

Do Bilingual Brains Stay Sharper Longer?

by Leo-Francis Daniels

In the South Texas *McAllen Monitor*, on February 12, 2007, there appeared an article, by Carrie Peyton Dahlberg, titled "Study: Bilingual Brains Stay Sharp Longer." It quickly caught my attention because, 25 years ago, I along with some local educators (Mexican, Mexican-American, an American of recent Spanish ancestry who headed the Sociology Faculty at UT Pan American University at Edinburg, and some Anglos) did a study to justify the Hispanic bicultural school we were about to launch.

Professional "Hunch" Confirmed by Research

Our research, with the limited studies of that day, suggested that the learning of two languages early in life enhances intelligence. After 25 years of experience in bicultural education where Hispanic culture and Anglo culture are presented on an equal footing, the Pharr Oratory School System community of educators have been witnesses to this Bilingual Advantage Reality revealing itself in their school system's classrooms. What a blessing it was to see our once very limited researched-based "hunch" daily being confirmed by the on-going appearance of growing scientific data-based studies!

Holding Off a Fading Mind

The above-mentioned bilingual study, carried out at the Rotman Research Centre of Toronto's Baycrest Research Centre for Aging and the Brain, was conducted by Ellen Bialystok along with Fergus Craik and Morris Freedman and, subsequently, was professionally published in the February 2007 issue of *Neuropsychologia* (Bialystok, Craik, & Freedman, 2007). The Bialystok team, who studied people with dementia, discovered that the regular use of two languages promotes a four-year delay of those "fading-mind symptoms" which afflict monolingual patients four years earlier: i.e., bilingual patients who regularly speak two languages reported memory loss or other dementia symptoms on the average of four years later than do one-language patients.

Bialystok Study

In the Bialystok study, researchers examined the diagnostic records of 184 Baycrest memory-loss patients who, between 2002 and 2005, came seeking help for their cognitive complaints. Ninety-one of that 184 were monolingual; 93 were bilingual. The bilingual group

included patients of 25 different languages—the most numerous language groups being Polish, Yiddish, German, Romanian and Hungarian.

The researchers found that 132 patients met criteria for probable Alzheimer's, while the other 52 received diagnoses of other dementias. Patient data included

- Mini-Mental State Examination (MMSE) scores (yielding a measurement of general cognitive functioning),
- years of education and
- occupation.

Upon first arrival, both monolingual and bilingual groups showed comparable levels of impairment, showing equivalent MMSE scores. Upon being interviewed for the first time, the attendant neurologist noted, by asking the patients, their families and/or caregivers, when the symptoms first appeared. The compilation of data showed that, in monolingual patients, the mean age of onset of dementia symptoms was 71.4 years, while, in bilingual patients, the mean age of onset was 75.5 years. "This difference remained even after considering the possible effect of cultural differences, immigration, formal education, employment and even gender as influencers in the results" (Baycrest, 2007, ¶9).

Bialystok stated

Rarely does a study give such clean results, so this was surprising to us . . . Bilingualism forces the control functions of the brain's frontal lobe into action . . . If you have two languages in your brain, you need a way to keep them straight, otherwise you might say the wrong thing . . . It's one of the things that often goes wrong with people suffering from dementia. They can no longer control their speech. . . .We're talking about lifelong bilingualism, so we're talking about people who speak fluently in both languages and use them all the time in daily life (Bilingualism delays onset of dementia, 2007)

Studies Staving Off Dementia

The researchers could, therefore, hypothesize that since the frontal lobes that are in charge of planning and other high-level functions are, also, used in language, the corroboration of this study along with other similar data-based studies suggest that exercising those frontal lobes with bilingual mental activity can help build up a "cognitive reserve," staving off dementia (Bilingualism delays onset of dementia, 2007)

Referring to such allied studies, Dahlberg (2007, February 11) reported that Tamar

Gollan, a University of California, San Diego, psychiatry professor who studies bilingualism stated that "Ellen Bialystok is a pioneer in this field and she's generating quite a buzz . . . People all over the world are replicating her findings for some of her earlier work" (¶9).

Bilingualism and Children

California and Texas—especially the Lower Rio Grande Valley—have, certainly, more at stake in understanding the bilingual brain. In the Lower Rio Grande Valley of Texas, the population is 87% Spanish/English bilingual (Anderson-Mejias, 202), making it a living laboratory for examining the impact of what can be gained from speaking more than one language.

Gollan admits that there are subtle deficits of bilingualism, yet, when weighting them, "she came down soundly on the side of raising her own small children with two languages" (Dahlberg, 2007B, ¶11).

On this matter of children and bilingualism, Dahlberg (2007) reported: Bialystok, who began studying bilingual kids decades ago, believes one key to their special brainpower lies in the way they must constantly decide which language to use and which to suppress. For people who use two languages daily, according to Bialystok

every time you want to speak one language, the other language is activated in the brain as well . . . That means you need a mechanism so that you're only drawing from the right pool (of words). It's going to be a mechanism that works extremely fast . . . while you're producing sentences. It's way below your radar for detecting what's happening. (¶12).

More Focused, Calmer, and Less Distracted

Bilinguals speakers, therefore, are more practiced than are monolinguals in using that part of the brain that (1) focuses our attention, (2) helps us sort through conflicting information, and (3) serves us in ignoring distractions. It appears, moreover, that the regular use of two languages strengthens rapid decision-making, multi-tasking and memory.

Much of Bialystok's thinking is found in her 2001 book *Bilingualism in Development: Language, Literacy, and Cognition*. In reviewing her book, Minami (2002) made the following comments:

The findings reported in [this book] are increasingly related to a number of issues regarding the education and social circumstances of bilingual children, such as

transitional bilingual education, which is the predominant model for programs in the United States (chapter eight). . . . the author demonstrates convincingly that becoming fluent in a second language does not necessarily mean losing the first language, nor does maintenance of the first language retard the development of a second language. The belief that bilingualism confuses the mind and retards cognitive development is false. On the contrary, a great number of previous studies reported in this book suggest that bilingual children gain some measure of cognitive flexibility. Bilingualism is not an intellectual handicap; instead, it is a cognitive asset. Yet many people still believe in the validity of the critical period hypothesis, claiming that if children have not mastered the second language by early school years, they never will. The belief that children are fast and effortless second-language learners has no basis in fact, however. Certainly, becoming bilingual and maintaining bilingualism, regardless of age, is a difficult process. Because of that, bilingual children need a great amount of support from their communities, their families, and, above all (particularly when they are socioeconomically disadvantaged) their schools. (Minami, 2002).

Implication and Conclusion

One of the implications of the research findings reported in her book is "the common sense urgency about introducing English immediately in schools to language minority children, and about mainstreaming them as early as possible in school settings, *has no basis in fact* [emphasis added]. Overall, "Bilingualism in Development" differs from, and even surpasses other books of this kind in that it assembles a wide range of research on children's language development, interprets it with analyses of how bilingualism affects that development, and, above all, breaks the myths surrounding bilingualism and bilingual education" (Minami, 2002).

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