

The Correlation between Early Second Language Learning and Native Language Skill Development

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It has long been the assumption of many in the field of second language teaching that learning a second language helps to promote and enhance native language skill development, and that this correlation is direct and positive. Language professionals have assumed that learning a second language directly supports the development of better skills, overall, in one's first language. Evidence supports the assertion that students who study a second language score higher on verbal sections of the SAT than students who do not. A review of the current research related to second language acquisition in children can offer new insights into this seemingly direct relationship.

Enhanced Native Language Vocabulary

Advocates for early second language learning have long stated that learning a second language helps to develop one's native language skills in the area of vocabulary. Recent research (Bialystok, 2001) on additive bilingualism (learning a second language following the initial development of first language skills) suggests that vocabulary in each language develops separately, and that vocabulary knowledge does not automatically transfer from one language to another. Students of two languages need scaffolding and discussion in order to make these connections between languages. Once these connections are made, the outcome of learning two languages does result in better vocabulary knowledge, especially if the second language is related in some way to the first. For example, a child who speaks English as a native language and learns French beginning in early childhood when vocabulary development is taking place on a grand scale (2-6 years) would more easily make connections between English words derived from Romance language roots, in particular, from French. Still, these connections are not entirely automatic and need to be scaffolded through direct instruction in making connections.

Bialystok (2001) has stated that one area of enhanced cognitive performance exhibited by bilinguals is the area of cognitive problem solving. Therefore, children who are better able to think creatively (problem solving) would be better able to make the connections between first and second languages, and would eventually demonstrate enhanced development of first language skills. This development, however, may not be the direct result of L2 or L1 transfer, as much as it is the result of increased problem-solving ability, which, as a cognitive task, is transferable across linguistic domains. Taylor-Ward (2003), in a reprise of the original Louisiana study (Rafferty, 1986), found that by grade five, students who had studied a foreign language significantly outperformed their non-foreign language peers on the language portion and other subsets of the Iowa Test of Basic Skills (ITBS). Although

this research yields an outcome of increased native language performance in elementary students who study a second language, it does not necessarily demonstrate that this connection is linguistic in nature. Further research such as Taylor-Ward's on additive second language learning will help to clarify the relationship between second language learning and native language skill development in elementary students.

Enhanced Concepts of Print

Bialystok (1997) has also theorized that bilingual children can read earlier, because they are able to recognize and act upon the symbolic relations between letters/characters and sounds without having visual objects to represent the objects described in writing. Bialystok notes that bilingual children know sooner that writing carries meaning, and that pictures are not necessary to understand word meaning. This concept is transferable across languages, according to research findings. Bialystok states that by age four, bilingual children have progressed more than monolinguals in understanding the symbolic function of written language. She concludes that learning a foreign language at a very young age can clearly benefit children's reading abilities.

Assimilation and Accommodation: Piaget's Theory as It Relates to L2 Learning

Piaget's theory (Piaget, 2001; Atherton, 2005) describes the application of schema (prior knowledge) to the learning of new material as an *assimilation* process. The concept of assimilation can be used to refer to learning a second language that is linguistically related to one's native language. Once native French-speakers know the meaning of *pois* (beans), it is likely that they will be able to associate the meaning of words such as *poisette*, *poisard*, etc. in English to the meaning of the French word, given appropriate scaffolding (Vygotsky, 1986) of these connections in the classroom. Making these connections between languages is

considered to be a type of cognitive problem solving as defined by Bialystok (2001). Learning a new language that lacks a linguistic connection to one's native language may be considered more of an *accommodation* process, as proposed by Piaget. *Accommodation*, according to Piaget, is the process of cognitively "making room" for new information in the brain without the benefit of schema, or prior knowledge. For example, trying to connect meaning between English words and Chinese characters is a different type of task from the French-to-English connection. This accommodation of new information is also considered to be a type of cognitive problem-solving activity, and seems to enhance cognitive abilities of children learning two languages from an early age. According to Bialystok (2001), the cognitive advantages that result from the development of bilingualism at an early age seem to diminish in adolescents and adults undergoing the same bilingual development. This is important to note when determining the starting point of an additive second language program in school settings.

Critical Age Hypothesis

Recent research in second language acquisition has renewed interest in the *Critical Age Hypothesis* first put forth by linguist Eric Lenneberg (1967). Bialystok and Hakuta (1994) revisit the critical age hypothesis and compare the second language acquisition process in children to the fable of "The Tortoise and the Hare" where "slow and steady wins the race." Regarding the finding of Snow and Hofmann-Hoeh (1978), who found that adults (morphological/grammatical) skill development, Bialystok and Hakuta theorize that adults and older adolescents will both outperform younger children in the initial stages of second language acquisition. However, children who begin learning a second language and continue over a long sequence will outperform both adolescents and adults who begin later in life and continue their study for the same period. Bialystok and Hakuta also note that the perception that young children "soak up languages" could be related to the multimodal and global methodologies used with young children as opposed to the more analytical approach frequently employed by middle- and high school teachers.

The development of a native-like accent (pronunciation and intonation) seems to be linked to the window of opportunity, or critical age, before the onset of adolescence, rather than to exact numerical age. Research by Gardner and Lambert (1972) on adult learning identifies attitude and motivation in second language learning as being even more powerful, in certain cases, than the role of some age-related factors. They define *integrative motivation* as the motivation to become non-distinguishable from native speakers of the language, and *instrumental motivation* as

the motivation to learn enough of the second language to meet personal or business-related goals. These motivational factors may account for the fact that some people are able to learn a second language with a native-like accent after the onset of puberty.

Increased Performance on Standardized Tests

Both the original Louisiana Study (Rafferty, 1986) and subsequent replication of this study (Taylor-Ward, 2003) found that students who study a foreign language significantly outperform those who are not involved in second language study on all subsets of standardized achievement tests. Sanders (1998) examined the performance of third grade students enrolled in a Georgia elementary school foreign language program. She compared students who had not received any foreign language instruction with younger students who had received four years of instruction, five days each week, for thirty minutes per day. Students in the foreign language program scored significantly higher on the math portion of the ITBS than the students who had had no foreign language instruction, but more math instruction during this time. These quantitative studies document the positive effects of second language study on standardized test performance. Further research in the field of additive second language learning should help to clarify which aspects of early second language learning lead to these desirable results. It is entirely possible that if early second language learning is considered to be a *cognitive*, rather than a *linguistic* exercise, students' enhanced cognitive ability would translate into overall higher achievement test scores. A third study conducted by Blachard and Nelson (2007) explores the possible links between second language study and achievement on standardized tests in English and math at the tenth grade level, as defined by results on Massachusetts Comprehensive Assessment Test (MCAS). The results of this long-term study indicate that the longer students study a foreign language, the higher their level of achievement on standardized tests, with significant differences occurring after two to three years, with even more appreciable differences after seven years of instruction. This highlights the importance of early startup programs, as traditional middle to high school foreign language curricula seldom represent such long sequences of instruction.

Brain Research and Second Language Acquisition

Dr. Ellen Bialystok (1997, 2001) and her colleagues at York University in Toronto, Canada are currently conducting comprehensive research on the effects of second language acquisition on overall cognitive development. One area of particular interest to researchers is the development of problem solving, or critical thinking skills, which seems to be enhanced by the second lan-