute classes five days a week, taught by a Latin expert. Current software evaluation documents showed standard beneficial characteristics in phrase knowledge, reading, language, spelling, math computation, math concepts, mathematical problem-solving and social studies after the first year, and good results in spelling, reading and mathematical principles after the second and third years, as reflected in the impact on the Metropolitan Achievement Test. In one study, it assessed the English and math scores of 659 Hispanic university students who took mainstream English or quite a few bilingual lessons in California.[9] From kindergarten through fourth grade, the majority of instruction in bilingual schools switched from teaching Spanish to teaching English. Students are assigned the EP or ELL designation before they begin their studies. The key finding from the past was that ELL and EP students who participated in the bilingual program outperformed those who completed the normal English course on the English proficiency exam. In addition, the outcomes of the computing power checked exhibit a similar pattern. In general, bilingual college students of lower socioeconomic reputation perform at least as well in English and mathematics as properly as students who are fluent in English at all, and in some instances even better. [10] In addition, students in the bilingual group improved faster in all grades than students in the English-speaking group on these tests, so they did better than students in the college-level group in using statewide testing standards to bridge the

achievement gap. Children in the English-only Kindergarten program performed better than those who took bilingual classes, but these differences vanished after a few of years and subsequently turned around, with bilingual students surpassing the English-only teaching staff in both English and Spanish classrooms. It should come as no surprise that children's proficiency in Spanish in English applications drastically decreased, obviously making them far less multilingual. Barnett et al.[11] pre-schoolers with lower SES stages (ages three and 4) operate less nicely in bilingual or pure English classes, but importantly, these are allotted to teens by way of lottery, which relatively controls current disparities between teenagers or their families. 76 percent of teenagers in the program's college district qualify for free or reduced-lunch meals. Results Measurement were usually an experimental task to assessed phonological focus and language knowledge (mainly vocabulary), but the results were consistent with recommendations from different studies. Specifically, kids in each programme made the same progress in improving their English skills, but adolescents in bilingual programmes also developed these Spanish skills, suggesting that bilingual teaching did not hinder the development of English. In a review of the literature and meta-analysis, Francis, Lesaux and Augustal [12] concluded that "the impact of bilingual training on English learning outcomes is significant, but only modest." Overall, bilingual education for Hispanic youngsters in the United States has a similar impact on English proficiency as mainstream English courses for teens while having a better impact on Spanish.[13] There was clear evidence that bilingual education was desirable, in spite of the fact that there was more to learn and one study claimed that the results were vague. There was no proof that bilingual education presents a measurable obstacle to children's academic progress, according to a brief review of a limited number of bilingual education programs in various nations for different sorts of children. Studies that asserted that bilingual education was not superior to other fields of study must be viewed in the context of second language acquisition and the cognitive benefits of being bilingual. Finally, an accurate assessment of bilingual education necessitates a full description of the program's structure, the caliber of teaching and the consistency between the needs and capacities of the child and the specific educational programmes provided.[14]

2. Conclusion

The study analysed the impact of early second language learning on children's development, both physically and psychologically, and concluded that the net benefits of bilingual education were well documented in all areas and that there was no evidence of any negative impact. However, most evaluation studies of educational programmes tended to conclude in a binary manner, either that they were effective, that they were ineffective, or that they were more effective or less effective than control programmes or alternatives. Given the complexity of bilingual education, this dichotomy was not sufficient. One reason was that bilingual education almost certainly helped children to develop or maintain their bilingualism, regardless of the quality of the programme, a result that was useful in itself but was infrequently taken into account in rigorous program evaluations. With reference to some studies, the cognitive advantages of bilingual education could be seen even in the early stages of bilingual schooling. Thus, in addition to the potential cognitive benefits of bilingualism mentioned above, bilingual education has intangible benefits such as the opportunity to connect with extended families, increased employment opportunities in the global economy, ease of travel and wider social circles, and benefits from a wider linguistic, artistic and cultural perspective. If done correctly, bilingual education offered a unique chance to disseminate the information required to maintain a priceless lifestyle asset. For instance, recent studies indicated that lifetime multilingual use improved cognitive reserves and postpones the onset of dementia symptoms.

However, most studies underestimated the social context in which these complex processes occur, including home literacy, parental education, children's language proficiency, parents' capacity to support their children's education in the second language learning. In the future, researchers could focus more on the effect of social context.

References

- [1] Genesee F. What Do We Know About Bilingual Education for Majority Language Students. In: Bhatia TK, Ritchie W, editors. *Handbook of Bilingualism and Multiculturalism*. Malden, MA: Blackwell; 2004.
- [2] Rossell CH, Baker K. The Educational Effectiveness of Bilingual Education. *Research in the Teaching of English* 1996;30:7–74
- [3] Johnson, J. S., & Newport, E. L. (1989). Critical period effects in second language learning: the influence of maturational state on the acquisition of English as a second language. *Cognitive psychology*, 21(1), 60–99.
- [4] Ellen Bialystok and Michelle Martin-Rhee(2004)attention and inhibition in bilingual children: evidence from the dimensional change card sort task
- [5] Landry, R. G. (1973). The enhancement of figural creativity through second language learning at the elementary school level.*Foreign Language Annals*, 7(1), 111-115.
- [6] Foster, K. M., & Reeves, C. K. (1989). Foreign Language in the Elementary School (FLES) improves cognitive skills.*FLES News*, 2(3), 4.
- [7] Armstrong, P. W., & Rogers, J. D. (1997). Basic skills revisited: The effects of foreign language instruction on reading, math, and language arts. *Learning Languages*, 2(3), 20-31.
- [8] Sheridan, R. (1976). Augmenting reading skills through language learning transfer. FLES Latin program evaluation reports, 1973-74, 1974-75, 1975-76
- [9] Lindholm-Leary K, Block N. Achievement in Predominantly Low SES/Hispanic Dual Language Schools. *International Journal of Bilingual Education and Bilingualism*. 2010;13:43–60
- [10] Lindholm-Leary K. Bilingual and Biliteracy Skills in Young Spanish-speaking Low-SES Children: Impact of Instructional Language and Primary Language Proficiency. *International Journal of Bilingual Education and Bilingualism*. 2014;17:144–159.
- [11] Barnett WS, Yarosz DJ, Thomas J, Jung K, Blanco D. Two-way and Monolingual English Immersion in Preschool Education: An Experimental Comparison. *Early Childhood Research Quarterly*. 2007;22:277–293.
- [12] Francis DJ, Lesaux N, August D. Language of Instruction. In: August D, Shanahan L, editors. *Developing Literacy in Second-language Learners*. Mahwah, NJ: Lawrence Erlbaum; 2006. pp. 365–413.
- [13] Han WJ. Bilingualism and Academic Achievement. *Child Development*. 2012;83:300–321.
- [14] Rossell CH, Baker K. The Educational Effectiveness of Bilingual Education. *Research in the Teaching of English*. 1996;30:7–74.